

Food Policy Issues in Low-Income Countries

World Bank Staff Working Paper No. 473

August 1981

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A Background Study for World Development Report 1981

The paper considers food policy issues in Zambia, Bangladesh, and India from the viewpoints of short-term adjustment to the energy crisis and the longer-term effects of food policy on poverty, malnutrition, and food security. Parts 2-4 present the country case studies; Part 1 is an overview drawing upon the case studies. As a general conclusion, the paper suggests that external pressures during the 1970s intensified problems of agricultural production and food supply, but that in none of the countries studied were such external pressures the cause for a serious food supply problem.

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ACRONYMS AND ABBREVIATIONS

AGREP	Agricultural and Rural Development Department, Economics and Policy Division (World Bank)
AICMIP	All-India Co-ordinated Millet Improvement Program
AICRIP	All-India Co-ordinated Rice Improvement Program
BARC	Bangladesh Agricultural Research Council
BIRRI	Bangladesh Rice Research Institute
CFB	Commercial Farmers' Bureau (Zambia)
COMECON	Council for Mutual Economic Assistance (also CMEA)
CSO	Central Statistical Office (Lusaka, Zambia)
EEC	European Economic Community
ESCAP	Economic and Social Commission for Asia and Pacific (U.N.)
FAO	Food and Agriculture Organization
HYV	High-yield variety
JASPA	Jobs and Skills Program for Africa, ILO
IBRD	International Bank for Reconstruction and Development (the World Bank)
ICDD	International Center for Diarrheal Diseases
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDS	Institute of Development Studies
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organisation
IMF	International Monetary Fund
IRRI	International Rice Research Institute
MAWD	Ministry of Agriculture and Water Development (Zambia)

mmt	Million metric tons
OECD	Organisation for Economic Co-operation and Development
PCM	Protein-calorie malnutrition
t/ha	Metric tons per hectare
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development

Preface

These four papers consider food policy issues in three countries, Zambia, Bangladesh, and India, from the viewpoints of short-term adjustment to the energy crisis and the longer-term impact of food policy on poverty, malnutrition, and food security. The first paper presents an overview of these issues drawing upon the three country case studies.

As a general conclusion, the papers suggest that external economic pressures during the 1970s aggravated agricultural production and food supply problems, but in none of the case study countries were such external pressures the cause for a serious food supply problem. International measures, such as the IMF's cereal financing facility or international grain price stabilization measures and food aid could ameliorate the problems of food insecurity. Less easy to generate is the efficacy of public intervention in food systems, which is widespread among low-income countries. Such interventions are frequently of benefit only to urban groups (but often including the poorest among them); they can undermine producers' incentives and pose major problems of food supply management, especially the use of stocks and imports. At the same time, there is scope for manipulating the supply and price of basic food staples to produce cheap calories for the poor.

The paper on Zambia describes the dimensions of poverty and food insecurity and distinguishes the groups affected: urban dwellers, subsistence farmers, emergent farmers, and commercial farmers. Although in general public intervention through subsidies and parastatal marketing has not favored producers, there is a case for subsidizing and fortifying roller meal (the cheaper maize product) and for better nutrition education. For rural groups, production-oriented measures appear most appropriate -- agricultural research, better infrastructure and services, higher prices, and "micro capital" for the poorest.

Bangladesh's complex and vulnerable food system is examined through the analysis of its three crises of the 1970s: the Sylhet floods of 1977, the drought of 1978/79, and the Bangladesh famine of 1973-75. Some clear implications for policy emerge: the need for better monitoring and information systems, more flexible and longer-term commitments of food aid, and higher levels of domestic food stocks at or near distribution points. The food distribution system, which employs rationing, appears to have more benefits than costs, but its benefits are skewed towards groups whose need is not the greatest. Systems employing more open market sales would be a lower-cost method of stabilization, but there are reasons for proceeding cautiously in raising food prices: the disproportionate effect on low-income groups and possibly disproportionate benefits to larger producers.

In aggregate, India's food security at the outset of the 1980s appears healthy, even in the face of external shocks; foodgrain output has outpaced population growth, reflecting technical improvements, greater resources and incentives devoted to food production, and high levels of public-sector foodgrain stocks during 1975/76-1978/79. But serious risks still affect the 15 percent or so of India's population at or below the margin of caloric adequacy. (This relatively low estimate of the undernourished is elaborated in the paper.) These groups are concentrated in districts and

states where relatively little progress has been made in raising yields or double-cropping; the variability of crop output remains high; "poor people's crops" remain the most vulnerable to input fluctuations. But the "international" causes of food insecurity -- scarcer energy, global food supply fluctuation -- will probably continue to have relatively small effects on total domestic food supply.

Robert Liebenthal
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Part 1

Food Policy Issues in Low-Income Countries: An Overview

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Part 1
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I. INTRODUCTION

This paper and the other supporting background country case studies focus simultaneously on two sets of issues that have an important place in World Development Report 1981. First, there are the problems of a short-term adjustment to a second international energy crisis and the recession in the world economy that impinge upon agriculture and food consumption in low income countries. Second, there is the longer-term question of agriculture and rural development that has significant effects on poverty, malnutrition, and food insecurity in low-income countries.

A recurrent theme in the analysis of the agricultural production problem is the importance, but frequent lack of, adequate material incentives for producers in developing countries (e.g. Schultz, 1978). This lack of incentives is seen to be in large measure the consequence of the complex of interventions in food markets by governments preoccupied with short-term problems of providing cheap (relative to world prices) and secure supplies of basic food staples, particularly for urban consumers.

The problem of incentives is therefore a problem of public policy. However, the central aspect of this problem is the extent to which there is genuine tension in public policy and inevitable trade-offs between containing short-term problems of food insecurity and the provision of incentives for the longer-term solution of these problems. There is near-unanimity on the point that sustained production and productivity increases require time to bring about. The area of dispute is in the character and significance of the problems of food insecurity and the other pressures that shape food policies in low-income countries. This is the concern of this paper and the accompanying country case studies, which focus largely on the consumption side issues within the food systems of low-income countries and the associated public policy problems at national and international levels.

In considering these issues, we have chosen to focus on a small number of case study countries that have experienced serious food system problems during the 1970s and also have significantly different economic structures. These differences include resources, demographic and socio-political characteristics, and size. The countries chosen for study are Zambia, Bangladesh, and India (Parts 2, 3, and 4 of this volume). In addition we have drawn upon the experiences of Indonesia and Sri Lanka, as documented in recent studies of their food systems.^{1/} Our starting point was to indicate the dimensions of the problems of poverty, malnutrition, and food insecurity in each of the case study countries. These terms are frequently used very loosely, and we have endeavored to use specific terms in talking about malnutrition and food insecurity at national, regional, or individual levels. Within this context, we looked at three sets of issues:

II. SOME COMMON THEMES OF FOOD INSECURITY AND POVERTY

The country case studies, though few in number, indicate some plausible generalizations about the nature of malnutrition and food insecurity problems in low-income countries and provide some common themes for policy analysis. Food insecurity is a problem most often conceptualized as a macro phenomenon -- deviations from trends in aggregate consumption. However, as a human problem it is primarily one of the welfare vulnerability of distinct categories of people within the population. The case studies show the importance of clearly recognizing the distinct poverty problems and sources of vulnerability of these groups.

First, it is important to differentiate between the problems of the urban poor and the rural poor. The majority of urban households in low-income countries spend a high proportion of income on basic foods. The effects of fluctuations in food prices on income are therefore significant and present severe difficulties in obtaining food for those on fixed incomes.^{1/} The problems are most acute for the poor: low wages, irregular employment, unemployment, and disabilities make them especially vulnerable. Their access to capital markets is more restricted, and the cost of credit is higher. The poorest urban dwellers are also likely to be the most directly affected by crisis in the countryside, which produces an influx of migrants who will compete for unskilled and casual employment. When compensating measures are absent, higher food prices have direct and adverse effects on the welfare of the urban poor.

The major sources of rural poverty, malnutrition, and food insecurity lie in the structure of domestic agricultural production. Characteristically, poverty and malnutrition have a well-defined regional, seasonal, demographic, and social structural character. However, there is a considerable difference between the structure of asset-holding and production in South Asian peasant economies and the less densely settled countries of Sub-Saharan Africa.

In terms of their access to and control over productive assets the poor are differentiated in three broad categories: the rural landless, near-subsistence households, and poor farmers producing marketable surpluses.

In rural South Asia the poorest and most vulnerable groups are the landless and the marginal agricultural producers. These broad categories include groups that are subject to different pressures on food consumption and have varying capacities to adjust to short-term difficulties. The main group among the landless we will categorize as "village labor": households

^{1/} For example, over one-third of the expenditure of more than 75 per cent of urban households in Bangladesh was accounted for by rice and wheat in 1973/74.

whose primary source of income is work on the holdings of other rural households. These earnings are supplemented by a range of ancillary activities such as portage, food processing, and petty trading, as well as their own cultivation. Fluctuations in production also directly affect the level of agricultural and related employment. When a crop is lost or yields are severely damaged due to drought or flood, there is less work in inter-cultivation, harvesting and post-harvest operations, also probably putting downward pressure on real wage rates at a time of rising food prices.

Established seasonal migration of labor and traditional forms of payment in kind for operations such as harvesting have been important mechanisms for coping with the problems of periodic underemployment and food insecurity among agricultural laborers. However, these traditional payment systems are being displaced in many regions by market-determined wages (Asian Development Bank, 1977), sometimes facilitated by the increasing flow of migrant labor (Clay, 1976). Such institutional changes, by forcing agricultural labor to bear a greater share of the adjustment costs of upward food price fluctuations, increase the food insecurity of this most vulnerable group within rural society.

The landless group is roughly coterminous with those identified as landless, i.e. without agricultural land, and near landless, i.e., with holdings too small to provide more than a fraction of household food. In Bangladesh a number of surveys show that over 30 percent of rural households are without agricultural land, and in some districts of north-east India the proportion is over 40 percent. In Bangladesh a further 20 percent of households have occupancy rights to less than 0.2 ha (0.5 acres). Existing patterns of tenancy do not have a significant redistributive effect in favor of these groups. The typical tenant is a peasant, with his own draft animals and equipment, holding in excess of 0.4 ha, who rents additional land.^{1/} The share-cropper is more likely to belong to the third category (poor farmers producing marketable surpluses) and share rentals to represent a significant proportion of the marketed output of, for example, jute.

Plantation workers are a numerically significant subgroup among the landless in some regions of Bangladesh, India, and particularly, Sri Lanka (Isenman, 1980a). They are paid in cash and depend largely upon marketed food supplies. Their employment is seasonal and also affected, as are wage rates, by the profitability of export crop production. Their real incomes are therefore more sensitive than those of village labor to movements in domestic food prices and the state of the world economy.

^{1/} There is now considerable empirical evidence in the form of Ph.D theses to substantiate these generalizations, which find an early statement in Bell's (1977) review of evidence on the productivity effects of share-cropping in N.E. Bihar.

The circumstances in which plantation labor was permanently recruited also created a spatially and culturally isolated workforce. The factors have in turn resulted in poor, nutritionally-vulnerable populations by inhibiting or precluding seasonal and longer-term migration to find supplementary employment or alternative livelihoods. Plantation labor in South Asia constitutes a special problem group, whose circumstances are reflected, for example, by their explicit inclusion in public ration distribution in Bangladesh.

The wholly landless are nutritionally more vulnerable than those with homestead plots and access to grazing for animals. The next most vulnerable category are marginal farming households. They differ from the near-landless by obtaining the greater part of their income from their own cultivation. Their holdings, whether or not supplemented by produce from rented land, yield incomes that are barely adequate to provide for family subsistence. Households are locked into patterns of seasonal food deficits and indebtedness that amplify fluctuations in food prices through "forced" post-harvest sales and pre-harvest purchases. Long-term debt is also slowly forcing marginal producers to dispose of assets. Periods of crisis, such as the 1973/74 famine in Bangladesh, precipitate this process of pauperization. In the short term, possession of saleable assets provides a line of credit that makes the marginal farmer less vulnerable than the landless. But in the long term the dynamic instability of this group threatens to aggravate problems of poverty and food insecurity by swelling the ranks of the landless, and interventions to improve the position of the marginal and small farmers have been an important feature of agricultural policy during the past decade.

The high levels of landlessness, secular patterns of computation of wage payments and the seasonal food deficits of marginal producers all contribute to make the rural poor an important segment of the market for food staples (Clay, 1980; Part 3 of this volume). In the still predominantly rural economies of Bangladesh and the more backward states of India, the poor constitute an important segment of the market for food staples. For example, in Bangladesh rural consumers probably represent two-thirds of the market for food grains (Clay, 1980).

In contrast, almost all rural people in Africa are engaged in subsistence production. The market impinges upon them to the extent that they are surplus producers of agricultural commodities (see Chambers and Singer, 1980; Part 2 of this volume).^{1/} These differences of

^{1/} Nomadic pastoralists are an important group in many African societies. Their distinctive food security problems are centered on the difficulties and long time periods required to rebuild herds and flocks after these have been decimated by drought or disease. The problems of pastoralists, which are outside the scope of this review, have become the focus of important international activities such as those of the International Livestock Center for Africa and the International Laboratory for Research of Animal Diseases.

economic structure have significantly different implications in terms of the trade-offs involved in price policy. In Africa the short-term distributional conflict involved in price policy is essentially between rural producers and urban consumers. Chambers and Singer see the conflict of interests involved in price policy in Zambia as rural-urban, complicated by discrimination between commodities. In densely-settled countries with large numbers of rural consumers the trade-offs are more complex and also involve the welfare of the rural poor. In the case of Bangladesh (Ahmed, 1979; Pitt, 1980; Part 3 of this volume) Indonesia (Timmer, 1980) and Sri Lanka (Timmer, 1980a) there is a potential short-term conflict of interest between surplus and potential surplus agricultural producers and the rural poor. The problem is well summarized by Timmer (1980a, p.7): "This skewing effect of high food price policy is not unique to Sri Lanka, it is quite characteristic of any market-oriented society at low levels of per capita income. In such societies low food prices have a strong equalizing effect on the distribution of calories, while high food prices cause an inevitable skewing in the absence of alternative policy initiatives or program interventions."

There is also a problem of effective demand for food staples in the market-oriented economies of South Asia. As the experience of India during the late 1970s has shown, increasing aggregate food supply does not necessarily reduce malnutrition, which is concentrated in marginal groups and marginal regions within society. Short-term problems of excess supply can build up, as for example in Bangladesh in 1975/76 and again in 1980/81, while the under-employed rural poor lack the purchasing power to raise their consumption to nutritionally satisfactory levels.

It is important to recognize the significance of this tension, the potential in food policy, and the potential trade-offs implied by "cheap" food or incentive price policies. The price of cheap calories today is probably some combination of food import dependence and low rates of agricultural growth. The costs of an incentive price policy are immediate pressures on the real incomes and nutritional status of the most vulnerable groups, both urban and rural, if there are no effective compensatory interventions.

In Zambia and probably many other African economies still only partially integrated into wider markets, the problem is subtly different. Increasing the supply of commodities for which a substantial demand exists, e.g. maize, will have a significant impact on the incomes of maize-surplus producing households in the major maize-growing regions. Areas of subsistence production, where marketed crops are insignificant, would be little influenced by the growth of marketed output.

In each of the case study countries poverty and malnutrition are shown to have clearly defined seasonal and regional dimensions. However, the nature of these problems of seasonality and regional imbalance are country-specific, reflecting variations in environmental conditions and the demographic and economic structure of the society. For example in Zambia (Chambers and Singer, Part 2 of this volume) the problem of seasonality is closely linked to the pattern of rainfed cultivation under a unimodal tropical rainfall regime. However, in Bangladesh the problem of seasonality reflects both the pattern of rainfall and geohydrology resulting in a more complex region-specific seasonal incidence of nutritional stress (Clay, 1978).

Seasonal stress on rural households also reflects the demographic and social structure of different rural societies. In Zambia the more vulnerable are typically households headed by females. The problem of individual food insecurity strongly reflects patterns of rural/urban migration. In Bangladesh, the problem of interseasonal smoothing of consumption is particularly a problem for the landless and near-landless, due to seasonal underemployment and their lack of assets. Again, however, female-headed households are the most vulnerable groups among the poor (Cain, 1979).

The regional dimension of poverty and malnutrition, which are again country-specific, reflect classic problems of location and remoteness from the metropolis; environmental and technological factors limit agricultural productivity growth and market demand for agricultural commodities. For example, in thinly peopled Zambia, it is in the remoter rural regions, where marketed production of maize, the major staple, is least important and a high proportion of households are within the subsistence sector, that poverty and malnutrition are most severe.

In India and Bangladesh, where there are problems of regional backwardness and remoteness, malnutrition and poverty are most acute in regions where the pressure of population on the land is extremely severe. And with traditional agricultural technologies, there are major problems in increasing productivity. For example the semi-arid coarse grain staple regions of India are areas of high food insecurity. The rice-growing region of eastern India is another poverty zone. Increasing the productivity of the main monsoon rice crop and the deep-water rices raises technical problems that were not solved by the development of the first generations of high-yielding semi-dwarf rices. The discussion of price policy is broadened by recognition of the seasonal and regional patterns of involvement of poor rural households as buyers and sellers in agricultural markets. Interventions that reduce the range of interharvest fluctuations in agricultural prices are likely to benefit the rural poor. Similarly, the improved articulation of marketing systems and reductions in transport costs from interior areas to major marketing centers would benefit producers and consumers disadvantaged by location. Measures that narrow the intertemporal and spatial range of price outcomes are likely to have strong anti-poverty implications.

III. DOMESTIC SOURCES OF FOOD INSECURITY

The regional, social, and seasonal profile of malnutrition and food insecurity may vary between countries. However, in each of the case study countries the major cause of short-term food insecurity is fluctuation in regional or national agricultural production. In Zambia, subject to severe adjustment problems resulting from a 40 percent fall in the purchasing power of its major export, copper, and the effects of war in neighboring Zimbabwe, it was the disastrous fall in maize production over the last two years that led to a "food-system crisis," i.e., a situation in which the food supply of insignificant sections of the population was threatened, typically provoking emergency response by government.

A second aspect of food insecurity is the rapidity with which food system crises develop. In part this is because of the high degree of individual food insecurity and vulnerability of disaster-prone regions. The risk of considerable crop damage until the harvest is completed also makes it difficult, even with a reliable crop forecasting system in place, to anticipate the magnitude of a shortfall in production. ^{1/} However, as the Bangladesh case study indicates, the rapidity with which a crisis can develop is a reflection on the weakness of the monitoring and food system management in low-income countries.

The circumstances that may precipitate food crises are varied. Drought or untimely rainfall are the most widespread causes of serious shortfalls in production where rainfed cultivation predominates. ^{2/} In largely deltaic and floodplain regions such as Bangladesh a food crisis can also be precipitated by abnormal flooding, as in 1973/74 and 1976/77. ^{3/} Other sources of falls in production are cyclones and political instability. Another potential

^{1/} The problems the authorities as well as international agencies such as the International Wheat Council seem to have faced in estimating the 1980 wheat crop in the USSR is a reminder of the universality of these problems.

^{2/} Irrigated cultivation can also be affected by drought, low water tables and the volume of natural or artificially created reservoirs of surface water. Thus, irrigated dry season rice cultivation in Bangladesh is estimated to have fallen by 14 percent in 1979.

^{3/} The cropping patterns of floodplains are adapted to seasonal flooding. Disasters result from abnormal flood conditions in terms of the timing and duration of the floods as well as maximum water levels.