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THE POLITICS OF FOOD SCARCITIES IN DEVELOPING COUNTRIES PC-AAA-
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Introduction

The food scarcity problem in the Third World is basically that many LDCs have become or will shortly be (a) incapable of increasing domestic food production as rapidly as demand rises from population growth and higher personal incomes and (b) unable to cover the consequent deficits with commercial imports. As Hopkins and Puchala discuss in the symposium's first paper, by the mid-1980s the aggregate food-grain import needs of LDCs and other deficit countries (e.g., Western and Eastern Europe) are expected to exceed the capacities of exporting states to meet. In the resulting high-priced commercial markets, the many poor LDCs will tend to be outbid by rich importing countries.

Major exporting countries, particularly the United States, could help foreign-exchange-poor LDCs cover their grain deficits by providing them with food aid, i.e., grants or credits to enhance their buying power in grain markets or via direct shipments from government-held stocks. Humanitarian concerns and/or national self-interest may persuade exporting states to budget the funds necessary to divert sizable quantities of grain away from (a) cash buyers in Europe and Japan, who seek to improve on or protect their already relatively high consumption standards, to (b) Asian or African countries, with low effective demand and poor consumption levels. However, exporting countries face their own balance of payments problems, particularly from rising oil import bills. The prospects for handsome foreign exchange earnings from cash sales are likely to discourage them from putting much grain aside for concessional sales or grants. In the tight supply

year 1973, U.S. food aid dropped in volume by about 40 percent from the 1972 level; and in 1974 shipments declined by a further 50 percent.¹

Critics of food aid may applaud, or be ambivalent towards, this decline, as they believe that P.L. 480 and other aid programs have encouraged recipient LDCs to ignore or postpone solving their domestic food production problems. The argument is: lacking a severe food supply crisis, governments have not been shaken out of their typical absorption with urban-sector problems; and/or with food aid supplies dampening local market prices for food, farmers have lacked as much incentive to increase output as if there had been no aid.² On the other hand, in many LDCs future grain deficits may well be so large that, even with the deflationary impact of sizable food assistance shipments, local prices will remain more than high enough to attract increasing inputs into farming. Nevertheless, the preferred solution is increased domestic production rather than reliance on foreign food aid or some combination of both policy approaches which slights production.

In sum, with domestic production decreasing relative to population, commercial imports too expensive, and food aid probably scarce, many LDCs will see nutritional levels deteriorate, perhaps to the point of widespread starvation. In the process, there are likely to be such attendant political ills as mass-scale unrest from soaring domestic food prices, public-sector employees demanding compensating wage hikes which overstrain treasuries, and increased official corruption as government takes on rationing food and distributing relief supplies on a large scale.

Not all LDCs face this destiny. A 1974 food-production-demand study by the U.S. Department of Agriculture classifies developing countries into four groupings.³ One comprises "countries which have traditionally pro-

duced food surpluses," (Thailand, Burma, Nepal, Kenya) and which, with reasonably high further investments and good management in the food-farming sector, should be able to continue to feed themselves, at least in basic foodstuffs. A second group consists of states (Algeria, Indonesia, Iran, Morocco, Nigeria) which have not been self-sufficient, but which, thanks to their high-demand export products (oil, phosphates) can expect to bid successfully in world grain market to cover their needs with imports. In a third group are states which cannot afford the import consequences of stagnant food production, but which either have already "made definite progress with the Green Revolution" (Pakistan, the Philippines, Turkey) or have unexploited potential in the sense of good climates and under-utilized land (much of Latin America). The fourth group, however, consists of severely disadvantaged countries whose limited foreign-exchange-earning capacities combine with population pressures (India, Bangladesh, Sri Lanka) and/or unfavorable climates (the drought-prone states neighboring to the Sahara) to threaten periodic or near-chronic food scarcities. High population density relative to food-producing resources and/or poor climates keep them close to or beyond the margin, and they are hard pressed to come up with foreign exchange to cover both needed food imports and Green Revolution inputs (fertilizers, irrigation equipment) which could eventually reduce import dependence. Our paper concentrates on these two problem areas: Sub-Saharan Africa and South Asia.

Tables 1-4 give indicators of the progress or lack of it, over the years 1961-74, in increasing per capita food production and in reducing dependence on food imports. Since both food output and population estimates for LDCs are often weakly based, we try for a greater measure of reliability by referring to two separate time series of per capita food production for each of the 28 countries surveyed--estimates by the Food and

Agricultural Organization (FAO) and those by the U.S. Department of Agriculture (USDA).⁴ For 15 of the 23 African states surveyed, the two series agree that food production either failed to keep pace with population (e.g., Ethiopia, Liberia, Nigeria) or improved only a few percentage points from the 1961-65 base (Benin, Guinea, and Madagascar)--see the 1971-74 averages in group A of Table 1. Staying close to the baseline tended not to be much of an achievement, since African states were then and are now among the world's poorest nutritionally. According to FAO estimates for the early 1960s, the average daily supply of calories per person in Africa was below the level required for good health and about two-thirds the level prevailing in the developed world.⁵ In nine of the above 15 problem countries, the loss or stagnation in food outputs per capita can be attributed in varying degrees to multi-year droughts of the early 1970s.⁶ However, in five of those nine cases, downward or stagnating trends began before the droughts.⁷ Significantly upward trends--with per capita food outputs increasing by more than 10 percent--are displayed by only four of the Sub-Saharan African countries surveyed: the Ivory Coast, Malawi, Rwanda, and Zaire (group B in Table 1). For another four states (group C), the FAO and USDA estimates diverge too greatly.

Among the South Asian states for which both FAO and USDA estimates were available, Bangladesh and Burma apparently failed to expand food production as rapidly as population growth. India's 1971-74 average was virtually unchanged from that of 1961-65. The indices for Sri Lanka are too divergent. Only Pakistan appears to have achieved significant progress, with the FAO and USDA estimates showing 14 to 20 percent increases in food outputs per person (Table 1).

Table 2's survey of food imports, 1962-73, by 21 Sub-Saharan and

South Asian countries (i.e., those for which data were available) indicates a general, substantial rise in the money value of food imports. If we compare averages for 1971-73 with the 1962-65 bases, we find a mean increase of 118 percent. Some countries could "afford" their increased food import bills in the sense that the latter did not represent a proportionately larger drain on export earnings. For twelve of the 20 countries covered in Table 3 (group B), the ratios of food imports to export revenues were no higher in 1971-73 than in 1961-65; export earnings rose enough to offset the higher food bill. However, for the other countries (group A), the reverse was true; food imports became more expensive, relatively as well as absolutely. Relative increase or not, many countries in both groups continued to have high foreign food bills: India's food imports 1971-73 averaged 17 percent of total export earnings; for Pakistan it was 18 percent; Zaire, 20 percent; Sierra Leone, 21 percent; Sri Lanka, 48 percent; and Senegal, 51 percent (Table 3).

While Tables 2 and 3 focus on monetary indicators of food import dependence, Table 4 looks at physical or volume dependence. The "problem" countries identified in Table 3, i.e., those which had relatively higher food import bills (group A), tend to appear among the problem states also in Table 4, that is, those which in 1971-73 were more dependent than in 1961-65 on imported grain relative to total volume consumed. They were concurrently paying more for imports relative to their total export earnings and consuming more imports relative to total domestic consumption. Such concurrence may threaten consumption levels. The increased expensiveness of food imports makes them a conspicuous target for cutbacks by government action, such as through licensing controls. But any cutback will obviously impact proportionately more on consumption levels where the latter are

based more on imports.

When production lags behind population growth and imports fail to fill the gap, per capita consumption will of course drop. This happened in at least 8 African countries in that the averages for cereals, 1973-5, were below 1961-5 baselines (see Table 5); and available data on the eight indicate both lower or stagnant output relative to population and import volumes which did not compensate.⁸

In addition to an imbalance between supply and need for food, LDCs tend also to have the problem of inequitable distribution of income. Malenbaum suggests that in many Third World countries one-third or less of the population consumes more than half of the available food.⁹ Even in a country such as India, which has barely managed to match food production to growing population, there are large regional variations in consumption. Differences among classes are even more striking. In the long term, of course, the absolute magnitude of the human population threatens to exceed our capacity to produce food. But in the short term, it is our inability to provide jobs and income to increasing numbers of the poor, and not the physical lack of food, which is the problem. It is a crisis of planning and implementation when production grows but not consumption. Poverty is as much a part of the world food crisis as food shortages.

In summary, we see in these two regions (South Asia and Subsaharan Africa) many countries whose production, import, and/or consumption records are not encouraging. From the early 1960s to the mid-1970s, their per capita food outputs declined or were stagnant; they remained significantly dependent on costly food imports or food aid; and/or their actual consumption levels (at least for cereals) declined. Some countries were "problems" in all three respects, e.g., Ethiopia, Senegal, Sierra Leone.

What follows is a discussion of the kinds of policy adjustments and related policy outcomes that can be anticipated as LDCs cope with the threat of mass famine or chronic, widespread malnutrition. The discussion is based largely on the experiences of India and selected African countries and is divided into two sections: problems and related policies concerned with distribution and problems/policies for food production. Among the problems investigated are:

- the tendency for enormously high budgetary costs and political risks when governments try to manage food distribution directly;
- the tendency for political imperatives and administrative difficulties to bias food distribution programs towards urban centers to the neglect of smaller towns and rural areas;
- the lack, among many LDC governments, of the institutional capacity to detect incipient famine crises and to arrange for relief in time to prevent massive suffering;
- the production gamble of concentrating governmental assistance in relatively few areas with favorable climate, soil fertility, and other input factors;
- the political risks in emphasizing aid to "progressive farmers" to the neglect of the less efficient;
- the political obstacles to higher productivity represented by conservative-controlled local institutions;
- the tendency of policy makers in LDCs to concentrate on short-term responses to food scarcity to the detriment of needed long-term structural changes;
- the difficulty of defining an effective balance between public- and private-sector activities in agriculture;
- and the need for a system of international food reserves, which

permits LDCs to risk radical departures in policy making and the chance of short-term production losses, in order to restructure their rural sectors for long-term gains.

The Politics of Distribution

In India the distinction between short intense periods of deprivation (famine) and the growing incidence of continuing destitution is fairly clear. Furthermore, India's institutional development for dealing with the facts of hunger goes back more than two decades and provides many lessons. Finally, the Indian case illustrates the capacity of even fairly minor shortfalls in production to escalate politically in the absence of effective management.

For nearly twenty years (1954-72) surplus American grain stocks provided developing nations, friendly ones at least, with an inexpensive and politically attractive solution to their food problems.¹⁰ In terms of famine policy the U.S. Commodity Credit Corporation stocks supplied the essential "insurance" against erratic weather. But that is not the only function those stocks performed. In India they were used, somewhat ineffectively, as an anti-inflation device to compensate for extensive deficit financing. It is also clear that, given the apparent stagnation in Indian agriculture and the difficulty of persuading subsistence farmers to part with their produce on the market, American grain was used by Indian planners to avoid the necessity of what they perceived to be fruitless investment in the agricultural sector. The uses of the American stocks varied, of course, from time to time. Clearly, they also varied from country to country. But whatever their uses, most third world countries are now left largely to their own devices.

What was once done solely through import policy must now be accomplished

by effective regulation of national foodgrains supplies and markets. This involves the control of price levels, whether for famine, welfare, or anti-inflation reasons. Restrictions on the physical movement of grains are likely to be necessary, at least where areas of high demand and high income compete for stocks with areas of high need and low income. Stocks will also have to be maintained as reserves for famine and, once established, the system may prove useful for "buffer stock operations" to even out price fluctuations. Finally, given the collapse of income earning capacity in certain regions due to weather or within certain classes due to the structure of the economy, it may be advisable to target supplies specifically to the "vulnerable population." Each of these functions will require the development of new institutional capacity by the government. The total cost of this operation is likely to be high, and a number of difficult decisions must be made regarding the allocation of costs and benefits of the system.

As a first step it is important to recognize the magnitude of the task at hand. In 1973, Ali Khusro estimated that India required, at minimum, a buffer stock of about five million tons a year to provide adequate security.¹¹ Taking into account procurement costs, handling, storage costs, and storage construction, the total cost for each million tons was calculated to be about \$119.6 million in non-recurring costs and \$3.1 million in recurring costs.¹² In fact, a stock of eight or nine million tons has proven barely adequate to cover the deficits of the seventies. The operative costs of the public-sector Food Corporation of India, which handles these stocks, has proven higher than expected.¹³ A careful analysis of the costs of the Corporation indicated that for each quintal of grain, purchased at

Rs. 80, the necessary mark-up for the Corporation was Rs. 25, or 31 percent (one rupee=\$0.13). Furthermore, the longer a stock was held in reserve the larger that figure would be. On a stock of 8.9 million tons handled in 1972-3, losses in storage and handling alone were estimated at a value of \$28.0 million. In addition, rising foreign and domestic prices have forced the Government of India to subsidize the operation in the amount of \$196.3 million in the same year. In comparison, the entire proposed central government expenditure on agriculture for 1971-3 was \$584.2 million. This enormous expenditure and a staff of 38,000 at the central level alone (in many cases actual procurement and distribution of grain is handled by state level officials) is the price of a national system of food crisis management.

India's present massive system of foodgrains management evolved slowly after the inflationary effects of the second five-year plan (1956-57 to 1961-62) led to a public outcry against rising prices. At that time, however, the state's role consisted of little more than allocating imported stocks and making the arrangements for their dispatch to the larger cities. Stocks were not maintained against emergencies, no buffer stock operations were attempted to stabilize prices, and there was no serious attempt to use food stocks as a device for economic planning.¹⁴ There were certain left-wing politicians and Planning Commission economists who, even at that time, called for greater control over both imported and domestic stocks, but the flood of American grain relieved the pressure and delayed institutional development for nearly ten years.

It was not until 1964 that the Government of India accepted a proposal for the establishment of a central foodgrains trading organization (Food Corporation of India), and not until 1968, that the organization became fully operative with complete control over inter-state movement of foodgrains and sole responsibility for management of imported stocks.

The Food Corporation was but one part of a package of institutional innovations and policy departures undertaken in the period 1960-65. The poor accomplishments of "community" oriented development programs in the fifties and the growing fear of the economic and political consequences of rising prices both persuaded the government to attempt a new strategy aimed at the individual commercial farmer. In this context the Corporation was expected to accomplish its ends through market operations and, if need be, to support farm prices in order to provide incentives. From a long-term perspective it was the surpluses of the good years and not the shortfalls of the bad years that were the problem--for the commercial farmer.¹⁵ The latter problem could continue to be managed through imports.

There was already a huge, but chaotic, public operations in foodgrains, characterized by a complex set of arrangements between New Delhi and the respective state governments. Most deficit states were badly in debt in their foodgrains operations, it was impossible to keep track of stocks, and such internal procurement of grain as did take place was entirely at the whim of respective state governments. Many in Delhi, therefore, perceived that the establishment of an autonomous, compact, and professional state trading organization would improve the situation. With its own capital, its own procurement organization, and its own interstate distribution system, the Corporation could reduce costs and confusion. So long as most stocks were in fact imported, this was not a difficult decision to implement.¹⁶

However, the food crisis of 1967 eliminated any semblance of autonomy for the Corporation. Prices, distribution arrangements, and interstate allocations became matters of intense political concern subject to day-to-day control by the Ministry of Food. Finally, the crisis ended any hope that the Corporation might actually establish itself as an independent force in the markets of the surplus states. As in the past, state governments became reluctant to permit external control of their food stocks and

preferred to operate as the "agents" of the Corporation, maintaining their physical control over procurement.

Moreover, many national-level politicians and administrators were not eager to bear the responsibility of controls. As market prices are disrupted, the functions they perform must be absorbed by administrative agencies. As John Mellor reminds us, these price functions include: adjustment of supply and demand, income distribution, resource allocation, and capital formation.¹⁷ The regulation of the supply of food to one region or section of the population will affect supplies available to other regions and sections. This almost inevitably leads to demand for the extension of government protection to a larger and larger portion of the population. Most important, as Myron Weiner reminded us in the Politics of Scarcity, once a government enters into controls, like it or not, it does become responsible for vagaries of weather and market.¹⁸ The administrative and financial cost of the operation aside, the political cost of failure to meet these responsibilities, once accepted, are enormous. Driven to avoid such failure, governments will be tempted to expand their control over the nation's food supplies, both at the production and distribution end of the chain. This, in turn, disrupts existing distribution of functions between public and private sector, threatens existing distributions of political and administrative authority, and adds massively to the bureaucratic weight of government on the citizenry. The sources of political crisis are far broader than the cries of the hungry.

The moment one accepts the inevitability of securing a substantial portion of emergency reserves domestically, the problem of price levels presents itself. Those affected by hunger have little income earning capacity and cannot pay market prices for food. A subsidy is the obvious

answer. But the cost of a subsidy is not to be measured only in budget terms. On the contrary, Morris Morris argues, the real cost is the missed opportunity for alternative investment.¹⁹ Given the difficulty of raising taxes in third world countries, the transfer payments which relief expenditure represents are not usually transfers from the rich to the poor but from the poor to the poor. Every rupee of relief could have been used toward productive investment elsewhere.

The alternative strategy is to restrict the price the government must pay for the grain in the first place. One method is a statutory levy on all farmers. This has the advantage of increasing the "market surplus" because it operates even on subsistence farmers. Few state governments are willing to accept the administrative cost of such a measure, however, and no one has forgotten the Congress Party defeats in the 1952 elections in areas where this method was employed.²⁰ If the government decides to buy in the market, however, the presence of such a large buyer will tend to force prices up, to the advantage of the larger farmer who will wait and take advantage of the unusually high prices which prevail after the government has drained the market.²¹

For the Government of India the Green Revolution has largely resolved this problem. The new hybrid wheats have had a dramatic impact on the northern wheat regions of India, especially in Punjab and Haryana. In an area of high productivity and commercial farmers, the procurement task is greatly reduced. The Government of India prohibits export of grain from the region, limiting demand; and the state marketing federations then enter the markets as the monopoly wholesale agents of the government. In 1972, India procured 7.7 million tons of foodgrains internally. Of that total roughly 5 million tons were procured in Punjab and Haryana.²²

This arrangement is not simply fortuitous, however. The surplus exists because of previous investment in the region which has encouraged commercial agriculture and because of research investments that produced the new technology.²³ Furthermore, it is sustained politically because the state government, in effect, supports harvest prices with its procurement operations and prevents the normal seasonal decline.²⁴ The stocks thus procured by the state government then become resources in political bargaining with the national leadership. In short, one must continually balance political, administrative, and economic costs, in selecting a strategy for securing adequate stocks.

In summary, India now has the capacity to secure and store large reserve stocks, it has the capacity to manage a national foodgrains budget and interstate allocation system (averaging 7.4 million tons between 1969-72), and above all is committed to this as a continuing public function. The cost is high and the system is not free from many difficult problems, but it represents a substantial increase in the institutional capacity of the government. The test of the system in the Bangladesh war proved its utility. Ten million refugees were fed with grain stocks approaching nine million tons with an efficiency that probably few developed nations could guarantee.²⁵

No tropical African government has a comparable capability. Where they exist, state food marketing agencies appear to lack the purchasing networks, pricing policies, and other means with which to secure large quantities of foodstuffs relative to consumption needs.²⁶ For example, Kenya's Maize and Produce Marketing Board was charged by statute to ensure adequate supplies of maize through stocking in good years, selling from reserves in lean years at stable prices, and arranging for imports to cover domestic deficits. However, according to Leys, in both the 1965 and

1970-71 droughts the Board proved unequal to these responsibilities, being unable either to stock sufficiently before the droughts or to prevent illegal exports and a flourishing internal black market during the scarcities.²⁷

Kenya has been unusual in Tropical Africa for its large grain storage capacity--with its maize stocking facilities equal to about a half year's demand.²⁸ In the other drought-prone states of the region, storage capacity has been very low relative to total consumption needs. Mali as of 1974 could store about 34,500 metric tons or roughly 4 percent of the expected consumption of the staples sorghum and millet for the 1974-75 crop year.²⁹ Chad's storage capacity in the same year was estimated at only 11,000 metric tons.³⁰

The first and last steps in a food distribution system are the same--identifying the needy. The first step is to correctly identify the start of a crisis and to set in motion the public response mechanisms. The last step in the chain of events is to assure that the food reaches the needy and that the crisis does not destroy their earning capacity. This last point is often missed in discussions of famine. If the diversion of funds is not to continue ad infinitum, it is essential that those affected by crop failure not be forced to sell their land, tools, animals. Once this happens the region may take years to recover. The argument is essentially the same if the target group is not those hit by famine but the historically destitute. The only way out of continued dependence on government, is to increase their earning capacity.

Both the identification of crises and the management of crisis depend to a large extent on the degree to which governments have already invested in development in the affected regions. Without communication facilities and officials penetrating into every village, hunger may well become wide-

spread before anyone knows about it. This was the case in Bengal in 1943, where over a million starved, and in the Sahel and Ethiopia in 1973, where deaths in both areas may have numbered in the tens of thousands before their governments became aware of the mass scale of suffering.

One of the first clear indications of a drought crisis received by Ethiopia's central government was the appearance on the outskirts of the capital city, itself, of about 1,500 destitute peasants.³¹ They had left their farms about 200 miles to the north in quest of food. Similarly, Sahelian governments began to suspect a crisis when nomads, with their livestock lost, were reported flocking to administrative centers to obtain food and water.³² In other words, the central governments began to appreciate the situation only after crops and animals had been destroyed and food reserves from previous years had been totally consumed. There was apparently little anticipation of the crisis, such as by readying relief stocks so that livestock could have been saved and farmers permitted to remain in their villages. The lack of anticipation seems condemnable since rains had been poor in the immediately preceding two or more years. The 1972 rainy season should have been watched with care.

The capacity to monitor, however, was limited by physical and political obstacles to communication between countryside and capital. Shepherd reports that in 1973 eight out of ten Ethiopians "lived a full's day walk from any road."³³ Their needs were represented to the center, if at all, through a feudal-type system of governance. In the Sahel the 1970-73 drought tended to be most severe in northern areas, closer to the desert, where communications were poor, but also where the inhabitants were mostly nomads who by tradition avoided contact with government. In addition, the Sahel's governments, like most in Africa, accorded a low priority to agriculture in

their spending programs (see Table 6) and, hence, had few cadres in food-producing areas who could develop informed reports on the drought's impact on production.

Yet another factor in the Sahel was the absence of a recent-memory precedent of drought with sufficiently high political costs to make governments wary. Among such costs (which developed during 1973) were thousands of refugees crowding in and around cities and towns, severe losses of export revenues (because of reduced harvests of cash crops and livestock), and numerous starvation deaths blamed on the incumbent elites by their political rivals. The last major drought in the Sahel occurred in 1912-14.³⁴ In effect there was no "Bengal famine" (India, 1943) to sensitize central governments to the imperative of preparing for another mass-impact drought. Adequate preparations would have been costly, including the development of data-gathering capacities sufficient to assess the food crop and livestock losses, the amounts of food reserves not yet consumed, and the deficits needed to be covered by imports. In the absence of reasonably valid such assessments, external relief sources could not determine how much help was needed. For example, on April 18, 1973, the French Foreign Ministry estimated that the drought-afflicted Sahelian states would require 530,000 tons of emergency food before the end of the crop year. The FAO thought otherwise, announcing on April 20th that the need would be 713,000 tons.³⁵

Whatever the correct level, relief arrived too late in 1973 to prevent tens of thousands from dying.³⁶ It arrived late largely because the process of persuading donors to make commitments and to start shipping began too late. And the tragic delay in this process was due mostly to the Sahelian government's

own failure to appreciate the seriousness of the drought. They did not declare a "State of Emergency" and make urgent appeals for external aid until March 1973, about four to five months after it should have been clear that the 1972 harvests were extraordinarily poor and the pasture cover woefully inadequate.³⁷ A similarly tragic time gap occurred in Ethiopia: severe crop failures in the fall of 1972 but no request by the Haile Selassie government for foreign relief assistance until April 1973.³⁸

India's government, having experienced recurring crop failures and knowing their potentially high human and political costs, has invested in elaborate administrative mechanisms to alert it to famine threats and then to implement distributive programs. However, even when adequate staff is in place, the task of spotting the crisis is far from easy. As Morris Morris indicates, distress signals are often difficult to read.³⁹ High prices may signal excess demand as much as food shortage. Even migration may be merely the movement of surplus labor to jobs in other areas. Liquidation of assets (cattle, golds, stocks of produce) may be, in effect, a private insurance system at work. If officials are too callous, they flirt with death. If they are too generous scarce resources and food stocks are depleted unnecessarily, development plans are disrupted, and peasants may even be encouraged to take unnecessary risks at public expense.

Food administrators in India have concluded over the years that the task of identifying the needy in individual terms is almost impossible. And given the fact that it is also impossible to control the general price level, they seek an intermediate solution--fair price shops in selected areas. The fair price shop is an outlet for government food stocks at controlled prices (stocks being either imported or domestically procured). The technique targets specific regions of high demand and attempts to supply

those regions with a basic minimum ration at controlled price. This does not, of course, provide jobs for the jobless nor prevent the rich from bidding up the prices on the "free" market. Organized workers are easy to target with such a system because they can be identified at their work place. But the bulk of the population must be supplied in their neighborhood, hence irrespectively of income. The number of fair price shops in India at the end of 1972 was 165,000, but even government sources have no clear information on urban-rural distribution patterns, allocation of stocks among cities of different size, etc.⁴⁰ Officials admit, however, that they assume that the rural areas can feed themselves and that, leaving aside periods of intense famine, public distribution is centered in the cities. It would also appear that the small and medium sized towns tend to be neglected. It is a widespread, if unprovable, assumption that the effect of the system is to offset the effect of inflation on the big city work force and not to provide protection to the poor. We shall return to this point, but the system would appear to trade the Punjab farmer a stable price in return for a stable price to the urban worker to the neglect of the rural poor and small towns. That the system has little effect on the overall price structure is clear and that it does not help the destitute is also clear.⁴¹ Thus, its determinants must be viewed as almost entirely political. This compromise between the larger wheat farmers, who market most of the grain, and the urban workers/middle class has one efficacious result--it provides stocks which can be distributed in case of famine. The system has offered no real solution, however, to the problems of the chronically poor.

In the Sahel and Ethiopia during 1972-74, governments were both late in identifying the crisis and fumbling in distributing relief supplies. They had no "system" which could be activated once the famine threat was

identified. With very little "up-country" food reserves, they had to rely mostly on supplies shipped from abroad and on transportation means which were unsuitable for carrying large quantities of basic foodstuffs inland from ports. Severe bottlenecks developed at ports, along typically single-track railroads leading from ports, and at bridgeless rivers and other natural obstacles. Food spoiled. Other relief supplies were diverted to commercial markets for the profit of local officials.⁴²

By late 1974 the high political stakes of mismanaging famine relief became clear. Three civilian governments of drought-stricken countries fell to military coups: those of Upper Volta (in February 1974), Niger (April), and Ethiopia (September). Urban workers protested soaring food prices, student groups blamed government for the suffering of drought victims, and rumours circulated that officials were profiting from sale of relief supplies.⁴³ Such signs of popular disaffection doubtless encouraged the military in their ambitions and gave them grievances with which to justify their takeovers before national and foreign audiences.

The Politics of Production

Besides developing the institutional capability to distribute, with reasonable efficiency and equity, large quantities of relief supplies, vulnerable LDCs should follow India's example also in trying to engineer increased domestic food production.

In Sub-Saharan Africa food farming has tended to be a seriously neglected sector. According to Table 6 the region's governments have spent relatively little on agriculture (even though from 60 to over 90 percent of their people have obtained their livelihoods from that sector). Among the 10 African countries surveyed, the highest average allocation was only about 13 percent (Kenya), the lowest was 2.6 percent (Liberia),

and the median 7.6 percent. In comparison, the state government of Punjab (India) devoted 11% to agriculture in 1974-5, without taking into account Federal government expenditure in the State.⁴⁴ The expenditure neglect by African governments has meant little research on food crops, weakly staffed extension services for food farming, and inadequate investments in farm-to-market transportation so that many areas of potentially significant surpluses are cut off from town consumers and, hence, have no incentive to produce in surplus of family and local needs.⁴⁵

What will induce African governments to invest more heavily in food farming, as Indian governments have? Among the persuasive factors may be the 1973-75 famine experiences, the increasing foreign exchange drain from food imports, and soaring domestic food prices. Between 1970 and 1974, food prices rose by a reported total of 74 percent in Tanzania, 85 percent in Ghana, 102 percent in Zaïre, and 145 percent in Uganda.⁴⁶

In the early sixties India embarked on what was a truly remarkable rural development strategy for an underdeveloped nation. Faced with rampant inflation and rapidly increasing demand for food, which threatened to disrupt the entire planning exercise, India opted for a "quick fix." On the advice of Ford Foundation, the Government of India decided to concentrate its investment in the most favored rural areas in order to maximize incentives to the farmers and to maximize the marketed surplus.⁴⁷ Technical assistance, credit, roads, electricity, and irrigation development were poured into districts (particularly in Punjab and Haryana) with good water supplies and soil fertility, among other advantages. When the new Green Revolution technology appeared this same investment, particularly credit and irrigation, proved crucial to its adoption by farmers.

In the mid-sixties a major break-through in plant breeding termed the

"Green Revolution" permitted the hybridization of wheat and rice. The basis of these new hybrids was the ability to produce a dwarf plant which was very responsive to high applications of fertilizer. Traditional varieties of grains typically would convert the nutrients provided by heavy fertilizer applications into the overall growth of the plant rather than into the growth of the grain. Not uncommonly, the resulting increased growth of the traditional varieties would cause the stalks to break, lodging the grain on the ground and resulting in heavy crop losses. In these circumstances, the biological capacity for intensifying grain production simply did not exist; and a technological barrier existed to increased food production. The new hybrids, being genetically dwarf, absorbed increased nutrients in the grain, thus, removing the constraint and permitting efficacious use of heavy dosages of fertilizer.

The new varieties were "revolutionary" in two senses. Of course, the genetic breakthrough was a discovery of major importance. In terms of farming techniques, however, the new varieties were not dramatically different from traditional varieties, only the results were. It was certainly not uncommon to double or treble yields by shifting from the old to the new varieties. This dramatic increase in farm yields and, therefore, in farm income was what made the new varieties truly "revolutionary". Several consequences followed from this production breakthrough. First, a "revolution" occurred in thinking about the problem of agriculture. Farmers who were presumed to be hopelessly backward and conservative by government planners suddenly switched to these highly profitable seeds, which demonstrated the potential dynamism of peasants when offered a workable technology. This in turn provided an opportunity for new investment in the rural sector to provide

public support for the "revolution". Second, the new technology worked effectively only with plenty of fertilizer and plenty of water. In consequence the capital outlay of farmers (for wells) and the production expenditures (for seed and fertilizer) increased rapidly and with them risk. This in turn put pressure on governments to assist the revolution through the provision of credit, stabilization of market prices, and investment in rural infrastructure. Third, the new varieties proved very prone to disease, compared with traditional varieties, and the rice, in particular, was very sensitive to variations in climate and growing conditions. This, in turn, necessitated a heavy public investment in agricultural research (and extension) to protect the "revolution" from genetic failures. Even at the time some were cautious about the potential of this revolution. The success of the technology depended on heavy fertilizer imports. Many developing nations lacked governmental systems capable of maintaining the administrative and research support to sustain the highly vulnerable technology. Nevertheless most observers assumed that the world's food problems had been solved. Today we are less optimistic.

In India the application of Green Revolutionary technology to favored rural areas proved to be an unqualified success. However, it has meant that eight districts with 0.31% of India's cultivated area used 11.4% of the nation's fertilizer.⁴⁸ On the more extensive and effective use of fertilizer rests the key to increasing rural incomes in the third world.

It was generally recognized that this strategy was one beset with enormous risk as it placed the future in such a restricted geographical region and in two crops.⁴⁹ Many argued that smaller investment spread over wider areas would produce greater aggregate yield responses. These

arguments did not prevail, largely because of the uncertainty of farmers' responses in the more backward areas. In many ways the gamble paid off and Punjab and Haryana can now stock 65% of the buffer stock. But although this eased some of the Government's problems, it increased others. Nothing was done to reduce inter-regional income disparity; in fact disparity grew. Nor was anything done to reduce the probability of crop disasters in less favored regions, which were neglected.

Such a strategy, in retrospect, made sense only if the United States would insure the gamble with its own stocks. No society on the edge of subsistence would ever have taken such a gamble. In the past, farmers and governments alike have preferred to reduce the risks of famine rather than increase the returns of good years. Farmers plan their crop strategies for the worst years. Such a strategy is not applicable today because we no longer accept that the agricultural sector is stagnant, and we are inclined to seek solutions in growth rather than in distributional arrangements. Nevertheless, a policy in which one section of the population secures all the gains of the Green Revolution and another section absorbs all the risks of the global food crises will not prove viable. Nor do enormous transfers of food from the rich to the vulnerable make sense. Rather, a strategy which attempts to increase and protect the productive capacity of each region would appear to be the only viable one for a nation at the margin. It is not enough that governments give more attention to agriculture, they must be concerned with the pattern of that investment.

Greater investment in agriculture is hardly a difficult principle to sell if a nation is close enough to the margin of survival. Unfortunately, the distribution of the costs of such investment still remain to be decided. In most countries of the third world, and especially in India, agri-

cultural taxes are very low and very regressive. Yet rural incomes have been rising and at least some have derived enormous benefits from public investment. Faced with rising prices and high income taxes, urban interests are not likely to take kindly to rural public investment without correcting these inequities.⁵⁰

In India the emergence of the commercial farmer, encouraged by the policies of the sixties, has coincided with precipitous increase in government demands in the form of taxes, fees, price controls, etc.⁵¹ This has led to the development, in the early seventies, of the embryos of farm lobbies in several states.⁵² Such farm interests were strikingly absent in the decision making processes of the sixties. It is not that caste and language have disappeared as rural issues. Rather, these appeals are no longer sufficient to win support without sensitivity to the interests and demands of the commercial farming population. In various areas, these farm interests receive further strength from local government systems, cooperatives, and even the new agricultural universities.

Large landed interests had always been a political force in the sub-continent, but post-independence land reforms virtually eliminated this landlord class as a political force in many areas of India. Democratic elections then brought the middle farmers into increasing political prominence: first in the state legislatures, then in the state executives, and finally, by the late sixties, in New Delhi. While never very effective at the national level, the "farm block" formed one of the components of resistance to the "leftist" policies of Indira Gandhi in the early seventies. Farm power in the states proved a far more effective buffer to those policies, as programs of further land reform, rural tax reform, and small farmer development were ground to a halt. It was evident that the progressive farm community felt that these new impositions were threats to their newly acquired prosperity

and opportunities for social mobility. In Punjab farm organizations attempted, unsuccessfully as it turned out, to disrupt government procurement operations. In Gujerat, farm disaffection contributed to the embarrassing defeat of the Congress Party in the 1975 elections--just before the declaration of emergency. In most states the major institutions serving the rural sector--land development banks, marketing federations, primary credit cooperatives--have all come to be controlled by the farming castes and represent an important base for rural political organization. The organized farmer is now a force to be reckoned with in India. The reader should not assume that this "organization" is as yet as formalized and national in scope as, let us say, the American Farm Bureau Federation. Nevertheless, a revolution has occurred in that at least some sections of India's farm community can and do now demand changes in policy and improvements in public services to serve their interests.

It might be expected that the food crisis will encourage rural investment but, in turn, will shatter the old alliance of urban and rural elites. A heavily regulated urban sector will no longer accept a virtually unregulated rural sector once growth spreads to the farms. In the rhetoric leading up to the Indian political crisis of 1975, it was evident that the "capitalist" farmer had replaced the "feudal" landlord as the target of the urban left. Similar rhetoric appeared in Kenya, when African "big farmers" replaced Europeans after the country's independence in 1963.

As Table 6 indicates, Kenya's government has ranked among the highest in Africa in terms of the spending priority accorded to agriculture. However, the flow of services (extension, production and land-purchase credit) tended to favor large-scale farmers.⁵³ As of 1966 there were reportedly about 750 farms, averaging 800 acres, owned by African civil servants, politicians and others.⁵⁴ While much of the favored position of larger farms

relative to government services may have been due to political connections, another factor, perhaps equally or more weighty, was those farms' superior capacity to utilize credit and other inputs. A study in Kenya's Nyeri District found a correlation between farmers' progressiveness on this dimension and their receipt of government services.⁵⁵ Moreover, whatever greater rural inequality government policies did promote may have had only minor political impact. Bienen notes that Kenya's former opposition party made little headway with this issue.⁵⁶ One reason appears to be that many large holdings are in fact owned jointly by groups of persons. Another is that owners tended to settle numerous relatives on their land.⁵⁷

No response by the Third World nations which ignores these equity questions will be meaningful, for it is the destitute who represent the reality of the world food crisis. Dandekar and Rath presented the dilemma clearly.⁵⁸ In 1960-61, they report, 40% of India's rural population and 50% of her urban population lived below a consumption level of one half a rupee a day. In the eight-year period (1960-1 to 1967-8) they examined, net national product more than doubled. Yet consumer expenditure increased by only 4.8%. Were this to continue, they argue, "The gulf between the rich and the poor will widen intolerably and inevitably undermine the democratic foundations of the economy." This aspect of the global food crisis will test the will and ingenuity of planners, administrators and above all, of politicians. We must be able to design a development plan that will direct a greater proportion of the growth in national income to the poor and a choice of technology that will provide them with productive employment. John Lewis has called for a "relevant radicalism," radical in its departure from existing growth strategies.⁵⁹ Too few planners have taken the advice.⁶⁰

However, a model is emerging of how to handle this crisis. It takes

the form of increasing agricultural productivity sparked by public investment in technology and overhead. The consequent increase in farm income stimulates demand which is then met by expanding small-scale consumer goods industries in smaller towns, close to their market. This in turn, it is hoped, will absorb the excess labor supply--productively. Rising income will hopefully slow population growth but will also increase demand for food-grains. These, in turn must be supplied by an increasingly productive domestic agriculture. There are variations on this theme but the basic bones are recognizable.⁶¹ The Punjab is an area which fits the new development model. Double cropping has increased demand for labor and rising demand has expanded employment opportunities in the small towns.

In many areas, however, the model faces serious institutional obstacles. Where "feudal" landlords are still the rule, land reform and other redistributive measures may be needed. Most of the existing rural institutions may have to be reformed or bypassed because they have been largely captured by local elites who are not inclined to use them productively.

The widespread "failure" of local participatory institutions in India requires some explanation. The scene is by no means a total disaster. In Gujerat state, for example, cotton marketing cooperatives have proven highly effective and progressive. The credit cooperatives in Punjab appear to have been viable and also to have made credit available even to small farmers if they were able to grow the new high-yielding dwarf varieties. Nevertheless, it is true the rural institutions in the sub-continent have been a disappointment. There are essentially three explanations for this phenomenon. First, in areas where the new technology is unsuited, agriculture is still stagnant; and there's been not enough economic pressure to divert local institutions away from their traditional preoccupation with distributing patronage to undertaking effective developmental roles. Second, in areas

with highly unequal land holding sizes, politics is dominated by patron-client relations. The small farmer is dependent on the larger farmer and cannot bring effective pressure to bear for more wide-spread dispersion of needed inputs such as credit and water and fertilizer. The benefits, if any, tend to be highly concentrated among the few politically powerful "bosses". Third, even in technically dynamic areas with fairly equitable land holding patterns, the local institutions can be rendered ineffective if badly designed. This was certainly the case with local governments in both India and Pakistan, where indirect elections favored elite control in local bodies and confusion and overloading of functions inhibited accountability. The combined effect of these technological, social and institutional problems has tended to hamstring government efforts in the past.

Finally, state administrators are often as reluctant to accept innovations as rural elites. This need not be because they are somehow part of the "establishment" but because new departures threaten established bureaucratic power structures. Certainly, Ford Foundation encountered this kind of resistance in trying to implement a program that would have benefitted directly rural elites.⁶² This suggests that national governments may have to risk classic "redistributive" radicalism in certain regions if the way is to be opened for new investment and new technology. This being the case, class issues are likely to dominate the politics at the margin. The effects of this conflict and a way out of the crisis can be found with a combination of political skill and an adequate development model, but success is far from guaranteed. Let us look at three sets of basic decisions which must be made and the factors which inhibit adequate responses.

(1) The greatest problem of an economic crisis is that it tends to encourage a concentration on the short-term responses to the detriment of long-term structural changes. This is especially true where the crisis

is viewed as a temporary aberration. A recognition of the permanence of the food crisis and the corollary need for major structural changes is a first requisite of adjustment to the crisis. It is probably true that nothing short of pressure from urban consumers will produce the incentives for policy changes. On the other hand, extractive policies may well substitute for investment and rural structural change if the urban elite is too powerful.⁶³ Conversely, if rural elites prevail solutions will be sought in higher agricultural prices, mechanization, and expanding farm size. These changes will increase the marketed surplus, increase farm incomes, but emiserate a growing portion of the rural community. Neither of these "solutions" resembles the labor-intensive-consumer-goods strategy outlined in the previous section. The difficulty is that in most developing countries it is difficult to imagine the appearance of a coalition of political forces that might produce such a policy.

A labor-intensive strategy of development encouragement requires several policy innovations. First, it requires the small farm, which tends to be more productive per acre than the large farm and to use labor more intensively than the larger farm. Mere food shortage is not likely to persuade a government to risk a radical land reform, however, in the face of the present economic and political power of landed interests. This means that the single structural change which could absorb the most rural labor is precluded. There are undoubtedly alternative ways of influencing farm size, tax and inheritance policy, for example, but lack of administrative capacity to administer them and lack of any clear theory on how to go about it tend to eliminate this option even if the political will exists. The other major source of employment opportunities would appear to be small consumer goods industries. This solution is inhibited by a lack of appropriate technology,

ideological mistrust of "capitalist solutions" in some areas, urban elites' preoccupation with imported luxury goods, and the lack of a dynamic rural sector to provide a market for these goods. In addition to these problems, the small manufacturers' sector faces strong if not overwhelming competition when seeking government assistance--from heavy industry (supported by international investment), primary commodities development (sustaining food and luxury goods investment), and the growing vested interest of a farmer-dominated cooperative sector (as in India) which benefits from a monopoly of many of the services to the farm sector which would give the small-scale private sector a boost. Clearly there are many more effective claims on public resources than the needs of small industry and market towns. Only public works, with support from landed interests and contractors, promises to be a politically popular labor-absorbing program.

The farm community will be able to resist urban exploitation on the one hand and increasing concentrations of rural economic power on the other, only if reasonably broad-based rural political participation is encouraged. This may be accomplished by substantial decentralization to local governments, a mass-based party structure, or through lobby activities by broad-based farm organization.⁶⁴ One way or another, however, it must be done. Unfortunately, such structures are often a threat to national or regional leaders, local elites, and to bureaucratic power--a formidable list of adversaries. In India the power of the local government (panchayats) and autonomy of the cooperatives has been steadily eroded in most states. In 1974, for example, in Gujerat state in India, no elected governments at any level remained functioning. All governmental functions were being performed by administrators. In the same year in Punjab state, both the apex cooperative bank and the apex cooperative marketing society had faced delays of over two years in

elections to their governing boards due to a combination of fiscal and political difficulties. Pakistan is still without functioning rural local governments although the Bhutto regime has been considering the matter for four years. Yet broad-based rural political participation would appear to be essential to a proper balance of rural development policies and socially optimal results.

However necessary for effective development over the long run, such participation may appear in the short term to be politically too risky. The rhetoric of Tanzania's program for socialist rural development, ujamaa, calls for broad popular involvement in government.⁶⁵ A 1972 reform significantly increased the powers of local government at the expense of central ministries. However, one field study suggests that the farmers, themselves, have had very little influence on policy choices.⁶⁶ Another source concurs: "(T)he practical effect of the decentralization policies pursued since 1967 has been to concentrate decision making power in the hands of administrators, technicians and political commissioners at Regional and District levels."⁶⁷ The problem may derive from the radical nature of the ruling party's rural development strategy, the opposition it has encountered, and the government's unwillingness to give its many farmer opponents formal means to influence policy. The strategy has been to communalize agriculture, and it has been strongly opposed by commercial farmers feeling threatened with loss of income and also, by poorer peasants objecting to being resettled away from traditional land into new communal villages.⁶⁸ As long as much of the clientele is hostile to its policy purposes, Tanzania's government and others pursuing transformationist strategies may repress grassroots participation. The hostility need not be long-lasting, particularly if after trial and error, the strategy proves economically successful.⁶⁹

The other factor which appears to be essential to restructuring the rural sector is public investment in agricultural research. It is widely recognized now that a steady program of agricultural technology is essential to rural modernization and to reducing production costs while increasing yields.⁷⁰ For many small nations the cost of building educational institutions and research centers will be high, and there may be advantages to internationalization. But one way or another relevant research must be encouraged. Politically, this is probably easier than institutional reform as much of the current development will be funded by international sources in any case. Furthermore, technical education and research are usually matters within the control of the national elite. One can be reasonably optimistic about the future in this area.

(2) The second set of strategic decisions to be made by developing nations as they begin to consider restructuring the rural sector to handle the emerging food crisis arises in defining the proper relationship between the public and private sector. This involves decisions about the control of land, the manufacture and distribution of inputs, and the control of the grain trade. A related set of decisions involve the development of regulatory policies--crops, prices, input packaging, and marketing. The former set of decisions, regarding nationalization, are typically made on ideological grounds and not on the basis of any particular theory of rural development. The latter decisions, regarding regulatory activity, are usually dictated by the extent to which policy is dominated by governmental purposes. In neither case does the preference, convenience, or efficiency of the farm community appear to be the primary consideration in the decision.

In Indian Punjab, for example, a "crop loan system" specifies the

"package" of inputs to be used on the specified crop. Both the loan and the inputs are supplied through the state cooperative system.⁷¹ Yet analysis of the production functions of farmers can find no appreciable difference in the efficiency with which fertilizer is used among farmers relying on the co-ops and those relying on the private sector. Some studies, in fact, suggest that those following the official advice operate less efficiently.⁷² In Pakistan Punjab, farmers preferred the larger and more expensive diesel pumps for their tubewells in the mid-sixties, because government regulation of electricity made the more efficient electric pumps too difficult to install.⁷³ For years in India, until 1965, in fact, foodgrains procurement prices were set without the slightest attempt to calculate the actual cost of production.⁷⁴ Extension services more often act as the conduits of official policy than as service agents for the farmer; this has been true in India, Pakistan, Tanzania and presumably many other LDCs. These examples are not to suggest that these decisions have been either entirely pointless or wholly detrimental to farm interests--merely that farm preferences typically took a back seat to government needs.

The basic problem here is twofold. First, policy makers have often failed to treat the farmer seriously as a rational, profit-oriented producer for whom considerations of efficiency are of some significance. This is reflected in the lack of concern for adequate profit incentives. When a government must control and regulate, it is usually bureaucratic convenience and efficiency which dictate the choice of institutional arrangements and the form of the regulations, not the farmer's. Finally, when restrictions are imposed too little attention has been paid to finding a mode of enforcement which might contribute mutually to the interests of both government and farmer. There are examples of useful arrangements, but they are

all too rare. Punjab's MARKFED exchanges support for harvest season prices for an effective governmental monopoly of wholesale marketing. The Gujerat government trades strict crop and movement controls over the cotton crop for equally strict publically regulated quality control which improves farm prices.⁷⁵

Far more common are the institutional failures. To assure maximum production rather than maximum profits, extension services have frequently been used to encourage farmers to employ more chemical fertilizer than the farmers found profitable. There are even reports of extension officer being ordered to require farmers to take complex fertilizers they neither wanted nor needed in order to remove stocks that had been over-produced by the factories. This type of professional advice to the farmer clearly weakens the effectiveness of the extension service. Cooperative societies have often been treated as administrative agencies of the government. They are asked to procure foodgrains for government stocks at very low profit margins. They are employed to enforce the use of certain technology packages favored by the government. In fact, governments have often preferred heavily bureaucratized systems of market management rather than reliance on the efficacy of free market mechanisms because direct physical control over the crop was more amenable to traditional bureaucratic procedures than free market manipulations. The inability of developing nations to implement policies in the field and the high administrative costs which are frequently incurred are all too often due to a failure to reconcile the valid interests of the farmer with the public interests of the government in new and more efficient and reciprocal institutional arrangements.

Finally, politicians desiring control and administrators desiring effective "integration" of policy are far too likely to encourage the concentration of governmental power in the rural areas. Where a substantial

portion of key inputs do end up in the public sector, this, in turn, means a concentration of control of inputs also. It is only slowly that India has learned the cost of this policy.⁷⁶ Slowly, however, it has become evident that services must be institutionally differentiated if specific rural groups are to be targeted. In addition, it has become evident that, in general, differentiation of functions and multiple channels of access to key inputs and services may reduce access costs to the farmer and provide greater flexibility to him in adjusting his combination of inputs.⁷⁷ For example, given the additional administrative and political complications of using cooperative credit, it may not be attractive to all farmers. On the other hand, the existence of extensive cooperative credit undoubtedly has its impact on the private moneylenders' rates of interest, level of services, etc. Farmers can be expected to take advantage of these differences in decisions about borrowing.

As nations are compelled by food shortages to take agriculture more seriously, they will be forced, many for the first time, to think much more seriously about the impact of their administrative procedures, institutional patterns, and regulatory policies on the rural sector. Most will lack information, experience, and training in evaluating these impacts.

(3) International relations will continue to play a vital role in the strategy employed by third world nations in their attempts to handle the food crisis and constitute the third areas of strategic decisions. Small nations and those in recurrent drought situations, will continue to be a dependent on international reserve stocks. The major grain exporting nations can help to provide the security which will enable these states to risk the radical departures in policy and the high investment rates that will

be needed to transform their agricultural sectors. Imported chemical fertilizer will also continue to be a vital component of any development strategies. Luckily, it now appears that the fertilizer shortages of the past few years have been rectified and new production capacity will ensure ample supplies at least for the next decade.⁷⁸ Nevertheless, fertilizer imports will continue to absorb vital foreign exchange. For a few countries, with adequate export markets, food imports may remain a viable alternative, but even for these states some stabilization of international commodity prices would appear essential to planned development.

The continuation of an import strategy in the face of rising international grain prices is, of course, a very restricted solution, not generally available. Furthermore, whether the grain is supplied on commercial terms or as relief supplies under bilateral or international agreements, grave political risks are involved in such dependence. Pakistan and India both felt the pressure from the United States when aid was manipulated to bring a stop to the 1965 war. With the United States supplying most of its fertilizer, Pakistan must be well aware of the intimate connection between the success of its agricultural programs and American views on its nuclear program. American agro-power may seem puny when applied to the Soviet Union; but in the third world, dependence is very costly. This last statement should be treated with caution, however. We have stressed throughout that food strategies are the result of a complex set of demands and that there are alternatives available to developing nations. The costs of dependence are not necessarily determining--they are weighted against alternative costs. Similarly, in encouraging or discouraging import dependence, the

United States should keep in mind its complex goals as well. When used carefully and targeted accurately, food imports can still be used to encourage job creation and to control inflation in the third world. We have moved from a situation in which our food aid policies were dictated largely by our desire to unload our own large surpluses to one in which we must consider food stocks (like fertilizer, capital, technology, or military aid), as a scarce resource.

We can do much to encourage greater production in the third world, the most important contribution being the use of our vast technical capacity to help solve the complex remaining technological problems of tropical agriculture.⁸⁰ We should recognize, however, that whereas development may help to keep population growth under control it will also alter diets in the direction of more nourishing but less efficient uses of grain--meat, processed foods, milk, etc.⁸¹ This suggests that poverty and inequality will continue to be at the forefront of both international politics in the third world for some time, regardless of any likely level of "success" in rural development.

Domestic Political Constraints

It would be useful now to summarize briefly some of the domestic political factors which may inhibit or influence solutions to the food crises in third world countries. Like any other set of policies, coping with the food crisis involves gains for some and losses for others. In consequence, old cleavages will often be increased and new ones will appear. Characteristically, however, seven dimensions of political conflict appear to surround the food crisis.

First, and perhaps most severe in the initial stages, are inter-

regional conflicts. Except in small countries the crisis is seldom uniformly distributed geographically. Typically, rural growth increases inter-regional differences.⁸² Planned investment tends to take place in those areas which promise the most return. Typically the problems of the better endowed regions present problems that are both technically and administratively easier to resolve by hard-pressed governments. In consequence, both efficiency and the national interest seem to conspire to increase inequality. There is certainly some evidence of this in India where the Ford Foundation encouraged intensive investment in the best areas for a "quick fix" for the food shortage.

Where geographical cleavages also correspond with ethnic and cultural differences, which is typical also, the redistribution of the gains of growth is even more difficult. The Sahel offers a good example where governmental neglect was largely responsible for the severity of the food crisis there. Clearly the ethnic divisions between pastoralists and the farming-town populations on which the region's governments were based contributed to the inadequacy of governmental responses. Even otherwise effective development programs, as in India, may shut ethnic minorities out of the benefits. In India, as elsewhere, tribal groups have not fared well at the hands of the majority population.

Nor are different regions likely to have equal access to decision makers. India provides a good example. In Punjab, which is the heartland of the Green Revolution, the success of a farmer depends on his tubewell, a necessity that can easily be secured locally through influence with the local credit cooperative. Electricity, to run the pump, can be assured politically by Punjab's contribution to the central foodgrains pool. In Gujerat state, in contrast, there is little ground water; and it would require a Planning Commission level decision to construct a new dam to provide the

needed water. With cotton as the major crop in the region and cotton exports failing, Gujerat has far less influence in New Delhi and the dam has not been built.

Investments based on the comparative advantage or superior resource base of a given region, therefore, are reasonable policy decisions where ethnic homogeneity or a responsive political structure can provide alternatives or transfer payments to the marginal areas. Where such political mechanisms fail, however, growing tension, conflict and even separatism may result. In this situation, the current attention of the international aid agencies to the poorest of the poor in the developing world may be good political economy. Additional resources, new technologies, and foreign pressure are provided to assist the needed transfer payments.

The second issue involves the character of rural politics. In most third world countries rural politics has become the politics of faction and patronage since independence. Rural politics depends, then, on the distribution of favors to clients. Political struggles are for a piece of a very small pie and short of the negative power of rural elites to prevent reform, rural influence is frequently dissipated in this factional struggle.⁸³ This may provide the explanation of why nations with such a large rural population can spend so little on the development of that sector. These rural coalitions of factions may break down as poverty increases and we may well see the emergence of class politics in the villages. For the present, however, the inability of the farmers, save in the most progressive areas, to articulate their economic interests against rural elites and the urban sector is a fact of life in most third world nations.

The prevalence of factionalism combined with patronage politics is an understandable solution to the political problems of a rapidly changing rural

environment. Within the village traditional loyalties are typically shattered by externally induced stresses and strains. As the scale of political organization and the degree of political participation both increase, some basis must be found for alliances among disparate groups with little in common. The result is loose alliances among diverse segments which trade their support for direct and immediate favors. We have, in effect, a barter political economy. This system is highly efficient in its use of scarce political resources. Divided as it is into factional segments, there is often no majority or minority, merely a dominant faction facing a fragmented opposition. Only those in the dominant faction need to be "paid off" and there is little need to provide "class benefits" or public goods to a farm constituency--only favors to supporters. The system works quite well with a bare minimum of divisible patronage. It is difficult, for such a system to have any impact on public policy. It develops no real pressure for structural change, no real support for the concentration of resources and large-scale, long-term investment. Local elites, well off and benefitting from control of the patronage, have little incentive to challenge the system. They leave policy to the urban elite. Both increasing poverty and rural progress, however, threaten this political order. No matter which direction many developing nations move, major adjustments in rural politics are in the offing.

The emerging class conflict is a third component of the emerging poverty of the third world. In the past, rural social units--villages, tribes, and estates--stood against the hostile outside world. Throughout the third world a growing market orientation combined with increasing population pressure have destroyed that solidarity. One need not assume

that that traditional solidarity was necessarily benign, but it was real. In areas experiencing growth, however, customary ties collapse; and rural tension is common. For the first time in many countries, therefore, opportunities have appeared for political leaders to win support from the rural poor who can no longer be controlled by their patrons.⁸⁴

A growing class consciousness among the farm population will, of course, have a mixed effect. On the one hand it may encourage governments to pay increasing attention to the agricultural sector, which in the long run is probably beneficial. On the other hand, the growing threat of a restive rural poor does not generally incline landowners toward "socially progressive" policies. Curiously enough, redistributive solutions to rising rural poverty make the most sense in those countries which face the least serious resource constraints. In areas such as India and Bangladesh there are undoubtedly areas which might benefit from land redistribution, for example, but in areas like Punjab one could not redistribute further without endangering production. In the final analysis there is simply not enough land to go around. In this context, to paraphrase John Lewis, a good deal of Indian radicalism is irrelevant. In many areas of Latin America and Africa with dual economies, however, major redistributive solutions are plausible. In such areas a strong leftist party with a base in the rural poor might be efficacious in forcing incremental reforms. Thus, the growing class conflict in rural areas will undoubtedly mean increased political participation but its significance will depend on the overall resource situation and how that participation is structured. Thus, strong local governments will encourage agriculture but strengthen the farmers against the agricultural laborers. Migration will relieve pressure for land reform but the

associated urbanization will increase pressure for lower food prices and greater government control over markets. Unduly rapid commercialization of agriculture without a strong demand for labor and without the political capacity for transfer payments probably encourages extremist movements.

The fourth element of the emerging political crisis is the role of technology. In the early part of this century in India, manufactured consumer goods destroyed a whole class of village artisans.⁸⁵ Today in some areas resumption of cultivation and mechanization may be destroying a class of tenant farmers. Pakistan is a good example,⁸⁶ as is Ethiopia. Cohen observed in Ethiopia that a rural development program targeted at small farmers had the unintended consequence of dispossessing many of them. Through a demonstration effect, large landowners outside the project area adopted the improved seeds and use of fertilizers which proved successful in the project. And finding that those inputs made mechanization financially feasible and that with machinery they could dispense with tenant farmers, owners drove "thousands of tenants" off the land.⁸⁷ The tenants who remained found their rent rising and sale prices of land climbing out of reach, despite their own higher incomes from Green Revolution inputs. Another unfortunate side effect may be dramatically increasing numbers of very small farms, as an expanding population, a land constraint, and a more productive technology combine to constrict the assets available to the poorest.⁸⁸ No one would argue that technology "caused" these problems. Rather, there is now good evidence that technological innovation tends to economize on limiting factors in the production process. Sometimes this is labor, as in the United States, or land, as in Japan. But as Polanyi reminded us in

The Great Transformation, these technical changes almost always help to speed up changes in social relationships with associated changes in power relationships.⁸⁹

The Green Revolution technology has been accused of producing potentially dangerous social side-effects in the most affected areas. As discussed just above, this argument is that, due to the intensification of production, landlords have been encouraged to resume cultivation of their own land and eject their previous tenants. Furthermore, it is argued, this terminates any social obligations the rural rich may have had to care for the rural poor by turning "tenants" into "wage laborers". The result, it was predicted in the late sixties, would be rapidly growing immiseration and rural insecurity. Events have raised some question about this prediction and necessitated some reservations. First, there appear to be no particular economies of scale in the new technology. Whether, in fact, operational holdings increase in size and tenancy disappears depends on a number of factors. Among them are the initial degree of inequality of holding sizes, extent of supporting services to small operators available from the government, the availability of a stable water supply, and the flexibility of existing tenancy arrangements. Second, in most areas the new technology has been labor-deepening and has forced up agricultural wages. Whether this is an advantage to the poor or not depends on other factors. A tradition of payment of wages in kind rather than cash will permit workers to share in the increased productivity and rising prices. If off-farm employment is available workers may in fact combine the high peak seasons' wages which the new prosperity permits farmers to pay with additional earnings in the slack season. Rising prosperity in the farm sector may in fact encourage the

development of localized business investment that will provide those jobs. Ultimately, the logic of the argument was based on the increasing gap between the landowners and the rest of the rural population, a gap widened by the increased productivity of land. One's reaction to this argument depends on how one evaluates the political impact of the increasing gap compared with the significance of a rapidly growing real income. Tensions and conflicts there have undoubtedly been in the Green Revolution area. But the experience of ten years suggests that, within these specific regions, progress has been sufficient to contain them.

Intra-governmental and inter-governmental problems constitute the fifth aspect of political change. The growing economic integration of the sector in the national economy has a profound influence on government administration. Technical bureaucracies expand and create tension with old guard law-and-order Ministries and traditional generalist civil servants.⁹⁰ The scale of social organization adjusts to broadened interdependence of rural communities. Local leaders often become irrelevant to the needs of villagers unless they respond by evolving a new brokerage role that dramatically alters authority relationships in rural areas.⁹¹ New levels of government and administration emerge to correspond to the changing scale and functions of government. This tends, in turn, to exacerbate problems of center-periphery conflict. These questions may be so serious as to virtually stalemate rural institutional development, as they have done in Pakistan recently.⁹²

It could be argued, in fact, that the success of the rural transformation, and hence the response to the food crisis, depends on the transformation of rural governance structures. Efficient allocation of public goods such as roads, irrigation facilities, educational facilities, etc. can in most cases only be made by effective localized authorities. Certainly their

effective maintenance depends upon such decentralization. Of course centralized control is necessary for sector-wide policies such as pricing, import/export decisions, and credit. Effective mobilization of the collective self-help capacities of the rural population, however, demands considerable initiative in devising and encouraging new economic structures such as water users associations and cooperative societies. In short, collective decision making capacities are being expanded at the local level. For administrators and nationalist leaders who may view power as a zero-sum game, these are particularly difficult decisions. Furthermore, the discretionary power invested in these institutions at the local level is not provided without some risk of wastage, corruption, misallocation. A local base for opposition activity may also be created inadvertently. Drawing the lines of authority is not easy and new institutions have frequently failed because it was inadequately done, but the organization of public authority at the local level is a major variable in the development process.

The sixth political dimension of the food crisis involves international dependency. Few third world nations have the political capacity or resources to transform the rural sector without assistance. Yet as the Russian-American conflict spreads now to Africa and Latin America, as well as Asia, the costs of dependency become clearer. We have seen the frustration of the Third World leaders in the Cocayoc Declaration and in other international gatherings.⁹³ In the past, aid bought time and provided external resources for elites that they did not have to mobilize domestically. But as the crisis deepens, time runs out and poverty grows faster than external assistance in all but a few politically favored states. It seems unlikely that dependence is an alternative to domestic reform for many nations much longer. More important, however, is the fact that unless the nation in question has the

technical, administrative, and political strength and skill to manage the relationship, dependence may well distort policy and institutional development as badly as colonialism did.

Seventh, and finally, ideological questions must play an important role in the emerging solution to each nation's part of the global food crisis. Insofar as "ideology" means a model of the future (in this sense we should use Mannheim's "utopia," although our use is consistent with Geertz's),⁹⁴ and a broad strategy for the role of government in bringing that future into existence, one should perhaps encourage it. Many nations, including those of the West, have been content to deal with problems in ad hoc fashion and to let the future take care of itself. This would seem unwise if the emerging global crisis is anything near as serious as the "doomsayers" suggest. The key problem identified by Club of Rome, in political terms, is the inability of the future to place demands on the present.⁹⁵ All decision makers discount heavily distant events in time. The result is that we are often caught by surprise by events. Another key problem is that identified by Garrett Hardin as the "commons" problem.⁹⁶ Expendable resources, or those which may be overtaxed, are poorly managed if responsibility and benefits are separated. From the use of the sea to underground water supplies, this classic problem of political economy is becoming more frequent. Practical management and philosophical wisdom have never been more needed in directing the power of government. If this is what is meant by "ideology" let us have more of it.

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FOOTNOTES

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1 These rough percentages are derived from data on food aid shipments of two major kinds: those under Title I of Public Law 480, which provides for sales on concessional terms (20 to 40 years for repayment, low interest rates) and those under Title II of the act, which provides for grants. The data for Title I shipments were given for calendar years as follows: 1972, about 6 million metric tons; 1973, 3 million; and 1974, 1.2 million. Title II figures were given for fiscal years as follows: 1972, 2.5 million metric tons; 1973, 2.1 million; and 1974, 1.4 million. Sources: United States Congress, 1973 Annual Report on Public Law 480 (House Document No. 93-362, Washington, D.C., 1973), pp. 8, 50; and "The Annual Report on Activities Carried Out Under Public Law 480, 83rd Congress, as Amended, During the Period January 1 through December 31, 1974" (preliminary draft, Agency for International Development, 1975), pp. 1, 95.

2 Theodore W. Schultz, "Value of U.S. Farm Surpluses to Underdeveloped Countries," Journal of Farm Economics, 42 (December 1960): 1028-9; "Don't Feed the Starving Millions: Food Aid is Damaging to the Countries which Receive it," Economist, September 28, 1968, pp. 60-1; Melvin Burke, "Does 'Food for Peace' Assistance Damage the Bolivian Economy?" Inter-American Economic Affairs, 25 (Summer 1971): 9; for a balanced review of the anti-food aid arguments, see Clifford R. Kern, "Looking a Gift Horse in the Mouth: The Economics of Food Aid Programs," Political Science Quarterly, 83 (March 1968): 59-75.

3 U.S. Department of Agriculture, Economic Research Service, The World Food Situation and Prospects to 1985 (Washington, D.C., 1974), pp. 81-3.

4 The 28 countries in question were ones for which both FAO and USDA per-capita food production estimates were available. See Table 1 for specific bibliographic references.

5 Cited by Donald Heisel, "Food and Population in Africa," Current History, (June 1975): 261.

6 Ethiopia, Ghana, Guinea, Kenya, Mali, Niger, Nigeria, Senegal, and Upper Volta. Agency for International Development, Special Report to the Congress on the Drought Situation in Sub-Saharan Africa (Washington, D.C., 1975), pp. 17-44.

7 Ethiopia, Ghana, Mali, Nigeria, and Senegal. See the sources listed in Table 1.

8 See the entries for those eight countries in the following sources: U.S. Department of Agricultural Service, Foreign Agriculture Circular: Reference Tables on Wheat, Corn, and Total Coarse Grains Supply-Distribution for Individual Countries (Washington, D.C., 1976) and Foreign Agriculture Circular: Reference Tables on Rice Supply-Distribution for Individual Countries (Washington, D.C., 1976).

9 Wilfred Malenbaum, "Scarcity: Prerequisite to Abundance," Annals of the American Academy of Political Science, 420 (July 1975): 76.

10 During the decade of the sixties imports of grain averaged 7.7% of India's domestic production, for example. More to the point these imports represented 20.4% of the marketed supply of grain. See V.S. Vyas and S.C. Bandyopadhyay, "National Food Policy in the Framework of a National Food Budget," Economic and Political Weekly, "Review of Agriculture," March 1975, pp. A2-A13.

11 Indian Foodgrain Marketing (New Delhi: Institute of Economic Growth, 1973) pp. 18-26. Refer also to John Moore, et al. Indian Foodgrain Marketing (New Delhi: Institute of Economic Growth, 1973).

12 The data following on operating costs come from Report of the Committee on Cost of Handling of Foodgrains by Food Corporation of India (New Delhi: Government of India, 1974), pp. 23, 40-41.

13 These dollar figures were converted from rupees at the official exchange rate then prevailing one rupee = \$0.13.

14 N.K. Nicholson, "The Politics of Food Policy in India," Pacific Affairs, XLI: 1 (Spring 1968), pp. 34-9.

15 The basic document in this change was the Ford Foundation report, India's Food Crisis & Steps to Meet It, (New Delhi, Ministry of Food and Agriculture and Ministry of Community Development and Cooperation, 1959). Regarding price policy two subsequent reports indicate clearly the direction of thinking in the Government of India: Agricultural Price Policy in India (New Delhi: Directorate of Economics and Statistics, Ministry of Food and Agriculture, 1966), and Report of the Foodgrains Policy Committee (New Delhi: Department of Food, 1966). In agricultural policy the innovations are presented in, Modernizing Indian Agriculture (New Delhi: Ministry of Food, Agriculture, Community Development, and Cooperation, 1969). Also see, N.K. Nicholson, "Rural Development Policy in India: Elite Differentiation and the Decision Making Process," (DeKalb: Center for Governmental Studies, Northern Illinois University, 1974); D. Brown, Agricultural Development in India's Districts (Cambridge: Harvard University Press, 1971).

16 This interpretation was derived from extensive interviews by Nicholson in India in 1974 with officers and politicians involved in making the decision or in the early implementation of the decision.

17 John Mellor, "The Functions of Agricultural Prices in Economic Development," in Comparative Experience of Agricultural Development in Developing Countries of Asia and the South-East Since World War II, (Bombay: Indian Society of Agricultural Economics, 1971), pp. 122-140.

18 M. Weiner, The Politics of Scarcity (Chicago: University of Chicago Press, 1962), Ch. IX.

19 Morris D. Morris, "What is a Famine," Economic and Political Weekly, Nov. 2, 1974, p. 885; "Needed: A New Famine Policy," ibid., Annual Number, February 1975, p. 283. See also N.S. Jodha, "Famine and Famine Policies: Some Empirical Evidence," ibid., Oct. 11, 1975, p. 1609.

20 For a discussion of the politics of decentrol, see, Norman K. Nicholson, "Politics and Food Policy in India," thesis presented to the Graduate School, Cornell University, for the Degree of Doctor of Philosophy, June 1966, Ch.2.

21 This possibility was demonstrated in the report by the Directorate of Economics and Statistics, Ministry of Food and Agriculture, Report on Market Arrivals of Foodgrains--1958-59 Season (New Delhi, 1959).

The question of the effect of this control system on incentives has frequently been raised in public debate and in academic circles. Several answers are possible. First, the disincentive effect will depend on the extent to which higher prices would, in fact, be reflected in higher investments by the farmer. It could reasonably be argued that, in the absence of new technology, extensive farm investment was not to be expected. Second, controlled prices may be offset, from the perspective of the farmer, by higher average prices if the government does actually support the price at harvest and in bumper years. Third, some disincentive may be justified by the responsibility of the government to prevent starvation if this is what the grain is actually used for and there appears no other way to do the job.

22 Statistics on foodgrains production, procurement, pricing, and distribution can be found in Food Statistics, published annually by the Directorate of Economics and Statistics, Ministry of Agriculture, New Delhi.

23 See. N. Krishnaji, "Inter-regional disparities in Per Capita Production and Productivity of Foodgrains," Economic and Political Weekly, Special Number, August 1975, p.1377. See also John Mellor, The New Economics of Growth (Ithaca: Cornell University Press, 1976), Ch. III; S.S. Johl & M.S. Mudahar, "The Dynamics of Institutional Change and Rural Development in Punjab, India," (Ithaca, Rural Development Committee, Center for International Studies, 1974).

24 N. Krishnaji, "Wheat Price Movements," Economic and Political Weekly, Review of Agriculture, June 1973, pp. A-42.

25 A Review of the Relief problems can be found in the following documents. Relief Problems in East Pakistan and India (in two parts), United States Senate, Committee on the Judiciary, Subcommittee to investigate problems connected with refugees and escapees. (Washington: June 28, 1971, October 4, 1971). Senator Edward Kennedy, Crisis in South Asia, United States Senate, Committee on the Judiciary, Subcommittee to Investigate Problems connected with refugees and escapees, (Washington: Nov. 1, 1971).

26 See the discussions of state agencies in Kenya and Sierra Leone in William O. Jones, Marketing Staple Food Crops in Tropical Africa (Ithaca, New York: Cornell University Press, 1972), Chs. 7,8.

- 27 Colin Leys, Underdevelopment in Kenya (London: Heinemann, 1975), pp. 106-7.
- 28 Ibid., p. 108.
- 29 Cf. War on Hunger (A Report from the Agency for International Development), 8 (August 1974): 27; and Food and Agriculture Organization, "Mission Multi-Donateurs Dans la Zone Sahelienne: Republique du Niger," (Rome, 1974), p. 2.
- 30 Agency for International Development (U.S.), "Development Assistance Program: FY 1975, Section Three: Chad, Cameroon, Central African Republic, and Gabon," (Washington, 1975), p. I-19.
- 31 Jack Shepherd, The Politics of Starvation (New York: Carnegie Endowment for International Peace, 1975), p. 1.
- 32 Victor D. DuBois. "The Drought in West Africa: Part I," American University Field Staff Reports: West African Series, 15 (No. 1, 1974), p.3.
- 33 The Politics of Starvation, p. 4.
- 34 Derek Winstanley, "Climatic Changes and the Future of the Sahel," in The Politics of Natural Disaster: The Case of the Sahel Drought, edited by Michael H. Glantz (New York: Praeger Publishers, 1976), p. 198. See also p. 164 of the same volume.
- 35 "The Drought in West Africa: Part II," (November 2, 1974), p. 6.
- 36 A field survey by the U.S. Public Health Service estimated for Mauritania, Mali, Niger, and Senegal that "the maximum number of deaths due to famine this year (1973) is calculated at 101,000." Public Health Service, "Nutritional Surveillance in West Africa," (July-August, 1973) reprinted in Disaster in the Desert, by Hal Sheets and Roger Morris (New York: The Carnegie Endowment for International Peace, 1974), pp. 131-6. Shepherd reports, "In Ethiopia alone, at least 100,000 people starved to death in 1973 alone..." The Politics of Starvation, p. xiii.
- 37 "The Drought in Africa: Part II," pp. 2-4.
- 38 The Politics of Starvation, p. 17.
- 39 "Needed: A New Famine Policy," Economic and Political Weekly, Annual Number 1976, p. 283.
- 40 Report of the Study Team on Fair Price Shops (New Delhi: Ministry of Food and Agriculture, Community Development, and Cooperation, 1966), especially p. 57.
- 41 The effect of the distribution on prices in Punjab appears to be one of stimulating prices. See N. Krishnaji, "Wheat Price Movements," Economic and Political Weekly, Review of Agriculture, June 1973, p. A-42.

On the whole over the past two decades the index of food prices has risen faster than the wholesale price index and terms of trade have favored the farmer. See, V.S. Vyas & S.C. Bandyopadhyay, "National Food Policy in the Framework of a National Food Budget," Economic and Political Weekly, Review of Agriculture, March 1975, p. A-2. In fact, the distribution system appears to stimulate demand and as price is determined by demand more than supply--due to the fact that aggregate production is unresponsive to prices--the system may actually encourage price increases. See S.K. Chakrabarti, "Relative Prices of Cereals: 1952-70," Economic and Political Weekly, Review of Agriculture, June 1975, p. A-43; National Council of Applied Economic Research, Structure and Behavior of Prices of Foodgrains (New Delhi: NCAER, 1969), Ch. 7; R. Tamarajakshi, "Inter-Sectoral Terms of Trade and Marketed Surplus of Agricultural Produce 1951-52 to 1965-66;" in Comparative Experience of Agricultural Development in Developing Countries, (Bombay: Indian Society of Agricultural Economics, 1972), p. 141. On the issue of the destitute, see V.M. Dandekar & N. Rath, "Poverty in India," Economic and Political Weekly Jan. 2, 1971, p. 25, Jan. 9, 1971, p. 106.

42 John D. Esseks, "The Food Outlook for the Sahel: Regaining Self-Sufficiency or Continuing Dependence on International Aid?" Africa Today, 22 (April-June 1975): 46-7; and The Politics of Starvation, pp. 60-64.

43 Jean Copans, ed., Secheresses et Famines du Sahel (Paris: Francois Maspero, 1975), pp. 133, 137-8, 140-42; Victor DuBois, "The Drought in Niger, Part II: The Overthrow of President Hamani Diori," American Universities Field Staff Reports: West African Series, 15 (No. 5, 1974): 6-7; and The Politics of Starvation, pp. 49-50

44 Punjab Budget at a Glance: 1974-5 (Chandigarsh: Government of Punjab, 1974).

45 See Uma Lele, The Design of Rural Development (Baltimore: The Johns Hopkins University Press, 1975), Ch. III, IV, VI.

46 International Labour Organization, Bulletin of Labour Statistics, 2nd Quarter, 1976, Table 9.

47 See, N.K. Nicholson, Rural Development Policy in India (DeKalb: Center for Governmental Studies, Northern Illinois University, 1974).

48 See Guvant Desai, Growth of Fertilizer Use in Districts of India (Ahmedabad: Indian Institute of Management, Center for Management in Agriculture, 1973) Ch. 2. See also, Guvant Desai, et. al., Dynamics of Growth in Fertilizer Use at Micro Level (Ahmedabad: Center for Management in Agriculture, Indian Institute of Management, 1973); Brian Lockwood, et. al., The High Yielding Varieties Program in India, Part I, (New Delhi: Programme Evaluation Organization, Planning Commission, 1971); National Council of Applied Economic Research, Fertilizer Use on Selected Crops in India (New Delhi: 1974).

49 Even at the time, according to the recollections of those involved in the decision, this was widely viewed as a considerable risk. In fact, most of the field trials of the new seeds were not encouraging and the best economic opinion was against building up a dependence on imported fertilizers.

50 See, Report of the Committee on Taxation of Agricultural Wealth and Income (New Delhi: Ministry of Finance 1972); E.T. Mathew, Agricultural Taxation and Economic Development in India (New Delhi: Asia, 1968); A.C. Angrish, Direct Taxation of Agriculture in India (Bombay: Somarija, 1972); V.P. Gandhi, Tax Burden on Indian Agriculture (Cambridge: Harvard Law School, 1966); S.L. Shetty, "An Inter-Sectoral Analysis of Taxable Capacity and Tax Burden," Indian Journal of Agricultural Economics, XXVI July-Sept. 1971.

51 In 1974, for example, attempts were made by the Finance Ministry to pressure the state governments into adopting agricultural income taxes. In addition, although the central government may not constitutionally tax rural income, the income tax laws were amended to take rural income into account in calculating the rate of income tax. Electricity rates were revised upwards by many states during the year and the price of fertilizer was doubled.

52 The two most obvious were the Kheti Bari Union in Punjab and the Kehdut Samaj in Gujerat. But interviews with Congress party MPs in New Delhi indicated that by 1974 rural MPs from the north-west were becoming increasingly aware of their common economic interest and some identified the "farm lobby" in the Congress as one of the major components of the attempt to oust Indira Gandhi in 1975 (June).

53 The Design of Rural Development, pp. 75, 81; and Underdevelopment in Kenya, p. 101.

54 Henry Bienen, Kenya: The Politics of Participation and Control (Princeton, New Jersey: Princeton University Press, 1974), pp. 169-70.

55 Cited by Charles Elliott, Patterns of Poverty in the Third World (New York: Praeger Publishers, 1975), p. 27.

56 Kenya: Politics of Participation, pp. 181-2.

57 Underdevelopment in Kenya, pp. 90-1.

58 V.M. Dandekar & N. Rath, "Poverty in India," Economic and Political Weekly, Jan. 2, 1971, p. 25; Jan. 9, 1971, p. 106. See also P.K. Bardhank "On the Incidence of Poverty in Rural India of the Sixties."

59 John Lewis, "Wanted in India: A Relevant Radicalism," Economic and Political Weekly, Special Number, July 1970, p. 1211.

60 In 1974, these issues led to the resignation of B.S. Minhas, at that time the leading economist on the Indian Planning Commission. This signaled the impending economic collapse which led to the declaration of emergency in June 1975. His book, Planning and the Poor, (New Delhi: S. Chand, 1974) takes on particular significance in the light of subsequent events.

61 The clearest recent presentation of this model can be found in, John Mellor, The New Economics of Growth (Ithaca: Cornell University

press, 1976). A two volume work by Sudhir Sen, Reaping the Green Revolution (New Delhi: Tata McGraw Hill, 1975), A Richer Harvest (New Delhi: Tata McGraw Hill, 1974), is a comprehensive statement of the problems and solutions. An excellent statistical statement on the Indian case can be found in, "A Report to the Nation on the Downtrodden," Monthly Commentary on Indian Economic Conditions, Indian Institute of Public Opinion, Annual Number, XV, No.5, 1973.

62 See N.K. Nicholson, "Rural Development Policy in India: Elite Differentiation and the Decision Making Process," (DeKalb: Center for Governmental Studies, Northern Illinois University, 1974), pp. 39-43.

63 A good discussion of the "urban" focus of early agricultural planning in India can be found in C.H. Hanumantha Rao, "Agricultural Policy Under Three Plans," in N. Srinivasan, Ed., Agricultural Administration in India (New Delhi: Indian Institute of Public Administration, 1969), pp. 116-119. See also M. Lipton, "India's Agricultural Performance: Achievements, Distortions, and Ideologies," in, Agricultural Development in Developing Countries--Comparative Experience (Bombay: Indian Society of Agricultural Economics, 1972), Ch. 4.

64 See, N. Luyks, "Rural Governing Institutions," in M. Blase, Ed. Institutions in Agricultural Development (Ames: Iowa State University, 1971), Ch. 10; N.T. Uphoff & M.J. Esman, Local Organization for Rural Development: Analysis of Asian Experience (Ithaca: Rural Development Committee, Center for International Studies, 1974); D.E. Ashford, National Development and Local Reform (Princeton: Princeton University Press, 1967).

65 See, for examples, statements by Julius Nyerere, President of Tanzania, reprinted in Freedom and Socialism: A Selection from Writings and Speeches 1965-67 (London: Oxford University Press, 1968), pp. 324-5, 353-5.

66 "As the review of ujamaa carried out under ARDS [African Rural Development Study] noted, there are only limited formal procedures for local people to influence TANU [Tanganyikan African National Union, the ruling party] officials, leaving little more than good will to assure these officials will, in fact, protect peasant interests." Design of Rural Development, p. 153.

67 Paul Collins, "Decentralization & Local Administration for Development in Tanzania," Africa Today, 21 (Summer 1974): 25. In the same article Collins suggests that an exception to the concentration trend may be the interaction between local farmers and regional officials by means of Ujamaa Planning Teams which take officials to villages to assist in drawing up feasible and realistic development plans for the villages. Ibid., pp. 23, 25.

68 See the discussion of farmer opposition to Tanzania's communalization of farming in Design of Rural Development, pp. 155-7.

- 69 Chinese experience in this regard is instructive. See, B. Stavis, "People's Communes and Rural Development in China," (Ithaca: Rural Development Committee, Center for International Studies, Cornell University, 1974); J.C. Pelzel, "The Economic Management of a Production Brigade in Post-Leap China,": in W.E. Willmott, Ed., Economic Organization in Chinese Society (Stanford: Stanford University Press, 1972), pp. 387-416.
- 70 See, R.E. Evenson & Y. Kislev, Agricultural Research and Productivity (New Haven: Yale University Press, 1975): Y. Hayami & V.W. Ruttan, Agricultural Development: An International Perspective (Baltimore: Johns Hopkins, 1971).
- 71 Report of the Fertilizer Credit Committee of the Fertilizer Association of India (New Delhi: Fertilizer Association of India, 1968) pp. 92-96.
- 72 P.L. Sankhayan, D.S. Sidhu, and P.S. Rangi, "Efficiency and Impact of Various Fertilizer Supply Systems on Production in Punjab," Indian Journal of Agricultural Economics XXVIII (Oct./Dec. 1972): 77-84. R.I. Singh, Ram Kumar, & Sri Ram, "Impact of Input Supply Systems on Crop Production in District Moradabad," Ibid., pp. 130-136, J.G. Ryan & K.V. Subramanyam, "Package of Practices Approach in Adoption of HYV," Economic and Political Weekly, Review of Agriculture, Dec. 1975, pp. A-101 to A-110.
- 73 L. Nulty, The Green Revolution in West Pakistan (New York: Praeger, 1972).
- 74 This neglect was corrected in the mid-sixties with the establishment of the Agricultural Prices Commission in the Ministry of Agriculture, which prepares cost of production and price recommendations seasonally for the Ministry. The Commission's cost of production calculations are generally disputed by farm organizations which feel they are too low. The Commission also appears to be of the opinion that, within broad ranges, prices do not influence the allocation of acreage, input use, etc. For discussions of various aspects of this problem, see: Raj Krishna, "Agricultural Price Policy and Economic Development," in H.M. Southworth & B.F. Johnston, Agricultural Development and Economic Growth (Ithaca: Cornell University Press, 1970), Ch. 13. Uma Lele is highly critical of government pricing policies in, Foodgrain Marketing in India (Ithaca: Cornell University Press, 1971), pp. 220-223. That this is a widespread problem is argued by T.W. Schultz in, "U.S. Malinvestments in Food for the World," reprinted in, Agricultural Development in Developing Countries (Bombay: Indian Society of Agricultural Economics, 1972), Ch. 21.
- 75 See N.K. Nicholson, "Local Institutions and Fertilizer Policy: The Lessons From India's Punjab and Gujerat States" (Paper presented to East-West Center Food Institute Conference, INPUTS June 7-17, 1976, Honolulu, Hawaii). Also, "Differential Responses to Technical Change in Gujerat and Punjab: An Analysis of Economic Political Differentiation in India," (Paper presented to American Political Science Association, Annual Convention, San Francisco, Sept. 16, 1975).

- 76 A good example is the Small Farmer Program evolved in the late sixties. It was designed to direct federal resources directly into programs to help the smaller farmer. Discussions of the problems and programs can be found in, V.R. Gaikwad, Small Farmers: State Policy and Program Implementation (Hyderabad: National Institute of Community Development, 1971); Rural Development for Weaker Sections, Report of a Seminar Sponsored by the Indian Society of Agricultural Economics and the Indian Institute of Management, (Bombay: I.S.A.E., 1974).
- 77 N.T. Uphoff & M.J. Esman, Local Organization for Rural Development: Analysis of Asian Experience (Ithaca: Rural Development Committee, Center for International Studies, Cornell University, 1974), pp. 63-75.
- 78 P.J. Stangel & J.H. Allgood, "World Fertilizer Situation 1976-1980" (Paper presented to Food Institute Conference, East-West Center, Honolulu, Hawaii, June 7-17, 1976).
- 79 See, U.K. Srivastava, et. al., Food Aid and International Economic Growth, (Ames: Iowa State University, 1975).
- 80 See, for example, W.D. Hopper, "The Development of Agriculture in Developing Countries," Scientific American, 235. (Sept. 1976): 196-205.
- 81 See, J. Janick, C.H. Noller, & C.L. Rhykerd, "The Cycles of Plant and Animal Nutrition," Scientific American, 235 (Sept. 1976): pp. 74-87. Roger Revelle, "Food and Population," Scientific American, 231 (Sept. 1974): 160-170.
- 82 See, N. Krishnaji, "Inter-Regional Disparities in per capita Production and Productivity of Foodgrains," Economic and Political Weekly, Special Number, Aug. 1975, p. 1377; P.K. Bardhan, "On the Incidence of Poverty in Rural India of the Sixties," Economic and Political Weekly, Annual Number, Feb. 1973, pp. 245-268.
- 83 There have been only a few attempts to relate the character of local politics to policy, but they are as yet somewhat primitive. See, S. Hadden, Decentralization and Rural Electrification in Rajasthan, India (Ithaca: Rural Development Committee, Center for International Studies, Cornell University, 1974); R.N. Blue & Y. Junghare, "Political and Social Factors Associated with the Public Allocation of Agricultural Inputs in a Green Revolution Area" (Minneapolis: University of Minnesota, Department of Political Science, 1973, mimeo); B.W. Coyer, "The Distribution of Rural Public Policy Goods in Rajasthan" (Paper presented to Fourth Annual University of Wisconsin Conference on South Asia, Nov. 7-8, 1975); N.K. Nicholson, "Factionalism and Public Policy in India," forthcoming in F. Belloni, Ed., Party and Faction (CLIO Press).
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Table 1

Indices of Per Capita Food Production: 1961-74
USDA and FAO Estimates

1961-65 average = 100

		1961-65 Average	1966	1968	1970	1972	1974	1971-74 Average
A. Stagnant or Declining Output (Africa)								
Benin	USDA	100	92	94	93	91	99	94
	FAO	100	102	104	108	96	106	102
Ethiopia	USDA	100	100	103	100	91	87	91
	FAO	100	101	101	103	99	90	96
Ghana	USDA	100	99	91	88	83	87	87
	FAO	100	93	91	101	104	101	104
Guinea	USDA	100	93	108	106	107	104	107
	FAO	100	97	105	102	94	92	94
Kenya	USDA	100	99	100	95	97	95	94
	FAO	100	109	107	107	102	96	99
Liberia	USDA	100	97	83	83	85	94	89
	FAO	100	98	92	93	95	102	96
Madagascar	USDA	100	105	108	107	107	103	104
	FAO	100	102	102	98	90	93	92
Mali	USDA	100	92	82	87	66	67	68
	FAO	100	98	91	90	74	72	75
Niger	USDA	100	100	98	96	73	71	71
	FAO	100	110	103	96	81	70	73
Nigeria	USDA	100	94	83	96	96	92	93
	FAO	100	88	88	91	85	79	82
Senegal	USDA	100	89	82	66	63	91	82
	FAO	100	91	87	69	59	75	75
Sierra Leone	USDA	100	95	97	94	97	95	97
	FAO	100	111	107	107	109	107	107
Togo	USDA	100	112	115	105	98	93	96
	FAO	100	115	119	114	84	87	89

Table 1
(continued)

		1961-65 Average	1966	1968	1970	1972	1974	1971-74 Average
A. Stagnant or Declining Output (Africa)								
Uganda	<u>USDA</u>	100	107	109	105	97	85	93
	<u>FAO</u>	100	99	101	108	101	94	98
Upper Volta	<u>USDA</u>	100	91	86	79	68	78	70
	<u>FAO</u>	100	106	106	102	86	60	78
B. Increased Outputs (Africa)								
Ivory Coast	<u>USDA</u>	100	107	107	112	115	128	120
	<u>FAO</u>	100	93	105	111	116	121	119
Malawi	<u>USDA</u>	100	127	106	109	129	123	123
	<u>FAO</u>	100	93	105	111	116	121	119
Rwanda	<u>USDA</u>	100	101	116	121	112	99	111
	<u>FAO</u>	100	106	107	119	112	96	110
Zaire	<u>USDA</u>	100	109	114	122	108	115	111
	<u>FAO</u>	100	107	121	118	115	127	118
C. Widely Divergent Indices								
Burundi	<u>USDA</u>	100	107	105	110	107	82	101
	<u>FAO</u>	100	105	105	129	171	181	165
Cameroon	<u>USDA</u>	100	102	105	95	94	95	95
	<u>FAO</u>	100	105	121	122	124	121	122
Tanzania	<u>USDA</u>	100	111	100	102	103	86	97
	<u>FAO</u>	100	110	107	124	114	109	113
Zambia	<u>USDA</u>	100	122	81	92	157	135	129
	<u>FAO</u>	100	113	102	99	99	103	100

Table 1
(continued)

		1961-65 Average	1966	1968	1970	1972	1974	1971-74
D. South Asian Countries								
Bangladesh	<u>USDA</u>	100	91	101	95	80	85	85
	<u>FAO</u>	100	91	100	92	78	80	82
Burma	<u>USDA</u>	100	85	92	92	83	88	88
	<u>FAO</u>	100	86	94	94	84	90	90
India	<u>USDA</u>	100	89	100	109	98	95	101
	<u>FAO</u>	100	91	99	105	97	96	100
Pakistan	<u>USDA</u>	100	101	119	132	118	121	120
	<u>FAO</u>	100	99	116	120	114	113	114
Sri Lanka	<u>USDA</u>	100	89	110	120	100	108	102
	<u>FAO</u>	100	96	101	98	93	97	94

SOURCES: U.S. Department of Agriculture, Indices of Agricultural Production in Africa and the Near East, 1956-75 (Washington, D.C., 1976, Statistical Bulletin No. 556); USDA, Indices of Agricultural Production for the Far East and Oceania, Average 1961-65 and Annual 1966-75 (Washington D.C., 1976, Statistical Bulletin No. 555); and Food and Agriculture Organization, Production Yearbook, 1974 (Rome, 1975), Vol. 1, pp. 29-30.

Table 2

Indices of Food Imports, 1962-75, Based On
Current Market Values

	1962-65 average = 100					
	1962-65 Average	1967	1969	1971	1973	1971-7 Average
<u>African Countries:</u>						
Cameroon	100	125	132	187	243	207
Ethiopia	100	158	110	172	151	143
Ghana	100	90	85	87	126	93
Ivory Coast	100	n/a	258	306	408	364
Kenya	100	67	165	224	247	235
Liberia	100	119	95	146	206	168
Madagascar	100	85	120	157	205	168
Malawi ^a	100	84	91	147	204	178
Mali	100	108	184	246	559	362
Nigeria	100	93	146	234	358	290
Senegal	100	105	136	130	236	169
Sierra Leone	100	128	117	149	241	178
Tanzania	100	132	222	268	411	383
Togo	100	137	112	128	252	188
Uganda	100	168	507	560	544	539
Zaire	100	107	97	96	173	131
Zambia ^a	100	n/a	171	295	152	220
<u>South Asian Countries:</u>						
Burma	100	n/a	287	430	236	289
India	100	158	103	67	118	76
Pakistan	100	131	60	67	136	90
Sri Lanka	100	103	90	93	125	102

NOTE: ^a1964-65 average1971-73 average, all countries
= 218SOURCE: Food and Agriculture Organization, Trade Yearbook, 1974 (Rome, 1975).

Table 3

Food Imports as Percentage of
Total Export Earnings
1962-73

	1962-65 Average	1967	1969	1971	1973	1971-73 Average
A. <u>More Costly Dependence</u>						
Ivory Coast	11.0	n.a.	15.4	18.2	12.9	16.6
Senegal	43.7	40.9	58.4	54.8	64.6	51.4
Sierra Leone	18.3	30.2	16.4	22.2	23.7	21.3
Sri Lanka	40.5	46.4	43.8	44.6	53.8	48.0
Tanzania	5.3	5.4	8.0	8.6	10.0	10.7
Uganda	2.4	3.3	8.5	8.1	6.4	7.3
Zaire	18.2	17.3	17.0	18.5	21.6	20.3
Zambia ^a	4.2	n.a.	3.4	9.1	2.8	6.0
B. <u>Less Costly</u>						
Burma	9.9	n.a.	5.6	8.7	5.5	6.2
Cameroon	9.6	11.0	7.0	10.4	7.9	9.4
Ethiopia	6.0	9.1	5.4	7.9	3.7	5.2
Ghana	19.4	19.2	15.7	15.6	12.4	12.5
India	31.7	51.0	29.1	16.5	21.0	15.8
Kenya	13.7	7.8	11.7	13.7	10.0	12.1
Liberia	13.9	10.7	5.8	8.4	9.1	8.5
Madagascar	14.3	10.6	13.7	13.7	13.1	12.7
Malawi ^a	14.0	7.9	9.4	10.7	11.1	11.3
Nigeria	11.2	9.0	10.5	8.7	6.7	7.9
Pakistan	31.3	30.7	13.3	13.5	23.8	18.0
Togo	19.2	18.8	11.4	11.5	18.0	15.3

NOTE: ^a1964-65 average.

SOURCE: Same as for Table 2.

Table 4

Cereals Imports* As Percentage of
Total Cereals Consumption
(By Volume) 1961-73

	In percentages					
	1961-65 Average	1967	1969	1971	1973	1971-73 Average
A. Increased Import Dependence						
Ethiopia	.3	.7	.9	1.3	2.7	1.5
Ivory Coast	24.0	20.2	31.5	28.2	29.5	31.3
Liberia ^a	26.2	36.2	36.3	30.0	17.7	26.5
Madagascar	3.8	2.0	3.8	6.0	17.7	13.3
Nigeria	2.4	3.6	4.8	8.3	8.7	7.7
Senegal	76.7	68.3	67.8	79.1	90.0	86.1
Sierra Leone ^b	11.1	15.8	13.0	21.0	18.6	18.7
Tanzania	6.3	4.3	7.6	8.3	16.5	11.6
Upper Volta	1.8	4.4	4.0	7.0	10.5	8.4
Zaire	36.2	31.2	24.9	32.9	38.4	36.4
Zambia ^c	4.7	4.6	11.6	7.7	10.1	9.3
B. Decreased Dependence						
Ghana	25.3	19.0	23.9	21.6	25.7	22.3
Guinea	18.1	18.7	16.4	17.8	13.2	15.7
India	8.3	11.0	4.5	2.3	4.5	2.8
Kenya	5.8	.2	1.1	7.2	3.4	4.2
Pakistan	19.3	26.4	9.9	10.8	9.7	11.3
Sri Lanka	54.6	52.7	48.3	48.2	52.1	49.7

*Wheat, coarse grains, and rice unless otherwise indicated.

NOTES: ^a rice only. ^b wheat and rice. ^c wheat and coarse grains.

SOURCES: U.S. Department of Agriculture, Foreign Agriculture Circular: Reference Tables on Wheat, Corn, and Total Coarse Grains Supply-Distribution for Individual Countries (Washington, D.C. 1976); and ibid., Reference Tables on Rice Supply-Distribution for Individual Countries (Washington, D.C., 1976).

Table 5
Indices of Per Capita Consumption of Cereals*
1961-75

	1961-65 = 100						
	1961-65 Average	1967	1969	1971	1973	1975	1973-75 Average
A. Lower Consumption							
Ethiopia	100	105	112	107	78	95	85
Kenya	100	91	86	69	88	82	83
Liberia ^a	100	81	80	79	77	76	76
Nigeria	100	78	93	71	69	79	75
Senegal	100	113	105	124	107	86	95
Sierra Leone ^b	100	95	90	117	94	98	99
Upper Volta	100	88	75	79	67	69	68
B. Higher Consumption							
Ghana	100	118	110	121	150	127	137
Guinea	100	128	115	114	106	101	104
India	100	100	105	103	107	105	104
Ivory Coast	100	121	139	141	121	122	119
Madagascar	100	112	103	106	108	118	115
Pakistan	100	107	123	111	117	114	115
Sri Lanka	100	104	110	115	108	102	108
Tanzania	100	87	86	105	126	131	122
Zambia ^c	100	146	154	135	116	123	121
Zaire	100	95	120	133	150	163	157

*Wheat, coarse grains, and rice, unless otherwise indicated.

NOTES: ^a rice only.

^b wheat and rice.

^c wheat and coarse grains.

SOURCES: same as for Table 4.

Table 6

Percentage of Government Expenditures Allocated to Agriculture*

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	Average for All Years
Kenya	n.a.	17.9 ^a	18.1 ^a	14.3 ^a	12.4 ^a	12.5 ^a	12.8 ^a	11.0	9.0	10.0	12.1	13.0
Malawi	n.a.	8.8	n.a.	10.4	n.a.	12.5	n.a.	n.a.	11.9	15.4	15.4	12.4
Tanzania	13.6 ^a	11.8 ^a	8.6 ^a	8.3	n.a.	n.a.	n.a.	10.2	11.3	9.5	9.9 ^b	10.4
Uganda	n.a.	8.1 ^a	6.7 ^a	8.5 ^a	8.0 ^a	8.2	6.6	9.5	8.7	n.a.	n.a.	9.1
Ivory Coast	n.a.	8.8 ^b	6.3 ^b	6.8	8.4 ^b	7.6						
Ghana	6.4	5.4	8.8	7.5	7.4	6.5	5.3	5.1	4.9	5.6	6.5	6.3
Rwanda	n.a.	n.a.	n.a.	4.6	5.9	5.1	4.9	5.1	4.6	n.a.	n.a.	5.0
Ethiopia	n.a.	n.a.	3.0	2.7	2.8	4.2	n.a.	3.6	5.0	8.7 ^b	8.4 ^b	4.8
Sierra Leone	n.a.	n.a.	n.a.	n.a.	n.a.	3.6 ^a	3.1 ^a	4.8 ^a	4.9 ^a	3.5 ^a	7.8 ^b	4.6
Liberia	n.a.	n.a.	n.a.	n.a.	n.a.	1.8	1.8	1.5	2.7	3.8	3.8	2.6

*Actual recurrent and capital expenditures, unless otherwise indicated.

Notes: ^a fiscal year.
^b Estimated.

SOURCES: Kenya: Irving Kaplan, et. al., Area Handbook for Kenya (Washington, D.C., 1967); Kenya, Economic Survey, 1970 (Nairobi, 1970); United Nations, Survey of Economic Conditions in Africa, 1973 (New York, 1974).
Malawi: Harold D. Nelson, et. al., Area Handbook for Malawi (Washington, D.C. 1975); Survey of Economic Conditions in Africa, 1973.
Tanzania: Allison B. Herrick et.al., Area Handbook for Tanzania (Washington, D.C., 1968); Survey of Economic Conditions in Africa, 1973.
Uganda: Uganda, Statistical Abstract [5], 1967 (Entebbe, 1967); 1970 (Entebbe, 1970); and 1971 (Entebbe, 1971); Allison B. Herrick, et. al., Area Handbook for Uganda (Washington, D.C., 1969).

Table 6
(continued)

SOURCES: (cont'd)

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- Ghana: Ghana, Statistical Yearbook [5], 1965-66 (Accra, 1969); 1969-70 (Accra, 1973); Bank of Ghana, Annual Report [5], 1971-72 (Accra, 1973); 1972-73 (Accra, 1974), 1973-74 (Accra, 1975).
- Rwanda: International Monetary Fund, Survey of African Economies (Washington, D.C., 1973), Vol. 5.
- Ethiopia: Irving Kaplan et. al., Area Handbook for Ethiopia (Washington, D.C., 1971); Survey of Economic Conditions.
- Sierra Leone: International Monetary Fund, Survey of African Economies (Washington, D.C. 1975), Vol. 6; Survey of Economic Conditions.
- Liberia: International Monetary Fund, Survey of African Economies (Washington, D.C. 1975), Vol. 6.