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THIRD PROGRESS REPORT ON WCARRD PROGRAMME OF ACTION

## CONTENTS

	<u>Pages</u>
<b>SUMMARY AND CONCLUSIONS</b>	iii
<b>Chapter 1. RURAL POVERTY ALLEVIATION - STRATEGIES AND PROGRESS</b>	1
1.1 The Policy Environment	1
1.2 Profile of the Rural Poor	2
1.3 Changes in Rural Poverty	3
1.4 Indicators of Social Development	8
1.5 Progress in Rural Poverty Alleviation	11
<b>Chapter 2. LANDLESSNESS, RURAL POVERTY AND AGRARIAN REFORMS</b>	16
2.1 Land Tenure Systems	16
2.2 Rural Poverty and Access to Land	17
2.3 Agrarian Reforms	19
<b>Chapter 3. EMPLOYMENT, WAGES AND THE RURAL POOR</b>	28
3.1 Rural Employment: Patterns and Trends	28
3.2 Wages and Employment	33
3.3 Rural Public Works	35
3.4 Labour Legislation	36
3.5 Skill Formation	36
<b>Chapter 4. MARKETS, PRICES AND ACCESS TO INPUTS, SERVICES AND CREDIT</b>	38
4.1 Agricultural Policy Reform	38
4.2 Inputs, Services and New Technology	39
4.3 Rural Financial Markets	42
<b>Chapter 5. HUMAN RESOURCE DEVELOPMENT</b>	47
5.1 Health and Nutrition	47
5.2 Education	49
5.3 Agricultural Extension	51
5.4 People's Participation through Rural Organizations	53
<b>Chapter 6. ENVIRONMENT, PUBLIC POLICY AND POVERTY</b>	57
6.1 Environment-Poverty Linkages	57
6.2 Trends in Degradation of Natural Resources and the Environment	58
6.3 Policy Issues	61
<b>Chapter 7. LESSONS FROM EXPERIENCE</b>	71
<b>REFERENCES</b>	77
<b>APPENDICES</b>	84



MONITORING PROGRESS ON THE IMPLEMENTATION  
OF THE WCARRD PROGRAMME OF ACTION

This is the third report in the four-year cycle of reporting on progress in the implementation of the Programme of Action adopted by the World Conference on Agrarian Reform and Rural Development (WCARRD), organized by FAO in Rome, 1979. Progress since 1987 is reviewed, with a particular focus on the rural poor.

To ensure a follow-up of its provisions, the WCARRD Programme of Action provided for a system of monitoring by countries of their progress in relation to their own objectives and targets for agrarian reform and rural development. Governments agreed to formulate objectives, goals and targets for the economic and social development of rural areas, paying due regard to ecological balance and resource conservation and renewal. Provision of resources commensurate with the requirements of rural growth and poverty alleviation was emphasized, as was monitoring the flow of such resources to the rural population. Progress was to be measured in relation to benchmarks (around 1980) in respect of a number of socio-economic indicators such as distribution of land and other assets, levels and distribution of rural incomes, and availability and accessibility of health care, education and other public services, among others. Particular attention was to be paid to the promotion of people's participation, especially through support for rural organizations, and to strengthening the role of women in rural development.

Countries were requested to report progress to the FAO Conference every four years. FAO was called upon to assist countries in such monitoring and reporting, in cooperation with other organizations of the UN system. The first two reports were presented to the FAO Conference in 1983 and 1987, respectively (and formed the basis for the preparation of shorter reports entitled Review and Analysis of Agrarian Reform and Rural Development which were presented to the ECOSOC in 1984 and 1988). The third report will also form the basis of a similar review to be submitted to ECOSOC in 1992.

In preparation for this third report, the Director-General of FAO wrote in June 1990 to all member countries and provided an outline and a suggested list of socio-economic indicators for the preparation of country reports. Seventy country reports were received, with a balanced regional representation (see Appendix 1). These provided substantial information on aspects of agrarian reform and rural development which has been used in different parts of the present report. This information was supplemented by other data sources. FAO's own data base was extended and updated through WCARRD regional consultation reports, information from different technical divisions in FAO, and a set of background studies commissioned specifically for the present report. In addition, data on levels of living and some recent studies on WCARRD-related issues were obtained from the World Bank, UN, UNDP, UNICEF and ILO. Although the report focuses on progress in the second half of the 1980s, due to data limitation the analysis has had to draw at times on data from the late 1970s and early 1980s.



### SUMMARY AND CONCLUSIONS

The main findings and conclusions of the Third WCARRD Progress Report are given below. Subject to data availability, they cover the 1987-91 reporting period, otherwise they refer to the 1980s.

#### Progress in Rural Poverty Alleviation

1. There was a moderate reduction in the proportion of the poor in the rural population in 1987 relative to 1980. The total number of rural poor, however, increased over this period from 783 million to over 808 million. A large majority lived in Asia. The intensity of poverty remained acute in some developing countries. (Ch. 1, paras. 12-23).
2. Considerable social progress occurred in the developing world during the 1980s. Specifically, impressive achievements were made in reducing infant/child mortality, in raising life expectancy and in expanding primary school enrolments - in many cases, despite severe budgetary constraints. In sub-Saharan Africa, the median life expectancy rose from 47 years to about 51 years, in the Near East and North Africa from 59 to 64 years, in Latin America and the Caribbean from 65 to 66 years, and in Asia and the Pacific from 57 to 61 years, over the period 1978-80 to 1985-87. Median infant mortality during the period 1978-80 to 1985-87 fell from 126 to 112 in sub-Saharan Africa, from 102 to about 77 in the Near East and North Africa, from 59 to about 47 in Latin America and the Caribbean, and from 53 to a little over 46 in Asia and the Pacific. While in 1985 the median primary school enrolment ratio for sub-Saharan Africa was only 72 percent, the corresponding figures for all other regions were either above 100 (Latin America and the Caribbean) or close to 100 (the Near East and North Africa, and Asia and the Pacific). Yet disparities - often severe - persisted. In general, rural areas in most developing countries lagged behind urban areas in social progress. Women continued to be more deprived than men - particularly in some parts of Asia and the Pacific. There were indications, however, of new policy initiatives designed to remove such disparities. (Ch. 1, paras. 25-39).
3. Successes in improving the well-being of rural disadvantaged groups owed a great deal to government policies designed to stimulate growth, together with public provisioning of health care and education. It was remarkable that even some low-income countries (e.g. Sri Lanka) and lower middle-income countries (e.g. Botswana, Mauritius, Chile, Costa Rica and Jamaica) were able to provide effective public support to the poor in a variety of ways (e.g. access to food, health care) without necessarily waiting for national income to rise appreciably. This was accomplished not just by allocating a larger share of public expenditure to social services but by creating conditions for the poor to participate more fully in the growth process. (Ch. 1, paras. 25-42).
4. The key role of human capital formation in breaking the vicious circle of poverty - especially through education - was striking. Not only incomes but also health and nutritional status depended in important ways on education in rural areas. An important determinant of infant and child mortality, for example, was mother's education. While the level of public provisioning of health care and education was important, what perhaps mattered more was community participation in ensuring access of the poor



to these services. Strengthening of such initiatives at the village level proved vital for the success of poverty alleviation programmes in rural areas. (Ch. 1, paras. 31-32).

#### Access to Land

5. Recognizing the importance of access to land in a poverty alleviation strategy, many countries initiated programmes to distribute uncultivated land and reorganize production structures (e.g. Indonesia, Thailand, Algeria, Morocco, Tunisia). Their success varied according to the availability of complementary inputs, infrastructure and the legal enforcement system necessary for the new settlers to become viable farmers. However, in countries with a predominantly private property system, few efforts were made to improve the access of the poor to land, with the notable exceptions of the Philippines and Zimbabwe. Commitment to redistributive land reforms appeared to wane during the 1980s. The limited land redistribution that occurred often benefited medium-sized farmers more than the poorest. High land ceilings, legal loopholes and weak implementation impeded progress. While these various reforms had a mixed record in improving the access of the poor to land, there was a perceptible shift in emphasis to improving the access of reform beneficiaries and other smallholders to complementary production inputs, particularly credit and improved technologies (e.g. Islamic Republic of Iran). (Ch. 2, paras. 6-11, 16-25).

6. Tenancy reforms designed to regulate property rights, land sales, land rentals and labour markets, and to provide tenure security, often failed to produce desired results. Research in Africa suggests that rather than restricting land sales and rental markets with tenancy legislation or establishing costly land registration and titling programmes, policy-makers can often better assist by providing an appropriate legal and institutional environment for more efficient transactions. (Ch. 2, paras. 26-30).

7. Land titling programmes adversely affected some of the poor, because wealthier individuals often succeeded in obtaining greater rights than they had had under previous tenure rules, and because of the increased risk of landlessness, particularly among women, after implementation. The very high costs involved in acquiring titles many times effectively barred the poor from obtaining them. Being more influential and better informed, larger farmers and members of the urban elite sometimes obtained the major benefits of titling programmes. The granting of titles in order to create collateral did not have a discernible impact on credit use in Africa though titling improved small farmers' access to credit in some countries in other regions (e.g. Thailand and Costa Rica). Official support for group ownership of common property resources, especially among pastoralists (e.g. in Senegal and Angola), protected the access of the poor to vital forest, grazing and water resources. (Ch. 2, paras. 31-38).

8. The design of agrarian reforms often failed to take account of women's special needs. Households were usually the relevant target unit, with little attention paid to the distribution of land rights within the household. As a consequence, the relative position of women sometimes suffered. For instance, the common practice of granting land titles in



the name of male household heads diminished women's control over land usage and transfers, and accentuated intra-household gender disparities. (Ch. 2, paras. 11,36).

#### Rural Employment and Wages

9. Agricultural growth played a crucial role in stimulating non-farm activities. Policies designed to raise farm productivity - especially among small and medium farmers - also promoted non-farm activities. There was continued emphasis on household manufacturing in rural non-farm employment plans, although recent evidence points to commerce and services as important growth sectors. In view of the concentration of women in some of the expanding non-farm activities - such as food processing and preparation, tailoring and trading - special promotional measures recognizing the key role of women in these activities are called for. (Ch. 3, paras. 3-22).

10. Acute inequalities in wage contracts and remuneration - between permanent and casual workers, and between male and female casual workers - persisted. The effects of technological advances on agricultural wages varied, depending on the technology and its application. Fertilizer had a positive effect in the Philippines, Mauritius, Zimbabwe, Costa Rica and Uruguay but a small negative effect in Chile. Tractorization had a positive effect in Fiji, Malawi, Honduras, but a negative effect in the Philippines, Ghana and Uruguay. The effects of infrastructure development on agricultural wages were positive (e.g. India); those of population growth were not necessarily negative (e.g. Pakistan, Ghana and Zimbabwe); and, finally, those of education and nutrition (e.g. India) were positive - particularly for men. (Ch. 3, paras. 23-33).

11. Rural public works were used extensively in developing countries - in many cases forming the core of government anti-poverty strategies (e.g. India, Botswana, Chile, Peru). Most of these programmes were well targeted on the poor - especially women - though the effects on poverty varied. (Ch. 3, paras. 34-39).

12. In general, minimum wage legislation was ineffective, except in the case of plantation workers. There were frequent violations of minimum wage norms and inordinately long delays in payment. These resulted from enforcement problems and weak coalitions of the rural poor. (Ch. 3, paras. 40-41).

13. The importance of developing skills among the rural poor, especially youth, was recognized. A number of countries (e.g. Fiji, India, Jordan, Morocco, Syria, Turkey, Mali, Senegal and Zimbabwe) reported innovative measures to ensure greater access of rural youth - especially women - to training programmes. While there were lacunae in training programmes - especially in the quality of training - in some cases measures were taken to address them. (Ch. 3, paras. 42-43).

#### Access to Credit, Markets and Inputs

14. Agricultural policy reforms which began in the 1980s had two major concerns. Efforts were made to reduce the price bias against agriculture by raising government-controlled prices and removing discriminatory controls altogether. In addition, by privatizing parastatals, or at least opening to competition the markets they had previously controlled,



countries enlarged the role of the private sector. The success of these reforms in stimulating growth in some countries pointed to gains to be had from reducing the price bias against agriculture, and harnessing private entrepreneurial capacities to the tasks of processing and marketing. (Ch. 4, paras. 1-6).

15. The policy reforms did not always bring about the results desired, however. Agricultural growth in many developing countries was disappointing during the 1980s. Liberalization on its own proved insufficient to stimulate agricultural growth in the absence of infrastructure, research and development, credit and extension. Furthermore, liberalization tended to favour the larger and more affluent producers at the expense of the poor. Increasing attention was therefore given to developing technologies appropriate to local needs, improving infrastructure, and providing other inputs and services, including extension. This marked a departure from the reliance on input subsidies, which were often financially burdensome and disproportionately benefited the larger farmers who were heavy users of such inputs. At the same time, many governments (e.g. Indonesia) initiated measures to help smallholders overcome constraints to the adoption of new technologies - through tenancy reforms, greater access to credit and agricultural extension. (Ch. 4, paras. 7-18).

16. One major limiting factor in the access of the poor to productivity-increasing inputs was their restricted access to credit at reasonable interest rates. Governments attempted to provide low-interest loans to disadvantaged groups through credit subsidy and loan guarantee schemes. Often such schemes benefited the wealthier farmers. Women and the landless were largely left out. Many of these schemes became income transfers rather than credit programmes, unviable in the long term. Further, the establishment of the government as a source of subsidized funds removed incentives for financial institutions to develop widespread rural banking facilities. (Ch. 4, paras. 19-26).

17. Government programmes (e.g. in Indonesia, Pakistan and Nicaragua) to reduce high default risks and transaction costs were more successful. Default risks for the landless, and especially women, were minimized by relying on group lending, and collateral in the form of personal reputation, or non-land assets such as jewellery (e.g. Bangladesh, Thailand and Panama). Transaction costs were reduced by simplifying borrowing procedures and providing more service outlets. (Ch. 4, paras. 27-39).

#### Human Resource Development

18. Considerable improvements were recorded in the public provision of basic health services, sanitation and safe drinking water, and in the reduction of rural-urban disparities in access. Nevertheless, access in most developing countries continued to fall far short of requirements, particularly in rural areas. Public expenditure within the health sector was usually biased towards curative rather than preventive care. The bulk of resources went to hospitals which tended to benefit disproportionately the more affluent, urban population, despite evidence that expenditure on primary health centres, rural clinics and immunization campaigns was more effective in reaching the poor. (Ch. 5, paras. 2-6).



19. Many countries undergoing macro-economic reforms were able to avoid major cutbacks which would have seriously affected the health of the poor. Average public expenditures on education, as a percent of GDP, rose significantly in all developing regions from 1960 to 1986, especially in the Near East and North Africa. A bias against expenditure on primary education - from which the poor were more likely to benefit - was especially striking in view of recent evidence that the productivity of farmers rose significantly with four years of schooling. Progress in reducing disparities between male and female educational attainments was recorded in a number of countries, for example, Fiji, Morocco, Syria, Mali, Senegal and Tanzania. (Ch. 5, paras. 7-10).

20. Despite considerable expansion in the number and size of agricultural extension organizations, extension expenditures as a percent of agricultural GDP declined between 1980 and 1988, particularly in Africa. The burden of falling expenditures fell largely on recurrent non-salary budget items such as transport and fuel - essential to the mobility and effectiveness of extension staff. (Ch. 5, paras. 11-13).

21. Agricultural extension systems often did not serve smallholders and women farmers as well as large cultivators and male farmers. Women represented only a small proportion of agricultural extension field staff, ranging from 7 percent in Africa to 14.5 percent in Asia. Despite growing interest in promoting farmer participation in the development and implementation of extension programmes, between 45 to 87 percent of agricultural extension organizations had no formal channel at the village level for farmer input. (Ch. 5, paras. 14-19).

22. There was an expansion in the number and variety of rural organizations and grassroots initiatives, and a growing commitment by governments to promoting the participation of the rural poor in the design and implementation of policies and programmes that affected their wellbeing. Cooperatives, rural workers' organizations and agricultural trade unions generally received increased government support, particularly in the area of legislation, training and credit (e.g. Benin, Malaysia, Philippines, Jamaica and Honduras). In some countries undergoing macro-economic policy reform, there was a withdrawal of direct government involvement in the management of rural organizations, particularly cooperatives, sometimes combined with restructuring and decentralization of their operations. (Ch. 5, paras. 20-25).

23. Formal rural organizations were often less effective in reaching the most disadvantaged segments of the rural population than projects using more informal methods to work with small, socially homogeneous groups of the poor. Local, regional and international NGOs played an increasingly important role in stimulating and supporting such initiatives. Since women represented a very small proportion of the total membership of formal rural organizations, efforts to assist them were mainly channelled through women's groups, for example, in Rwanda, Senegal, Tanzania and Syria. (Ch. 5, paras. 26-29).

#### Environment, Public Policies and Poverty

24. Environmental degradation was a serious problem of growing magnitude. Although poverty was often found to be both a cause and a consequence of environmental degradation, the linkages were complex.



While different poverty groups had evolved a variety of strategies to cope with long-term stresses such as growing population pressure on limited or depleting natural resources and unexpected shocks such as drought, their effectiveness depended largely on a conducive economic and institutional policy environment. (Ch. 6, paras. 2-3).

25. Public policies played a crucial role in influencing natural resource use by both the poor and non-poor. Unsustainable resource use was often exacerbated, if not directly caused, by inappropriate macro- and micro-economic/sectoral policies and market distortions which had unanticipated repercussions on the environment. (Ch. 6, paras. 15-24).

26. The ways by which population growth affected the environment were complex. Economic and institutional policies played a crucial role in assisting the poor to intensify their production systems and/or diversify into non-farm employment, and thus avoid natural resource depletion and degradation. (Ch. 6, paras. 25-29).

27. Inappropriate use of modern productivity-enhancing technologies, particularly in well-endowed agro-ecological areas, often led to serious resource degradation by both the poor and non-poor. A number of countries (e.g. Indonesia, Haiti, Syria, Tunisia and United Arab Emirates) responded by promoting ecologically sound, sustainable practices, such as integrated pest management, integrated plant nutrition, and improved techniques for water conservation and control of waterlogging. Attempts to improve productivity among smallholders in resource-poor areas were constrained largely by lack of major technological advances for such conditions and the inability of the poor to meet the high labour and financial costs of available production and resource conservation technologies. (Ch. 6, paras. 30-37).

28. Since population pressure in marginal areas was often due to inequitable land distribution, a number of countries pursued land reform and resettlement programmes in order to relieve demographic pressure on the environment, among other objectives (e.g. Indonesia, Thailand, Zimbabwe, Brazil, Costa Rica, Ecuador). Although these programmes often failed to establish sustainable farming systems due to inadequate supporting policies, and physical and institutional infrastructure, some progress was nonetheless recorded. Community responses in adapting to increased pressure on common property resources while protecting both the access of the poor and the environment met with varying degrees of success. (Ch. 6, paras. 38-45).

29. There was increasing recognition that people's participation, in its collaborative and/or adversarial forms, is a vital factor in successful environmental conservation or rehabilitation. Strong, cohesive community organization plays an important role in maintaining sustainable common grazing lands, forests and irrigation systems. Successful activist or adversarial grassroots initiatives in organizing opposition to environmentally destructive practices were recorded in a number of countries, including India, Malaysia, and Brazil. (Ch. 6, paras. 46-51).



30. These findings were consistent with the conclusions and recommendations of the Den Bosch Declaration and Agenda for Action on Sustainable Agriculture and Rural Development.<sup>1</sup> These called for agricultural and supporting economic policies, as well as socio-economic reforms to improve equity and reduce poverty, such as increasing the access of the poor to land and other productive resources, developing and transferring sustainable agricultural technologies that build on traditional knowledge, expanding non-farm employment, and promoting effective participation of the rural population, particularly women, in the entire process.

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<sup>1</sup> "The Den Bosch Declaration and Agenda for Action on Sustainable Agriculture and Rural Development", Report of the FAO/Netherlands Conference on Agriculture and the Environment, 's-Hertogenbosch, The Netherlands, 15-19 April 1991 (CL 99/23).



## CHAPTER 1

RURAL POVERTY ALLEVIATION - STRATEGIES AND PROGRESS

1. This chapter is concerned with the magnitude and intensity of rural poverty, and strategies of poverty alleviation in the developing world, during the 1980s. Section 1.1 delineates the policy environment, with particular emphasis on the debt crisis, and its implications for poverty alleviation. Section 1.2 contains a profile of the rural poor, emphasizing the more acute deprivation of women in rural areas. Section 1.3 is devoted to an analysis of changes in rural poverty between 1980 and 1987. Section 1.4 concentrates on indicators of social progress in order to capture changes in certain forms of deprivation which are not reflected in conventional measures of poverty. The effects of macro, sectoral and direct anti-poverty interventions on rural poverty in selected countries are analysed in Section 1.5.

### 1.1 The Policy Environment

2. The ongoing debt crisis conditioned economic policies and choices for many developing countries during the 1980s. The ratio of debt to exports for all developing countries,<sup>2</sup> which stood at 133 percent in 1980, rose to 241 percent in the peak year of 1986, and subsequently declined to 183 percent in 1990.<sup>3</sup> All regions showed an increase of external debt to GNP ratios in the 10 years since 1980. The highest increase was recorded in sub-Saharan Africa where this ratio quadrupled from 27 percent in 1980 to 112 percent in 1990. It increased in Latin America and the Caribbean from 35 percent to 48 percent and in North Africa and the Middle East from 54 percent to 86 percent. With the exception of Latin America and the Caribbean where the debt service ratio<sup>4</sup> declined from 37 percent in 1980 to 27 percent in 1990, the debt service ratios in all other regions increased since 1980, most significantly in sub-Saharan Africa, where it doubled. Debt problems were, however, not severe in most Asian countries where the bulk of the rural poor were concentrated.

3. In response to the imbalances that led to the debt crisis, many developing countries initiated structural adjustment programmes in efforts to alter their economies in ways that were expected to be compatible with sustained economic growth. The situation improved for a number of heavily indebted middle-income countries, but remained serious for most developing countries. Some new initiatives<sup>5</sup> promised debt relief for developing countries that committed themselves to substantial adjustments. Costa Rica, Mexico, the Philippines, Uruguay and Venezuela succeeded in reducing their commercial debts by a total of US\$ 12 billion.

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<sup>2</sup> 107 World Bank Debtor Reporting System countries.

<sup>3</sup> All data for 1990 are projections.

<sup>4</sup> Total debt service payments (principal plus interest) over exports of goods and services.

<sup>5</sup> For example, Toronto terms, the Brady initiative, a sharp increase in the forgiveness of official development assistance (ODA) loans to sub-Saharan Africa, Paris Club more favourable debt rescheduling terms for lower middle-income countries.



4. The debt crisis and structural adjustment policies had major implications for the rural poor in the developing world. It is from this broad perspective that poverty alleviation experience is assessed.

#### 1.2 Profile of the Rural Poor

5. The vast majority of the poor live in rural areas. Most of them are concentrated in areas with high population densities, such as the Gangetic Plain of India and the island of Java (Indonesia), or in resource-poor areas such as the Andean Highlands and the Sahel. Often the problems of poverty, population and the environment are intertwined: earlier patterns of development and the pressure of rapidly expanding population mean that many of the poor live in areas of acute environmental degradation.

6. Vast numbers are landless or nearly so in South Asia and much of Latin America where the minifundio phenomenon continues to spread. Tenancy is common in many countries but the terms and conditions of lease are often highly unfavourable to tenants; under share-cropping - the predominant form of tenancy all over South Asia - tenants usually supply most of the inputs and retain only half the produce. Moreover, there is no security as the landlords can evict tenants at any time. Large numbers of rural poor work as agricultural labourers, planting and harvesting crops for which they receive meagre wages. Since agricultural work is seasonal in nature, often there are long spells when there is little or no demand for their labour. As a survival strategy, the poor typically derive income from diverse sources. Even smallholder households tend to rely heavily on non-farm incomes.

7. Low-paid work, in its various forms, is an unremitting feature of rural poverty. Women typically work more hours per day than do men, and children are not spared from the drudgery of manual work either. Some of the work that children do is highly exploitative - cases of debt bondage and long hours worked in unhealthy conditions for a pittance are not uncommon. Work is often at the expense of schooling. Thus poverty tends to persist.

8. This characterization of the rural poor does not capture fully their deprivation and distress. To be among this massive segment of the world's population means to be hungry, malnourished; to suffer from disease or injury and be unable to get medical attention; and to live in unhygienic conditions without access to safe drinking water or proper sanitation. Inevitably, the risk of mortality - especially for children - tends to be higher among the poor in rural areas.

9. Pastoralists and nomads form an important segment of the developing world's poor, concentrated for the most part in North Africa, sub-Saharan Africa, and China, India and Mongolia. They are extremely vulnerable to natural disasters and ecological degradation. In many cases, drought or disease kill off their flocks, leaving them utterly without assets and vulnerable to starvation. Degradation and loss of traditional grazing lands often are only a longer path to the same end.

10. Yet another group of rural poor is found in the small-scale fishing communities. This group is among the poorest and most disadvantaged of all. Ocean and inland fisheries alike are vulnerable to over-harvesting



and ecological degradation - in part due to large-scale commercial fleets operating in the same waters. Chief among the losers are the small-scale fishing people.

11. Often the burden of droughts, famines and seasonal troughs fall disproportionately on female members within poor households - in terms of consumption adjustments, asset depletion, work burden and, in extreme cases, destitution and abandonment. In a few instances, however, group solidarity and pressure alleviate the distress of the poor.

### 1.3 Changes in Rural Poverty

12. Poverty refers to the inability to attain a minimal standard of living. Criteria for assessing minimum nutritional needs and other basic necessities vary from country to country. Since they reflect country-specific conditions, national priorities and concepts of welfare and rights, the minimum acceptable level of consumption - the poverty threshold - generally rises as national income increases. Despite difficulties in selecting a single poverty threshold, such a threshold is necessary in order to make cross-country comparisons.

13. A widely used measure of poverty is the head-count ratio, i.e. the proportion of units (e.g. individuals/households) in the population that are classified as poor in relation to a norm (i.e. income/poverty threshold).<sup>6</sup> Although the focus of this chapter is on the head-count ratio, other indices are also used in this report to address some policy choices.

14. According to an estimate in World Development Report 1990 (abbreviated as WDR90) based on an upper poverty line of US\$ 370 per person per year, 1 115 million people were poor in the developing world (including China and Eastern Europe) in 1985. Using a lower poverty line of US\$ 275 630 million people were extremely poor. Nearly half of the developing world's poor, and nearly half of those in extreme poverty, lived in South Asia.

15. Since comparable numbers for rural poverty were not available for recent years, FAO estimated the extent of rural poverty in 1987 for this report through an econometric analysis of cross-country differences in rural poverty, using the World Bank estimates for the period around 1980 for a sample of 37 developing countries. While Asia, Latin America and sub-Saharan Africa were well represented in this sample, the Near East and North Africa region was underrepresented. Estimates of rural poverty

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<sup>6</sup> This is a measure of incidence of poverty. A limitation of this measure is that it does not take into account the severity of poverty i.e. how poor are the poor in a specific context. Often, therefore, the head-count ratio is supplemented by the poverty gap index i.e. the (average) shortfall in income from the poverty threshold among the poor. But this index does not register an increase if there is a transfer from an acutely poor unit to a moderately poor unit (since the aggregate poverty gap is unaffected). In order to overcome this difficulty, distributionally sensitive measures of poverty have been formulated. For an exposition of these indices, see Srinivasan (1990).



in 1987 were derived by associating the cross-country differences in the head-count ratio of rural poverty with differences in both agricultural output (per capita of rural population) and in a measure of unanticipated consumer price changes.<sup>7</sup> More specifically, the higher the value of agricultural output in a country, the lower was the head-count ratio. On the other hand, independently of the level of agricultural output, the larger the unanticipated increases in the price index, the higher was the head-count ratio in that country. As regards their relative importance, agricultural growth had a stronger poverty-alleviating effect than consumer price stabilization.

16. Based on the relationship established between rural poverty, agricultural production and consumer prices, estimates of rural poverty were obtained for 1987. These estimates of rural poverty, together with those for the base year 1980, are assembled in Tables 1.1, 1.2 and 1.3.

Table 1.1  
Estimates of Incidence of Rural Poverty by Region in 1980 and 1987

Region	Percentage of Poor in Rural Population	
	1980	1987
Sub-Saharan Africa	63.7	56.0
Near East and North Africa <sup>a</sup>	37.0	44.2
Asia and the Pacific <sup>b</sup>	51.8	47.7
Latin America and the Caribbean	50.7	41.9
Total	52.7	48.5

Note: All numbers are rounded.

<sup>a</sup> Not much confidence can be placed in the estimates for this region, as they are based on a small sample of countries.

<sup>b</sup> Excludes China.

17. It is noted from Table 1.1 that in 1987 relative to 1980 there was a more than moderate reduction in the head-count ratio of the rural poor in sub-Saharan Africa; a slight reduction in Asia and the Pacific; and a more than moderate reduction in Latin America and the Caribbean. The figures show a more than moderate increase in the Near East and

<sup>7</sup> The level of agricultural output refers to gross domestic output originating in agriculture (measured in U.S. dollars at 1980 prices) per capita of rural population while the measure of (unanticipated) consumer price changes refers to deviations in the price index around the trend values. To the extent that the incomes of low-income households catch up with prices over time, they are more likely to slip into poverty when prices rise abruptly. A measure of unanticipated price changes is thus a more appropriate explanatory variable than the level of prices. Following Bliss (1985), this specification was used in two recent econometric studies (Gaiha, 1989b, and Bell and Rich, 1990).



North Africa, but owing to the small number of countries of this region in the sample, this result should be interpreted with caution. In aggregate terms, there was a moderate reduction in the proportion of the rural poor.

**Table 1.2**  
Estimates of Number of Rural Poor by Region in 1980 and 1987

Region	Number of Rural Poor (in thousands)		
	1980	1987	Change in number of rural poor (1980-87)
Sub-Saharan Africa	179 290	182 750	(+) 3 460
Near East and North Africa <sup>a</sup>	47 910	68 620	(+) 20 710
Asia and the Pacific <sup>b</sup>	495 010	506 320	(+) 11 310
Latin America and the Caribbean	60 860	51 270	(-) 9 590
Total	783 070	808 950	(+) 25 890

Note: All numbers are rounded.

<sup>a</sup> Not much confidence can be placed in the estimates for this region, as they are based on a small sample of countries.

<sup>b</sup> Excludes China.

**Table 1.3**  
Estimates of Regional Distribution of Rural Poor in 1980 and 1987

Region	Share in Total Rural Poor (in %)	
	1980	1987
Sub-Saharan Africa	22.9	22.6
Near East and North Africa <sup>a</sup>	6.1	8.5
Asia and the Pacific <sup>b</sup>	63.2	62.6
Latin America and the Caribbean	7.8	6.3
Total	100.0	100.0

Note: All numbers are rounded.

<sup>a</sup> Not much confidence can be placed in the estimates for this region, as they are based on a small sample of countries.

<sup>b</sup> Excludes China.

18. However, as shown in Table 1.2, the total number of rural poor increased from over 783 million in 1980 to over 808 million in 1987, an increase of nearly 26 million. There were increases in all regions except Latin America and the Caribbean, where there was a moderate reduction.



19. It is noted from Table 1.3 that the majority of the rural poor were concentrated in Asia and the Pacific in 1980, followed by sub-Saharan Africa, then Latin America and the Caribbean, and, finally, the Near East and North Africa. This distribution changed slightly in 1987. While the majority of the poor were still concentrated in Asia and the Pacific, followed by sub-Saharan Africa, the ranking of Latin America and the Caribbean, and the Near East and North Africa, was reversed.<sup>8,9</sup>

20. These changes must be interpreted with care. The moderate reduction in the proportion of the poor in 1987 relative to 1980 does not imply that there was a trend reduction during this period. Given the econometric method used, what is implied is that if, in any region, many countries in the sample recorded an improvement in agricultural performance together with greater consumer price stability around a trend, a reduction in rural poverty was likely. A case in point is the reduction in the proportion of the poor in sub-Saharan Africa. Even though in general this was a difficult period for this region, many countries in the sample did in fact record improvements in agricultural performance and greater consumer price stability in 1987 relative to 1980, and thus a reduction in the proportion of the rural poor was not unlikely. Given the data limitations, it was not possible to establish whether 1987 was an unusual year. Moreover, the small and somewhat unrepresentative sample for the Near East and North Africa could distort the estimates for this region.

21. There are few estimates of intensity of poverty (i.e. how much the average income of the poor fell below the poverty threshold) in the rural areas. WDR90 contains some estimates of the poverty gap at the national level (i.e. for the poor as a whole including those in the urban areas) for the 1980s. Within the sample of countries in Latin America and the Caribbean, the range for the poverty gap was 38-44 percent. The range for the sample of countries in Asia and the Pacific was 17-35 percent, with a clustering of countries around the mid-point of this range. Even though it is a small sample and the estimates of the poverty gap relate to the aggregate poor, these figures are suggestive. Given that the bulk of the poor were concentrated in the rural areas in the 1980s, it is likely that the severity of poverty was higher in some rural areas. In Malawi, for example, the poverty gap among poor smallholders in 1989 was as much as 40 percent, among poor agricultural labourers about 33 percent and among tenants about 31 percent. In Bangladesh, the gap among the rural poor was over 31 percent in 1981-82, and came down to about 20 percent

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<sup>8</sup> This is not surprising in view of the fact that Asia and the Pacific continued to account for the bulk of the rural population in all regions taken together.

<sup>9</sup> The reduction in rural poverty should not be taken to imply that there was a reduction in overall poverty, as urban poverty could increase. That this in fact was the case is illustrated by a recent study in Latin America which showed a sharp increase in urban poverty (from 26 to 31 percent) and a significant drop in rural poverty (from 62 to 54 percent) since 1970. The extremely poor, however, continue to reside primarily in rural areas (ECLAC, 1991).



in 1985-86. Considering that in some of the poorest countries, the poverty thresholds were set at subsistence levels, even a moderate income or consumption shortfall would imply quite severe poverty.<sup>10</sup>

22. Changes in per capita food supplies are not directly related to changes in poverty, primarily because of lack of purchasing power among the poor. Yet a drastic reduction in per capita supplies may have serious implications for the poor. Except for sub-Saharan Africa which experienced a very slight reduction, all other regions recorded slight to moderate increases in per capita food supplies during the period 1979-81 to 1987-89. It is significant that even low-income countries recorded increases (FAO, 1991f).

23. Of particular interest here is the effect of structural adjustment or stabilization programmes on food security. A mixed picture emerged from an examination by FAO of the experiences of 62 developing countries during 1980-84.<sup>11</sup> The adjustment process often resulted in a sharp fall in the real purchasing power of some of the poor and limited their ability to buy food and other items. At the same time, the expected growth did not materialize in many countries. Thus, there was an asymmetry between negative and positive effects of adjustment. Negative effects on the poor were often certain and immediate whereas positive effects were uncertain and involved long gestation periods. Some of the negative effects were minimized, however, through inclusion of specific provisions in the design and implementation of adjustment programmes, to ensure the active participation of the poor in the development process. For example, Bolivia established labour-intensive public works projects to employ workers who had lost their jobs as a result of adjustment programmes. Likewise, Ghana launched a programme to provide employment for those directly affected by adjustment. Activities included credit for small farmers, food-for-work programmes and rehabilitating slums and shanty-towns.<sup>12</sup> At the same time Mexico, while phasing out general food subsidies in the mid-1980s, introduced a food stamp scheme for families whose income did not exceed the minimum wage, and provided special milk subsidies to families with children below 12 years of age and whose parents earned less than twice the minimum wage. The Republic of Korea, during its adjustment period, expanded medical assistance for the poor, increased expenditure on education, organized public works programmes to provide employment for the poor, and provided income transfers to those unable to work.

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<sup>10</sup> Note that all these estimates - culled from World Bank reports - are based on country-specific poverty thresholds. Hence they are not directly comparable.

<sup>11</sup> For details, see FAO (1989). Among other studies sponsored by FAO which examine the effects of adjustment on the poor from different perspectives, see Sarris (1987), Gaiha (1989a) and Behrman (1990), and a synthesis of some of these together with more recent evidence in FAO (1991g).

<sup>12</sup> Bolivia's programme is the Emergency Social Fund (ESF); Ghana's is known as the Programme of Action to Mitigate the Social Costs of Adjustment (PAMSCAD).



#### 1.4 Indicators of Social Development

24. Conventional estimates of incidence of rural poverty (as measured by the percentage of population below a poverty threshold) do not fully capture all aspects of deprivation which large numbers of people experience in developing countries. In order therefore to supplement the analysis of rural poverty, an attempt is made here to analyse progress in poverty alleviation as measured by selected social indicators. (As Chapter 5 of the present report is devoted to human resource development, the analysis in this section is deliberately brief.)

##### (i) Life Expectancy at Birth

25. Life expectancy rose in each region during the 1980s.<sup>13</sup> In sub-Saharan Africa, the median life expectancy rose from 47 years to about 51 years, in the Near East and North Africa from 59 to 64 years, in Latin America and the Caribbean from 65 to 66 years, and in Asia and the Pacific from 57 to 61 years, over the period 1978-80 to 1985-87.<sup>14</sup> Sub-Saharan Africa continued to have the lowest life expectancy. Despite the increase, the range continued to be wide.

26. Among the countries which achieved high levels of life expectancy, some of the notable ones were: Mauritius (69 years), Kenya (59 years) and Botswana (59 years) in sub-Saharan Africa; Lebanon (67 years), Jordan (66 years), Tunisia (66 years) in the Near East and North Africa; Sri Lanka (70 years), Malaysia (70 years), Republic of Korea (69 years) and Thailand (65 years) in Asia and the Pacific; and Costa Rica (74 years), Jamaica (74 years) and Chile (72 years) in Latin America and the Caribbean.

27. What is significant is that many of these countries were either low-income (Sri Lanka) or lower middle-income countries (Botswana, Mauritius, Malaysia, Jamaica) and yet the share of public expenditure devoted to social services was high<sup>15</sup>.

##### (ii) Infant Mortality

28. Over the period 1978-80 to 1985-87, the infant mortality rate (IMR) registered a sharp reduction.<sup>16</sup> The median rate in sub-Saharan Africa fell from 126 in 1978-80 to about 112 in 1985-87, in the Near East and North Africa from 102 to about 77, in Asia and the Pacific from 53 to

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<sup>13</sup> As the empirical basis of some of these indicators (e.g. life expectancy at birth) is weak, comparison of changes over time cannot be precise. (FAO, 1991a).

<sup>14</sup> The median is preferred to the arithmetic mean because of the presence of extreme values.

<sup>15</sup> This follows the World Bank classification (WDR90).

<sup>16</sup> The infant mortality rate denotes number of deaths of infants under one year of age per 1 000 live births for a given year, while child mortality rate refers to number of deaths of children under five years of age per 1 000 children in the same age group.



a little over 46, and in Latin America and the Caribbean from 59 to about 47. Thus in terms of this indicator sub-Saharan Africa's achievement was the lowest. The range was wide, however, in each region.

29. Many of the countries (e.g. Botswana, Mauritius, Sri Lanka, Republic of Korea, Chile, Costa Rica and Jamaica) which achieved high levels of life expectancy were also successful in achieving low rates of infant mortality. As remarked earlier, most of these were either low-income (e.g. Sri Lanka) or lower middle-income countries (e.g. Botswana, Mauritius, Chile, Costa Rica and Jamaica) which maintained high proportions of public expenditure devoted to social services. In sharp contrast, the performance of some of the more affluent countries remained unimpressive during the 1980s.

30. An analysis was carried out for this report, with UNICEF data covering the period 1980-88, to identify and assess the relative importance of some determinants of infant and child mortality. Although data limitations precluded consideration of more than a few health and literacy indicators which influenced infant and child mortality, some useful insights emerged from this analysis.

31. Infant mortality was lower when access to general health services was high; it was also lower when births were attended by trained health personnel; and, finally, these infant mortality-reducing effects were reinforced when mothers were literate. The responsiveness of infant mortality was highest with respect to female literacy rate, followed by access to general health services and, finally, with respect to share of births attended by trained health personnel.

32. A similar analysis was carried out for mortality among children under 5 years of age (U5MR). U5MR was inversely related to access to health services, female literacy, and access to drinking water. As in the case of IMR, the elasticity of U5MR was highest with respect to female literacy, followed by access to general health services and then with respect to access to drinking water. Thus, as in the case of IMR, the combined effect on U5MR of access to health services, mother's literacy and provision of safe drinking water was substantial.

### (iii) Primary School Enrolments

33. While in 1985 the median primary school enrolment ratio for sub-Saharan Africa was only 72 percent, the corresponding figures for all other regions were either above 100 (Latin America and the Caribbean) or close to 100 (the Near East and North Africa, and Asia and the Pacific).<sup>17</sup> As in earlier cases, these averages masked differences within regions.

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<sup>17</sup> Primary school enrolments are estimates of children of all ages enrolled in primary school. Figures are expressed as the ratio of pupils to the population of school-age children. Although many countries consider primary school age to be 6 to 11 years, others do not. For some countries with universal primary education, the gross enrolment ratios exceeded 100 percent because some pupils were younger or older than the country's standard primary school age.



34. The pattern for enrolment ratios was similar to that noted earlier for other social indicators. More specifically, low- and lower middle-income countries with relatively large shares of public expenditure devoted to social services (e.g. Botswana, Cameroon, Mauritius, Zambia, Sri Lanka, Panama, Peru, Dominican Republic) recorded impressive enrolment ratios. On the other hand, there were several low-income developing countries which failed to augment enrolment ratios largely because they spent too little on social services. To this group of countries some affluent countries may be added which in spite of high levels of income recorded low enrolments.

35. Despite a narrowing of gender differences in both primary and secondary school enrolments and in adult literacy rates, major disparities between males and females persisted in many developing countries. Differences in rural literacy rates from country to country were wide, but women's literacy was consistently lower than men's. In some cases, as many as 70 percent of rural men were illiterate, compared with 82 percent of rural women. More favourable figures were recorded in such countries as Chile (6 percent illiteracy among rural men, 7 percent among women) or Sri Lanka (10 percent for men, 20.5 percent for women).<sup>18</sup>

(iv) Anthropometric Measures of Malnutrition

36. Even though considerable social progress was achieved during the 1980s, malnutrition was pervasive among children in the developing world. Some recent estimates suggest that in Asia, 38 percent of the children in the age-group 0-59 months were stunted.<sup>19</sup> In Africa and Latin America and the Caribbean, the incidence of stunting in children was lower. Besides, there is some evidence of disparity in malnutrition according to gender. The percentage of underweight children was higher among females in Asia, equal between the male and female groups in Latin America and the Caribbean, and slightly higher among the male children in Africa. Acute disparity in malnutrition persisted also between the rural and urban areas. In Asia, for example, the incidence of stunting was 30 percent higher in the rural areas.

37. That severe malnutrition increases the risk of mortality among children was corroborated by UNICEF data for 29 developing countries during the 1980s.<sup>20</sup> A high degree of correlation was observed between USMR and the share of severely stunted children among total stunted children.

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<sup>18</sup> Unesco, 1990.

<sup>19</sup> Three anthropometric measures of infant malnutrition were used: wasting, stunting and underweight. Wasting indicates current acute malnutrition, stunting refers to cumulative deficient growth and underweight is a composite measure of stunting and wasting. For further details, see Carlson and Wardlaw (1990). For adults, a new indicator (Body Mass Index, i.e. weight/height<sup>2</sup>) is being tested by FAO. Results, disaggregated by gender, socio-economic group and urban-rural areas of the most populated countries, will be available in late 1991.

<sup>20</sup> UNICEF (1990).



38. Poverty and rapid population growth reinforce each other in a number of ways. Low wages, inadequate education (especially among women) and high infant mortality - all linked to poverty - contribute to high fertility rates and thus to rapid population growth. Evidence from countries as diverse as Colombia, Egypt, and India showed that parents who had lost a child expected to have more children than parents in similar socio-economic conditions who had not. Reducing mortality among infants and children is thus a necessary step towards reducing fertility.

39. Malnutrition was consistently higher in rural areas relative to urban areas. Specifically, the extent of stunting was markedly higher in rural areas in each of the broad regional groups.

#### 1.5 Progress in Rural Poverty Alleviation

40. Direct estimates of rural poverty on a broadly comparable basis for at least two years in the 1980s were available for only a few countries in Asia and the Pacific. Although this restricted the analysis to a particular region, this is not a serious limitation for two reasons. One is the persistence of rural poverty as a largely Asian phenomenon during the 1980s. During the period 1980-87, over 63 percent of the total rural poor were estimated to be in this region. For this reason alone, the focus on this region is justified. A second reason is the varied experiences of the small subset of developing countries in this region and the important lessons for poverty alleviation that follow from this analysis.

41. In order to focus on some key elements of poverty alleviation in Asia, the distinction between growth-mediated security and support-led security is helpful.<sup>21</sup> Growth-mediated security is characterized by wide dissemination of the benefits of growth through public provisioning of education and health services (as illustrated by the Republic of Korea). Support-mediated security, on the other hand, is a characterization of public support even at low incomes (as illustrated by Sri Lanka<sup>22</sup>). While in both characterizations an essential feature is public support, the difference is largely one of timing and sequencing.

42. Public support is not limited to state support. The former includes not merely what is done for the public by the state, but also what is done by the public for itself. Public participation may have powerful positive role in both collaborative and adversarial ways vis-à-vis government policy. The collaboration of the public is an essential ingredient of public health campaigns, literacy drives, land reforms, and other endeavours that require cooperative efforts for their

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<sup>21</sup> See Drèze and Sen (1989).

<sup>22</sup> Sri Lanka has high literacy rates, the highest life expectancy of all the low-income countries, and a level of U5MR about one-third of what one would expect given its GNP per capita. Support over the years has included free or heavily subsidized distribution of rice, and intensive expansion of public health services. Sri Lanka's experience in support-led security is interesting not only because it was one of the first, but because it is significantly poorer than other countries that followed the same path (Chile, Costa Rica, Jamaica). For details, see Drèze and Sen (1989).



successful completion. On the other hand, for the initiation of these endeavours, adversarial pressures from the public demanding such action may also be quite critical.<sup>23</sup>

43. The estimates in Table 1.4, compiled from various World Bank and ILO studies, are based on country-specific poverty thresholds and, as a result, are not comparable across countries. These estimates are also not comparable with those in Section 1.3, as the latter were constructed from a common poverty threshold. The Table 1.4 estimates are considered here primarily in order to assess changes in poverty over time and to explore the possible effects of macro and sectoral policies, and anti-poverty interventions such as rural public works programmes.

44. Using the above framework, a selective and brief assessment of macro and sectoral policies and direct anti-poverty interventions is given below, which is then elaborated in the subsequent chapters of this report.

45. The Indonesian adjustment experience is significant as it illustrates how a low-income country could accomplish a substantial reduction in poverty - both national and rural - through appropriate macro-economic policies combined with public support for the poor. Some features of the government's adjustment programme were crucial in poverty alleviation. The poor gained from expansion in agricultural exports (largely non-food) and where there were sizeable gains in cash crop incomes such as in parts of Java, the poor participated in those gains. Adjustment cuts in government budgets tended to shelter consumption at the expense of investment. But, in addition to favourable dimensions of the adjustment programme, an important factor was favourable initial conditions. Specifically, a decade or so of sustained and fairly equitable growth had created conditions in which the momentum of poverty alleviation could be maintained even at lower growth rates, and earlier investment in rural infrastructure had begun to yield substantial returns by the time the adjustment process got underway.

46. The Chinese experience following the post-1978 economic reforms further illustrates the substantial impact of growth-oriented, largely sectoral policies on rural poverty. The significance of this experience lies in the fact that through appropriate incentives and reliance on the market mechanism, a low-income country could stimulate agricultural production and thereby achieve a substantial reduction in poverty.<sup>24</sup>

47. An important feature of the economic reforms introduced after 1978 was the dismantling of the commune system and its replacement by a production responsibility system under which individual households were

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<sup>23</sup> For some examples from South Asia, see Osmani (1988).

<sup>24</sup> Several rural poverty estimates were available for China for the post-reform period. One major difficulty with the official estimates was that the poverty line was not adjusted for price changes over time. (In view of this difficulty, no specific estimates of poverty are presented in Table 1.4). As a result, temporal comparisons of changes in rural poverty cannot be precise. Nevertheless, in most cases, the head-count ratio registered a reduction over the period 1978 to 1984. This was a direct consequence of the economic reforms (Ahmad and Wang, 1989).



given contracts for cultivating specified amounts of land. Beginning in 1979, a series of measures was taken to lower procurement quotas and increase prices, particularly of grains. By 1985, monopoly state procurement of grains was abolished. Other changes included a gradual reduction in the number of farm products under planned procurement and a consequent increase in the number of commodities for which private trading was allowed.

48. The impact of these reforms was evident in the fact that, during 1978-84, the annual growth rate of agricultural output was more than double the rate attained during 1965-78. Also, prices of agricultural products rose faster than those of industrial products. The shift in agriculture-industry terms of trade which accompanied high growth of agricultural output augmented rural incomes and consumption during the post-reform period. This was reinforced by a sharp increase in rural non-farm employment. Although inequality increased, there was an unambiguous reduction in the head-count ratio.

Table 1.4  
Incidence of Rural Poverty in Asian Countries

Countries	Period	Head-count ratio (in %)
Bangladesh	1981-82	73.8
	1983-84	57.0
	1985-86	51.0
India	1977-78	52.68
	1983	45.13
	1986-87	36.84
	1988	38.66
Indonesia	1978	51.0
	1980	44.0
	1984	33.0
	1987	22.0
Republic of Korea	1976	11.7
	1980	9.0
	1982	7.0
	1984	4.4
Malaysia	1975	54.1
	1980	37.4
	1983	41.6
Pakistan	1976-77	41.0
	1979	38.0
	1984-85	31.0
Philippines	1971	58.0
	1985	58.0

Source: Various World Bank and ILO studies.



49. Another success story was the Republic of Korea. In sharp contrast to the above cases, the Republic of Korea is an upper middle-income country. Its economic performance during the past few decades was nothing short of miraculous. The growth rate of GNP per capita was impressive. Agriculture also grew rapidly during this period (except for a reduction in agricultural output per capita in 1980). This overall improvement was reflected in rising wages in both agriculture and manufacturing, and a sharp reduction in unemployment. This provided the material basis for tangible improvements in basic quality-of-life components. Conventional estimates of poverty - both rural and urban - also recorded significant improvements. As shown in Table 1.4, the head-count ratio fell from nearly 12 percent in 1976 to a little over 4 percent in 1984. That the market mechanism had played a key role in this remarkable achievement is undeniable. But the growth took place within a structure of incentives and inducements carefully planned and implemented by the government. An important initial condition was the relatively equitable distribution of assets - including land in the rural areas - in which the government had played an important role. The nature of growth was influenced through a wide range of interventions such as extensive credit controls and incentives, infrastructural investments, and the promotion of an active and competitive labour market. In effect, a highly labour-intensive growth process was initiated. The interventions dampened but did not eliminate the economic signals directing the movement of resources from agriculture to industry.

50. As regards public support, the record in the Republic of Korea was uneven. For instance, while public provisions for health care were rather meagre until the late 1970s, the state was extremely active in the area of education. Also, during the recession of the early 1980s, the state introduced strong measures such as rural public works programmes and direct transfers to the needy to prevent acute destitution.

51. The head-count ratios for Bangladesh over the period 1981 to 1986 in Table 1.4 suggest a rather sharp decline in rural poverty. Doubts have been expressed, however, about the reliability of the household survey for 1981-82, and it has been argued that it underestimated income and overestimated poverty.<sup>25</sup> Nevertheless, it is likely that there was a small reduction in rural poverty over this period as real agricultural wages rose slightly and small-scale construction activities expanded. Presumably, there was a reversal during the late 1980s, largely because of the devastating floods of 1987 and 1988. In fact, real agricultural wages were lower in both these years relative to 1986.

52. The strategy of agricultural development in Bangladesh relied largely on input subsidies (e.g. on fertilizer, pesticides, irrigation equipment) with low crop prices. Credit policy, however, did not favour agriculture. Also, whatever credit was provided to agriculture accrued largely to the more affluent farmers. In recent years, the emphasis shifted to more remunerative prices (through procurement at cost-plus prices) and withdrawal of input subsidies. But the results were not encouraging since the profit margin on agricultural crops remained low. It is plausible, therefore, that some of the anti-poverty interventions had a role in whatever poverty alleviation took place during 1980-86.

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<sup>25</sup> See, for example, Islam (1990).



53. The Indian experience in poverty alleviation deserves special emphasis. The rural poor in India accounted for a large proportion of the rural poor in South Asia. As a low-income country, its record in poverty alleviation in recent years was moderately successful. The nature of the growth process, together with large-scale anti-poverty interventions (e.g. Integrated Rural Development Programme), ensured that the poor - especially the poorest - participated in growth in the rural areas. At a sectoral level, various programmes were launched, for example, to promote smallholders' access to credit, fertilizer, and extension services. In spite of a drought in 1987, the head-count ratio rose only slightly in 1988, testifying to the effectiveness of relief operations.

54. The Pakistan experience in the late 1970s and early 1980s provides an interesting contrast. Between 1976 and 1979, there was a moderate reduction in rural poverty. Since agricultural output per capita registered only a small increase, and there were no direct anti-poverty interventions, the reduction in poverty was largely a result of external influences, particularly large-scale overseas migration and remittances. In some cases this led to acute and widespread labour shortages during the peak agricultural seasons. Also, as a result of the substantial inflow of remittances, there was considerable injection of demand in the non-farm sectors (particularly construction and services) which led to a substantial increase in the aggregate demand for labour in the rural areas. Consequently, there was a sharp rise in rural wages. Besides, remittances added directly to household incomes of the rural poor. In the 1980s, the growth rate of the economy as well as that of agriculture picked up - partly a reflection of labour-intensive export orientation. Non-farm employment in rural areas grew rapidly during this period. Not surprisingly, therefore, rural poverty declined more rapidly in the early 1980s.

55. As shown in Table 1.4, the incidence of rural poverty in the Philippines remained unchanged from 1971 to 1985. While part of the explanation lies in the recession of the early 1980s which resulted in a marked slowdown in the growth rate of the economy and of agriculture, a more significant factor was the initial emphasis on import-substituting industrialization and capital intensive expansion. Although there were attempts at export orientation and trade liberalization during the late 1970s and early 1980s, employment grew rather slowly.

56. As regards Malaysia, the poverty alleviation experience of the 1980s was mixed. While the situation worsened during the 1980-83 recession, it recovered during 1983-85.



## CHAPTER 2

LANDLESSNESS, RURAL POVERTY AND AGRARIAN REFORMS

1. In rural areas of most developing countries, access to land and the distribution of land rights are of central importance in determining living standards. Land is also important in economic development with respect to its usage in production. Reforms targeted at improving the condition of the rural poor have therefore to address the issue of rights to land and to land use. Both the relationship between land and poverty and the role land plays in agricultural production are addressed in this chapter. The main focus is on recent experience of government interventions in the distribution of land rights to alleviate poverty and achieve improvements in output.

### 2.1 Land Tenure Systems

2. The relationship between poverty and land, and recent efforts by governments to improve the access of the poor to land, varied according to the land tenure system in effect. Four broad types of systems can be distinguished. First, a state property system in which full ownership rights (exclusivity, transferability and alienability) are held by the state. Within this system, some rights of usage and perhaps exclusivity may be granted to individuals or groups. Second, a system of individual private property in which all, or nearly all, ownership rights are vested in individuals. Third, a communal property system in which ownership rights are held by a group. In traditional tenure systems, these groups are often based on kinship, political or ethnic ties. More recent examples of communally owned property include collectives and cooperatives. Communal property is equivalent to private property from the perspective of the group, most importantly with respect to the right to exclude non-members. Fourth, an open access system in which rights of exclusivity, transferability and alienability do not exist and therefore use rights are held by all. Open access regimes often emerge with a breakdown in the authority or capacity to enforce rights in one of the other three systems described above. Squatters in state forests, and migrating peoples encroaching on communal property, are examples of this process.

3. This classification is useful in grouping and analysing the different types of reforms that were undertaken in recent years. Some reform initiatives sought to redistribute land rights within an existing system, for example, through expropriation. In other cases, the system itself was changed, for instance, by granting individual titles to state-owned property. Since individuals' access to land may also be determined by transfers such as land rentals, share-cropping, land pledging, land lending and sales, some reforms focused on regulating transfers, for example, through tenancy reforms or sales restrictions.

4. During the 1980s, there was a general trend in many developing countries towards individualization of ownership rights to land, though the extent to which this occurred varied substantially across countries. Notably in Africa, but also in some parts of Asia and the Pacific, many countries still had significant areas under communal tenure systems and open-access regimes. The amount of land under state ownership was considerable (e.g. in Ethiopia, Tanzania, Zaire), although the area over



which the state reserved exclusive usage was much smaller. Transfers of land through rental or share-tenancy were widespread in parts of Asia. Such transfers also took place in other regions, for example, in newly irrigated areas in Africa, but were often underreported due to legal restrictions in many countries.

## 2.2 Rural Poverty and Access to Land

5. The relationship between rural poverty and forms of access to land is complex. Many factors are involved, such as differences in land quality, the availability of complementary inputs, access to credit and markets and opportunities for off-farm employment.

### (i) Land Distribution and Rural Poverty

6. The WCARRD country reports indicated that land rights continued to be distributed very unequally in many parts of the developing world. Paraguay, for example, reported that 37 percent of all farms had less than 5 ha while just under 1 percent of farms had more than 1 000 ha. Large farms accounted for 78 percent of the land and small farms less than 1 percent. In Morocco, smallholders made up 69 percent of all farmers but owned only 23 percent of the arable land, while 1 percent of farms were larger than 50 ha and encompassed 15 percent of the arable land. In Tunisia, 44 percent of land holdings were under 5 ha and accounted for less than 8 percent of total arable land while 16 percent were over 20 ha and controlled nearly 58 percent of arable land. While there is little doubt that the distribution of land is highly skewed in many countries, the figures can be misleading in terms of the implications for poverty unless land quality and availability of water are taken into account. For instance, more than one-fifth of all households in Bangladesh with over 25 acres of land were poor.<sup>26</sup>

7. Several countries reported on programmes to distribute uncultivated public lands to the poor. During 1984-89, the Indonesian Government transferred 400 000 families from densely populated areas to previously uncultivated lands, and another 300 000 families moved spontaneously. Thailand allocated 650 000 ha of public land to 170 000 households during 1987-90. In addition, the government formulated a 15-year programme to transfer a further 4.8 million ha of public land to 11 million farm households. Tunisia distributed public domain land to agricultural technicians and introduced legislation to regulate the operations of private agricultural companies. Morocco reported distributing 320 000 ha of state land to 23 600 beneficiaries grouped in 714 cooperatives. Significant changes in the production structure took place in Algeria with the implementation of a new law reorganizing 3 139 state farming enterprises. These were broken up into 28 033 new production units, of which 5 677 were allocated to individual beneficiaries and 22 356 to groups. This programme led to a 20 percent increase in agricultural employment. The government also distributed a further 273 000 ha to 66 945 beneficiaries, of whom 4 000 were rural youth. The Islamic Republic of Iran reported the distribution of 154 266 ha of uncultivated land, 28 470 ha of confiscated land and 381 845 ha of Mawat land (i.e. land for which there are no records regarding use/cultivation).

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<sup>26</sup> For details, see Ravallion (1989).



8. In countries with a predominantly private property system, few efforts were made during the 1980s to increase the access of the rural poor to land. With the exception of the Philippines' Comprehensive Agrarian Reform of 1987, the land redistribution programme of the Islamic Republic of Iran since 1979 and Zimbabwe's 1983 restructuring of the land tenure system following independence, the WCARRD country reports suggest that redistributive land reform waned during the 1980s. Although the 1985 Agrarian Reform Plan in Brazil was an important milestone as it stipulated an ambitious transfer of cultivable but not fully utilized land over a 5-year period, the achievements fell short of expectations. In Honduras, implementation of the agrarian reform law slowed after 1985. The government was unable to provide services and extension to the reform beneficiaries. It allocated land in marginal areas without access to markets and irrigation and, as a consequence, 85 percent of the land distributed remained uncultivated.

9. In 1984, Bangladesh passed the Agrarian Reform Ordinance which set a ceiling of 8 ha on new acquisitions of private property and stipulated the distribution of state land to poor cultivators. However, very little progress was achieved in its implementation. The redistributive agrarian reform in El Salvador, which imposed a ceiling on private property, was effective in the early 1980s but was subsequently impeded by the outbreak of civil conflict. Nevertheless, by 1985, substantial land distribution had already taken place. Internal unrest and financial crisis similarly slowed the agrarian reform process in Nicaragua after 1987.

10. The implementation of land distribution programmes was strongly affected by political realities and these often limited their scale. For example, from the 1950s to the mid-1980s, only about 1.2 percent of cultivated land in India was redistributed. A significant proportion of the recipients belonged to the scheduled castes and tribes, and their economic security was no doubt enhanced by the transfer. However, the total numbers affected represented only a tiny proportion of the land-poor households in India. In the Philippines, between 1987 and 1990, two-thirds of the total land distribution target was fulfilled, covering mainly the distribution of state-owned land. However, only 2 percent of the target for private land redistribution was achieved, due to conflicts with owners over appropriate compensation.

11. The lack of individual land ownership, however, was not necessarily related to poverty if individuals had access to land. Observations from recent data serve to illustrate the complexity of these relationships. For example, under traditional communal property systems, access to land was often based on a household's needs and the availability of family labour, with restrictions on transfers to ensure continued access to the community or kinship group. Women usually had secure use rights to community or household land. More recently, however, in areas experiencing high population pressure and increased commercialization of agriculture, the distribution of land rights under communal tenure often became less equitable. Women not infrequently saw their land rights eroded. Land redistribution programmes usually targeted the household unit, with little attention to the distribution of land within the household and women's special needs. In areas where tenancy occurred, poverty was frequently more highly correlated with tenancy than with owner-cultivation, especially if tenancy was in the form of share-cropping. The landowner leasing out land usually extracted a surplus from his tenants, often resulting in their impoverishment. The tenants'



situation became worse if the landlord was able to extract further rents from them by compelling them to buy and sell from, borrow from, and work for, him only. In many countries, the poor were able to exploit open-access or common property resources which partially compensated for their lack of land.

(ii) Land, Employment and Poverty

12. Population growth and limited scope for extending the area of land cultivated as well as slow growth in employment opportunities elsewhere, led to a reduction in the size of holdings and to an increase in the landless rural population in many countries. As a consequence, many smallholders, as well as the landless, sought employment as wage labourers, either in agriculture or in off-farm occupations.

13. Agricultural labour was common in many parts of Asia and Latin America. Most of these wage-earner households were poor. Incomes of agricultural labour households were affected by the introduction of new technologies which altered patterns of labour demand and wage rates. The implications for the rural poor, which varied considerably by region, are discussed in more detail in Chapter 3.

14. Agricultural wage labour on farms was not the only source of labour income for the landless or for marginal farmers. Rural diversification and rising farm incomes, following technological changes, were associated with the expansion of non-farm employment opportunities in many rural areas. Rural non-farm activities provided employment to sizeable numbers. (For some estimates, see Chapter 3.) Non-farm activities grew in importance in China following decollectivization. Off-farm employment was particularly important in providing work in slack seasons to those without permanent employment in the agricultural sector. Where such employment opportunities expanded, the link between poverty and lack of access to land became weaker.

15. This general overview indicates some of the complexities in the relationship between poverty and access to land. Smallholders and landless households were particularly vulnerable where the ownership of land was highly skewed, where there were few opportunities for the land-poor to obtain access to land, where earnings from agricultural wage labour were low and where off-farm employment opportunities were limited. In this context, there is a strong justification for agrarian reforms on grounds of equity.

2.3 Agrarian Reforms

16. This section reviews the experiences of several countries with agrarian reforms under the broad headings: redistribution, tenancy reform and provision of tenure security through land titling. Some of the implications for productivity and equity are also considered.

(i) Land Redistribution

17. Although major redistributive land reforms usually have been introduced on equity grounds, most countries with such programmes have also been concerned with implications for production (see, for example, the WCARRD country report for the Islamic Republic of Iran). The point at issue is whether small farms exhibit higher land productivity than large



farms. The evidence is not clear-cut. A study based on FAO farm-level data in 15 countries revealed an inverse relationship between farm size and yields, and between farm size and labour and capital inputs per hectare in 12 countries. Similar results were found in a study of Indian villages where an estimated 20 percent decline in yields was associated with a doubling of farm size. However, a more recent study for India used farm-specific data on soil characteristics and found that controlling for land quality substantially weakened the inverse relationship.<sup>27</sup> Thus, whether there will be productivity gains from land redistribution is not certain.

18. Because pre-reform land distribution generally reflected the power structure within a country, land distribution programmes usually met with strong political resistance. Most attempts to redistribute land without a preceding restructuring of power relations therefore achieved limited success. In Latin America, the major beneficiaries of land reform legislation were medium-sized farmers within the modern agriculture sector. The poorest groups in rural areas benefited less than had been hoped. In Chile, for example, most of the land reform beneficiaries were permanent workers employed on expropriated estates. Even before the reforms, their incomes had been higher than those of seasonal or casual workers.

19. Most land reforms implemented in Latin American countries were accompanied by programmes for the modernization of agriculture. By using subsidies, tax breaks and the threat of expropriation, these policies were very successful in inducing modernization on larger farms and hence increasing aggregate output. One result of this induced modernization, however, was to increase land values and render expropriation with compensation very costly. Further, as recently found in Colombia, larger farmers often successfully used their influence to obtain promises from the government that their land would not be expropriated if they modernized. While the threat of expropriation had favourable effects on aggregate agricultural output, Latin American land reforms did not lead to a redistribution of substantial amounts of land to the poor.

20. Interestingly, modernization of agriculture had the opposite effect on land reform in the Philippines. There, since compensation had been fixed at pre-Green Revolution land values, the economic gains associated with modern seed-fertilizer rice technology allowed land reform beneficiaries to compensate the expropriated landlords while capturing significant economic surpluses. These gains for peasants, in turn, induced many former sharecroppers and other tenants to press for further implementation of land reform.

21. One reason why agrarian reforms have not always led to substantial productivity gains is that land redistribution policies have often not taken sufficient account of differential rates of technology adoption between large and small farmers. Evidence indicates that most Green-Revolution technologies such as seeds and fertilizers are scale-neutral, and that adoption differentials were related to other factors. There were several reasons why, in the absence of specific policies directed towards small farmers, wealthier farmers adopted new technologies more rapidly. Large farmers normally had easier access to low-cost credit and therefore

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For details, see Bhalla and Roy (1988).



made the necessary investments in new seed varieties and complementary inputs. Many of them had an informational advantage and a greater capacity to invest in human capital. Farmers with larger landholdings were also able to experiment with new technologies on a small portion of their land without undue risk.

22. Evidence for a number of Asian countries suggests that in the early stages of the diffusion of modern seed varieties, large farmers adopted them earlier and more extensively. More recent studies in India, Kenya and Mexico demonstrate that while big farmers adopted new seed varieties first, small farmers frequently succeeded in catching up.<sup>28</sup> In most cases where catching up occurred, specific policies encouraging adoption by small farmers were important. Such policies typically included credit provision, extension services, supply of inputs and the encouragement of cooperatives. That such policies are necessary was also stressed by the WCARRD country report for the Islamic Republic of Iran. This noted that increased attention was being given to the provision of infrastructure, inputs and services to agrarian reform beneficiaries as a prerequisite to ensuring the success of the land reforms introduced since the 1979 revolution.

23. Numerous examples of reforms establishing large farming units were found in Latin America, particularly in Peru and Nicaragua. Earlier reforms in Peru had led to some two-thirds of agricultural land being controlled by producer cooperatives by 1979. However, since these cooperatives suffered serious diseconomies of scale and work incentive problems, many were broken up in the early 1980s and the land distributed as individual holdings. Productivity was generally higher on the individual farms, at least relative to the final years of cooperative production. In Nicaragua, producer cooperatives were initially thought to be better suited for the large-scale production of export products such as coffee, cotton and beef. Subsequently, the emphasis of land distribution moved away from the establishment of producer cooperatives towards direct distribution to individuals. This was in response to the expressed preferences of beneficiaries, and followed the realization that dividing large farming units into smaller holdings would not necessarily cause a reduction in output, provided that adequate credit and infrastructural support were provided.

24. A case study of land reform projects in the Dominican Republic revealed limitations of both large-scale collective structures and individual farms. An intermediate structure whereby external economies of scale were captured through an association of farmers, and worker incentives maintained with private family plots, proved to be the most successful.

25. The land reforms implemented in China in the early 1980s, where collectives were dismantled in favour of household-based production, offer a dramatic example of potential efficiency gains. These reforms were particularly impressive in that efficiency improved without an accompanying rise in poverty. Households were initially allocated land tenancy rights on an equal per capita basis, taking into account different

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<sup>28</sup> For a comprehensive review of the evidence, see Lipton and Longhurst (1989).



qualities of land. They were permitted to make their own cropping choices, adopt new technologies and sell on the market any surpluses above the amount they were contracted to sell to the state. Special encouragement was given to those households judged to have farming abilities. Following the reforms, a large percentage of the rural labour force left agriculture for off-farm employment without reducing output. Although income distribution widened, this was not so much due to impoverishment of some households as to the rapid enrichment of others.<sup>29</sup>

(ii) Tenancy Reform

26. Over the years, many developing countries have implemented tenancy reforms, including legislation to regulate property rights, land sales, land rentals and labour markets, in an effort to help alleviate poverty and improve equity. In addition, these various tenancy reforms sought to improve productivity, enhance investment opportunities, and encourage better husbandry through the provision of greater tenure security.

27. To date, evidence from numerous studies remains inconclusive as to whether productivity on share-cropped land is lower than that on rented or owner-operated land. In general, studies of farming practices in Asian countries found no significant differences in yields per ha between share-cropped and rented or owner-cultivated land for the same crop. At the same time, the value of output per ha on share-cropped land was often lower than that on owner-cultivated land. Likely reasons for this difference include different crop mixes and short-term share tenancy contracts.

28. During the 1980s, besides major land redistribution schemes in Nicaragua and Brazil, Latin American and Caribbean tenancy reforms and policies began to focus attention on improving land rental and sales markets. In addition to land titling projects, Honduras, Guatemala, Ecuador, and St. Lucia simplified land transfer procedures or established land purchase projects. A major purpose of these programmes was to provide renters, squatters and former tenants with security of tenancy.

29. In Asia, in the wake of major policy changes started in China in 1979/1980, Laos and Viet Nam implemented far-reaching land tenancy reforms in 1988, making the farm household the basic production unit and issuing to families inheritable, long-term property rights (up to 50 years in Viet Nam). In Viet Nam, the current role of the state farms is to open up new lands and introduce new crops. After the new land has been cleared, the state farms lease parcels to farmers, negotiating prices for land, seedlings and other inputs.

30. Research in Africa suggests that most indigenous land tenure systems are adapting efficiently to changes in resource availability. These studies further suggest that rather than restricting land sales and rental markets with tenancy legislation or establishing costly land

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<sup>29</sup> For details, see Riskin (1988).



registration and titling programmes, policy-makers can better assist by providing an appropriate legal and institutional environment for more efficient transactions.<sup>30</sup>

(iii) Land Titling

31. A number of WCARRD reports recognized that tenure security was often vital for promoting long-term agricultural investments including environmentally sustainable land improvements. However, it was generally accepted that formal ownership titles were not necessary for tenure security; long-term leases fulfilled the same function. In addition, under most communal tenure systems, a farmer possessed secure use rights to an individual plot as long as it was under cultivation. These rights were often hereditary and maintained through generations. Thus, the absence of title did not necessarily imply tenure insecurity.

32. The granting of land titles in order to create collateral and improve access to credit was, however, sometimes considered desirable regardless of the effect of titling on investment incentives. Land titles, by lowering default risk to the lender, lowered the cost of credit. Indeed, in many countries, they were required as collateral on longer-term, low-interest formal sector loans. It must be noted that concerns over landlessness led some governments to forbid the use of land as collateral. However, in some cases, titles proved to be useful even without the power to evict. For example, informal mortgages were recorded in Thailand where title deeds were required to obtain new loans and borrowers had an incentive to repay in order to obtain the deed itself. If, however, farmers were unwilling to use their land as collateral for fear of losing it, as reported of Kenyan farmers, titling may not have had a significant effect on credit access.

33. Evidence from Africa shows that titling did not have a discernible impact on credit use. A survey conducted in 1987-88 revealed that the incidence of formal credit in Kenya, which had a registration and titling programme in place for a long period, was lower than that in Ghana, where titles were not held. Further, within Kenya, only half of formal sector loans were backed by land collateral and they were not significantly different in size or maturity from those not secured by land.

34. Evidence outside Africa was more favourable. Thai farmers, for example, frequently utilized their titled land as loan collateral. In a sample drawn from four provinces, titled farmers received 90 percent of institutional long- and medium-term loans while representing just 50 percent of the population. The importance of the credit access role of titling was supported by the strong positive relationship between titles and both investment and productivity - except in the single province receiving abundant, collateral-free credit from traders. Similarly, an impact study of a land titling programme in Costa Rica found that while 18 percent of respondents had received bank credit before titling, the proportion increased to 32 percent after they were granted title. This was during a period which saw a fall in total bank credit to small farmers. The overall effects of these two titling programmes in increasing small farmers' access to credit might, however, have been less successful if titling small farmers had merely redistributed a fixed or

<sup>30</sup> Migot-Adholla et al (1991).



falling supply of credit among them. In such circumstances, title beneficiaries would have gained without any positive impact on investment or on the welfare of smallholders as a group.

## Box 1

Land Rights Dualism - Tenure Insecurity

Disputes over land ownership are accentuated where two or more tenure regimes are in operation in the same area. This situation was prevalent in many countries in Africa where governments passed land rights legislation with weak subsequent enforcement. For instance, Chad had four coexisting property systems. This was partly due to weak enforcement and in part due to ambiguity in the laws as to the role of indigenous tenure rights.

Where land registers existed they were rarely updated when sales occurred or on the death of the title holder, because of high fees. For example, a survey in Kenya showed that over the period 1975-82, only 4% of land holdings were registered as sold or transferred via succession, while interviews revealed substantially higher activity. When registers were out of date, they no longer aided in dispute resolution.

In addition to uncertainty pertaining to the reliability of land registers, problems arose when it was unclear whether customary or modern rights conferred by title would be enforced. Cases were reported of new title holders waiting until after customary owner-cultivators had made heavy investments before claiming the land under the legal system, with clear negative incentives for investment. On the other hand, recent legislative amendments in Kenya gave authority to settle land disputes to local elders - causing ambiguity as to whether customary or legal rights prevailed. In Zaire, the ambiguity led to violence where customary and modern authorities differed in the allocation of rights to traditional lands.

35. While the evidence regarding the efficiency effects of titling was mixed, experience indicated that land titling programmes sometimes adversely affected the poor, both because wealthier individuals succeeded in obtaining greater rights than under previous tenure rules, and because of the increased risk of landlessness after implementation. In many countries, the very high costs involved in acquiring titles effectively barred the poor from obtaining them. Being more influential and better informed, larger farmers and members of the urban elite often obtained the major benefits of titling programmes. In Kenya, for instance, inequity in land ownership increased with land titling. As a result, 5 percent of the Kenyan landowners owned 70 percent of the agricultural land, and 90 percent of all farms exceeding 3 ha had absentee owners.

36. Titles - whether to dry land or newly developed irrigated plots - were usually registered in the names of male household heads, thus diminishing women's customary rights of land use and transfer. Although the consequences for women's traditional independent farming practices varied, these were often undermined while intra-household gender disparities in income and decision-making increased. In some cases



in Africa, for example, men took advantage of their greater control over land to redesignate land formerly cultivated by women as household land. This provided the opportunity to increase their demands for female household labour on male-controlled household plots. In yet other cases women received smaller and less fertile household plots for their personal crops.

37. When the poor did succeed in obtaining tenure security, over time their access to land sometimes declined with the privatization of land rights. Under communal property regimes, every member was generally assured some access to land. Even in countries where private ownership prevailed, common property resources (forests, grazing, water) often provided vital sources of food, fuel, fodder and other natural products for the poor. However, a study in India showed that between the early 1950s and the early 1980s, there were declines in common property of 31 to 55 percent due mainly to privatization under various welfare schemes. While meant to benefit the poor, the parcels received by poor households were smaller, and the total area less, than the land which moved into the exclusive control of wealthier households<sup>31</sup>. Because fuel and fodder gathering were primarily female tasks, the privatization of common property resources had a disproportionately negative impact on the livelihoods of poor women. While granting individuals private land rights may have positive efficiency effects from improved credit access and greater incentives for investment and land improvements, it also increased the risk of landlessness. For example, in the India study cited above, 63 to 91 percent of common property land distributed to the poor was subsequently sold due to lack of complementary inputs and pressing cash needs. A similar process occurred in Mexico where a significant number of agrarian reform beneficiaries did not have necessary inputs and so gave up their parcels. Government settlement schemes faced similar problems (see Box 2). The Republic of Korea and Taiwan Province of China demonstrated that a policy which included a ceiling on landholdings and development of complementary markets in an environment of rapid economic growth could prevent inequality from re-emerging.<sup>32</sup> However, where opportunities outside agriculture were few and market imperfections pervasive, legislation restricting land sales was likely to fail. Extensive illegal land sales were reported in Ghana, Lesotho, Mali, Niger, and Nigeria. Rwandan law forbade sales of land by those with less than 2 ha, yet 28 percent of land in a highly populated region was obtained through unsanctioned sales.<sup>33</sup>

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<sup>31</sup> For details, see Jodha (1986).

<sup>32</sup> See report prepared for FAO by Platteau (1991).

<sup>33</sup> André (1989) cited in Platteau (1991).



## Box 2

The Alienation of State-Owned Land and Settlement Schemes

In some developing countries, tracts of uncultivated land were taken over by governments for redistribution purposes. These programmes typically involved substantial outlays in order to make the land productive. Their success from an equity perspective depended significantly on the ability of the government to provide complementary inputs, infrastructure, and the legal enforcement system necessary for new settlers to become viable farmers.

In Brazil, the gradual economic development of areas in Amazonia, in the northwestern part of the country, led to hundreds of thousands of land-poor migrants from the south seeking to settle in this region. Only a small proportion of migrant families were settled in government-sponsored settlement projects, with the majority establishing squatters' rights on the fringes of the official settlement areas. The provision of land titles to prospective settlers lagged behind schedule, as did the provision of necessary physical and social infrastructure and services. Crop losses were high because of poor access to markets. In the colonization areas of the Transamazon Highway and in the state of Rondonia, colonists receiving title to their lots frequently took immediate advantage of the land's increased speculative value by selling. The buyers were often wealthy newcomers who purchased several plots at a time to operate as medium or large properties.

The Indonesian Transmigration Scheme, which between 1980 and 1986 supported the movement of more than two million people from the islands of Java, Bali and Lombok to less populated outer islands, was the largest government-sponsored voluntary resettlement scheme in recent years. By 1986, about one million ha of land were distributed to migrants, usually less than two ha per migrant family. About an equal amount of land was settled by spontaneous migrants. Economic rates of return and initial settler incomes were low and the programme was difficult to implement. Spontaneous migrants were not adequately incorporated into programme planning. Settlement schemes in ecologically sensitive areas also posed a serious threat to the environment. Largely as a result of declining oil revenues, and lower-than-expected agricultural production, the Indonesian Government halted further settlement after 1986. After that, the emphasis turned towards additional investment in existing sites.

38. Most land privatization and titling programmes were almost exclusively based on individual holdings. However, vesting formal ownership in groups has contributed to solving some of the problems found with past policies. The high costs of creating and updating a land register, which fall either on landowners or, if subsidized, on the government budget, are reduced. Group organizations act as conduits for credit, extension and other services. The advantages of communal tenure systems in terms of flexibility, risk spreading and insuring members' access to land are retained. Consideration of group titling is



particularly important for pastoralists, who received discriminatory treatment under many of the reform programmes which granted land to cultivators. In Senegal, for example, 1 million ha of free access range land suffering from degradation was transferred to 53 grazing associations. In Angola, range land degradation was less severe on communally managed land than on private ranches.



## CHAPTER 3

EMPLOYMENT, WAGES AND THE RURAL POOR

1. Remunerative employment opportunities are central to poverty alleviation in rural areas. To large numbers of rural poor - without control of other non-labour productive assets (including land) - wage employment is the only means of deriving an income. It is also a source of personal fulfilment and social recognition.

2. This chapter analyses changes in employment and wages in rural areas during the 1980s. Different occupational categories of the rural poor - agricultural labourers, pastoralists and small-scale fishing communities - are considered separately. The special problems of poor rural women are emphasized. Rural public works are critically evaluated from the broad perspective of poverty alleviation. Progress in the implementation of labour legislation designed to improve the working conditions of labourers in rural areas is assessed. Attention is drawn to the need for training the rural poor - especially the youth - for remunerative employment in rural areas.

### 3.1 Rural Employment: Patterns and Trends

#### (i) Farm Employment<sup>34</sup>

3. In recent years, the dominant group in a majority of countries in each region consisted of employers and own-account workers. Their share was highest in sub-Saharan Africa. The share of unpaid family workers, consisting mainly of women and children, was also comparatively large in this region, while wage labour was rather uncommon. Wage labour was much more common in other regions, where land holdings were far more concentrated and landlessness was widespread. There were wide variations within each region, however, in terms of both the importance of wage labour and changes in wage labour markets. In some Asian countries wage earners accounted for an increased share of total agricultural employment. Much of the growth of agricultural wage labour was in the form of casual employment. In Bangladesh, for example, over one-half of hired labour was on casual contracts. In Latin America, wage labour typically had a large share of agricultural employment, exceeding 50 percent in a number of countries. Recent years witnessed a very significant trend towards the use of temporary, migrant, casual and seasonal labour.

4. Unemployment and underemployment rates for rural youth usually were higher than for the rest of the economically active population, although lower than those for urban youth. In Asia and sub-Saharan Africa, employment opportunities for youth were generally restricted to the family farm or family herds, while in Latin America they were also employed on commercial estates. Inevitably, there was a strong desire to migrate to urban areas to benefit from available social amenities and opportunities for better living standards.

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<sup>34</sup> Much of the information summarized in this section is drawn from ILO (1988).



5. Despite high levels of youth unemployment and underemployment, the use of child labour continued to be extensive in rural areas. Child participation rates were higher in the smallholder and landless groups. In Latin America, boys looked after sheep, gathered wood, collected fodder and drew water, while girls were occupied mainly in cooking and tending children. In sub-Saharan Africa, children supplemented family labour and worked up to 45 hours a week during the peak harvesting period. A further category of child labour, bonded labour, existed in Asia. Bonded children worked for large farmers and landowners, performing domestic and non-domestic tasks in lieu of partial payment of the family debt.

(ii) Non-farm Employment

6. Rural non-farm employment accounted for between 3 and 60 percent of the total employment in rural sub-Saharan Africa. Although highly variable, non-farm shares of rural employment in this region typically fell in the 10-20 percent range, in contrast to the 20-30 percent figures reported for Asia. In Nigeria and Tanzania, the share of non-farm earnings was higher among high-income households than among the poor, while, in Botswana, non-farm earnings were more important among low-income households than among the affluent. In rural India, non-farm income accounted for substantial shares of household incomes among both the very poor and the very rich.

7. Examples from Asia and Africa pointed to the key role of agricultural growth in promoting non-farm activities. Some Indian evidence suggested that these linkages became stronger with agricultural development. Both production and consumption linkages grew substantially, aided by the rising input-intensity of agriculture and the growing incomes which stimulated consumer diversification into non-food items. Both African and Indian examples indicated that promotion of small to medium farmer production generated greater non-farm incomes. Within non-farm activities, services and commerce grew more than household manufacturing.

(iii) Integration of Rural and Urban Labour Markets

8. The integration of rural and urban labour markets - a recent phenomenon in Latin American countries - is also of considerable significance to other regions. Two distinct but complementary processes occurred: the share of the agricultural (economically active) population which was urban-based increased, and the share of the rural (economically active) population which was employed in non-agricultural activities also increased.<sup>35</sup> The urbanization of the agricultural labour force was attributable, in specific cases, to the introduction of new agricultural labour laws (e.g. Brazil and Chile), which led to the expulsion of

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<sup>35</sup> In Brazil, for example, the share of agricultural (economically active) population which was urban-based increased from over 12 percent in 1970 to nearly 18 percent in 1980, while the share of rural (economically active) population engaged in non-agricultural activities rose from over 15 percent to over 23 percent, during the same period.



resident workers from large farms, their relocation in peripheral towns, and the growing practice of hiring non-resident workers on a temporary basis largely through labour contractors.<sup>36</sup>

9. An important consequence of the growing integration of the two labour markets, coupled with the contraction of urban incomes following the implementation of adjustment/stabilization programmes, was a reduction in the gap between agricultural and non-agricultural wages. In the competition between this new urban-based labour force and the peasantry/smallholders for temporary agricultural work, rural workers were often at a disadvantage. While the economic structure of peasant households, with family labour generating income from the home plot, allowed them to compete for low-wage employment, the competition between their own labour needs and the needs of employers in periods of peak seasonal employment gave urban-based workers an edge. Urban-based workers were more readily available, and the concentration of urban dwellings gave labour contractors easier, cheaper access to workers. This tended also to work against women, since men often formed the majority of rural to urban migrants.

(iv) Pastoral Activities

10. Some 30-40 million pastoralists were concentrated in the dryland areas of the world. The number of agro-pastoralists was larger and the two groups together represented around 10-30 percent of the total population in the dryland. The majority of them lived in the Northern dry belt of tropical Africa (Sahelian countries, Cameroon, Chad, Ethiopia, Somalia and the Sudan). They made a valuable economic contribution by making use of dry land in arid/semi arid zones with low opportunity cost and produced high-value food commodities. Some of these commodities were also a source of valuable foreign exchange.

11. Pastoralists were often better off than settled farmers during normal times, but more vulnerable to adverse environmental conditions. In most of the countries in the Sudano-Sahelian dry belt affected by the 1983/84 drought, pastoralists suffered more than other groups, and it took them much longer to recover from this crisis and reconstitute their stock. Over time, the recurrence of drought and famine led to the breakdown of communal systems of ownership, transfer of stock to groups other than pastoralists, and concentration of wealth and impoverishment of some sections within the pastoral population.

(v) Forest-based Livelihoods

12. Nearly 500 million people, most of them poor, lived in or near forests and depended upon them for food, fuel, fodder, timber and income.<sup>37</sup> Small forest-based gathering and processing enterprises provided one of the largest sources of non-farm employment and income to the rural poor. Income earned from forest-based activities often was

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<sup>36</sup> In Chile, for example, labour legislation forced employers to substitute payment of minimum wages in cash, for payment in kind, inducing landlords to replace permanent workers (inquilinos) with temporary workers (de Janvry, Sadoulet and Wilcox, 1986).

<sup>37</sup> World Bank (1991).



critical to the agricultural cycle, providing small farmers with funds to buy seeds and other inputs. Products gathered in forests included rattan, bamboo, fibres, medicines, gums, wild foods and fuelwood. For forest or forest-fringe populations, these gathering and processing activities often accounted for the greater part of their income and were especially significant for rural women.

13. The rural poor, then, were especially threatened by a deterioration in the supply of forest materials. Response patterns to such changes were difficult to discern, and sometimes varied widely within a given area. In some cases certain forest species declined while others remained abundant. When faced with problems in obtaining raw materials, producers of some products persisted despite declining returns on their labour; others concentrated on the more profitable of their outputs; and some shifted out of forest-based activities altogether.<sup>38</sup>

(vi) Artisanal Fisheries

14. As noted in Chapter 1, small-scale fishermen - an estimated 12-15 million individuals - and their families comprised a significant sub-group of the rural poor. Developing countries accounted for over half the world's fish catch, of which 50 percent (about 25 million tons) was landed by artisanal fishermen. For every artisanal fisherman, it is estimated that 2-3 individuals were employed in related shore-based activities including buying, processing, wholesaling, retailing, and various other roles. In most communities, women performed shoreline activities, such as processing, shellfishing and, in many communities, the initial buying and selling of the off-loaded catch. These activities enabled women to earn income while still handling child-care responsibilities.

15. As large-scale fisheries expanded their scope of operation and employed new technologies to extract an ever greater quantity of resources, economic benefits often failed to trickle down to small-scale fishermen. Governments in the 1970s and 1980s implemented programmes to upgrade artisanal fisheries by introducing outboard motors, mechanized gear, and other technological advances. In those regions where a favourable resource base allowed greater catches, incomes of artisanal fishermen increased. In other situations where the level of exploitation of resources was already high or even excessive, technological advances only resulted in higher catch rates and incomes in the short term. As government programmes continued to expand and boats were increasingly motorized, the greater fishing effort led to depletion in fish stocks and lower catch rates. Artisanal fishermen also experienced growing difficulties in covering operating costs which increased with rising prices of fuel and spare parts. In some countries, these effects were partly cushioned by rising real fish prices.

16. Many governments enacted legislation to regulate marine and inland fisheries. Typical management measures included closed fishing areas and seasons and mesh size regulations. The effective containment of fishing activities by limiting the numbers of fishing boats and their individual catching capacity was rarely attempted in artisanal fisheries and is



likely to prove difficult to implement without concomitant programmes to create alternative employment opportunities for growing fisherfolk populations.

17. In recent years, increasing attention was focused on the potential to rejuvenate and strengthen traditional management regimes that continued to exist in many inland and marine near-shore fisheries. In the Aby Lagoon in Côte d'Ivoire, management efforts on the part of local fishermen appeared promising. In West Africa, examples could be found of local chief fishermen allocating space for beach seine nets. In the Republic of Korea, collection of shellfish and seaweed was organized by coastal villages. In certain small-scale fisheries of Sri Lanka, traditional systems regulating access were still effective. Examples of exclusive territorial fishing rights held by individuals or groups of fishermen were reported in Benin, Papua New Guinea, and the Solomon Islands.

(vii) Employment of Women in Rural Areas - Patterns and Trends

18. Despite its declining share, agriculture continued to be the main source of employment and livelihood for rural women in the 1980s, though non-farm employment also gained in importance. In agriculture, women participated primarily as unpaid family labour although in many countries, particularly in sub-Saharan Africa, they also engaged in separate agricultural or processing activities on their own account. Their participation as wage labour was significant. Limited available information indicates that women's labour force participation followed distinct regional patterns. In sub-Saharan Africa, East and South East Asia, where cultural norms did not limit women's participation in agricultural tasks, their participation rates were high. In other regions such as South Asia, Latin America and the Near East and North Africa where the prevailing social and cultural practices restricted women's roles in field work, the female share in the agricultural labour force was considerably lower, but nonetheless significant.

19. Women also played an important role in livestock, fishing and forestry. In all types of animal production systems, women were predominant in processing milk products, carding and spinning wools, mat and carpet weaving, and leather crafts, as well as marketing of small animals and processed milk products. In fishing, women played an important role in processing and marketing. In forestry, women were involved in nursery raising, as well as gathering forest-based products, such as fuelwood, wild foods, fodder, medicinal plants and other products, for direct consumption or processing and sale.

20. With their growing need to earn cash income, rural women's participation in wage labour in agriculture as well as in non-farm activities increased. They were more likely to be engaged in casual labour contracts than permanent ones, generally earning 30-40 percent of men's wages.

21. As regards their participation in non-farm activities, they tended to engage in petty commodity production, trading and vending, home-based contract work and cottage industries. Many of these were part-time activities requiring little capital and skill, but the resulting income was usually significant for household survival. Among beedi producers in India, for example, women's earnings contributed nearly half of the household income.



22. Factory production in rural areas, especially that geared towards exports (food processing, textiles, garments, etc.), opened new employment opportunities for rural women, particularly in South East Asia and Latin America. But in these activities, too, the terms and conditions of employment were unsatisfactory. Often wages were low and labour turnover was quite high.

### 3.2 Wages and Employment

23. Whether or not agricultural labourers were better off during the reporting period cannot be established conclusively from the limited and somewhat unreliable data. Higher wages were often not accompanied by higher employment. This is illustrated by an analysis, carried out specifically for this report, of wage and employment data for a small sample of developing countries during the periods 1980-85 and 1985-88.<sup>39</sup>

24. In Asia, India and Sri Lanka provided an interesting contrast. Agricultural wages rose rapidly in India during 1980-85 and then declined during 1985-88. However, agricultural employment was nearly stagnant during 1980-85 but grew moderately during 1985-88. In Sri Lanka, agricultural wages diminished slightly during the first period, followed by a modest increase during the second. The effect of a fall in agricultural wages was compounded by a rapid reduction in agricultural employment during the first period while the effect of rising wages was reinforced by higher employment in the second.

25. In Africa, Malawi experienced a divergence between wage and employment changes. Agricultural wages diminished at a slow rate during 1980-85 and at a very rapid rate during 1985-88. During the first period, agricultural employment rose at a slow rate while during the second period there was a moderate reduction.

26. In Latin America and the Caribbean, attention is drawn to the experiences of Costa Rica and Uruguay. In Costa Rica, a slight reduction in agricultural wages during 1980-85 was followed by a more than moderate increase during 1985-88. But employment grew in both periods, moderately during the first and somewhat rapidly during the second. In Uruguay, a near constancy of agricultural wages during the first period was followed by a slight decline during the second. However, employment grew rapidly during the first period and somewhat moderately during the second.

27. It is significant that changes in agricultural wage and employment rates varied within each region, though it is difficult to investigate the reasons due to data limitations. Some light can, however, be thrown on the determinants of agricultural wages - specifically, on the effects of population, technology and infrastructure. The conclusions summarized below are based largely on an analysis carried out for this report with FAO and ILO data, supplemented by the findings of two recent studies with

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<sup>39</sup> This analysis was based on ILO data.



Indian data.<sup>40</sup> Within each region, there was a marked disparity in the effects of some of these factors on agricultural wages.<sup>41</sup>

28. Growth of the agricultural labour force had a strong dampening effect on wages in Fiji and the Republic of Korea, but had a positive effect on wages in Pakistan. Fertilizer had a positive effect on wages in the Philippines. Tractorization had a large positive effect in Fiji but a small negative one in the Philippines.

29. In Ghana and Zimbabwe, the growth of the labour force was associated with a growth in agricultural wages, while in Cyprus and Malawi it had strong negative effects. Fertilizer had positive effects in Mauritius and Zimbabwe. Tractorization had a large negative effect in Ghana and a positive effect in Malawi.

30. The growth of the labour force was also associated with an increase in wages in Uruguay but had large negative effects in Chile and Mexico. Fertilizer had a small negative effect in Chile but small positive effects in Costa Rica and Uruguay. Tractorization had a large positive effect in Honduras but a small negative effect in Uruguay.

31. In India, labour force growth had a negative impact on real wages. Both infrastructure and technology contributed to higher wages. Roads and markets had positive effects, as did irrigation and HYV availability. Human capital variables such as education, experience and nutritional well-being had positive effects on wages - particularly for men.

32. To summarize, the effects on agricultural wages of measures promoting inputs such as fertilizers and tractors were not necessarily negative. On the other hand, extension of irrigation and spread of HYV benefited agricultural wages, as did infrastructural development. Population growth did not necessarily dampen agricultural wages. Education and nutrition generally raised wages.

33. Acute inequalities in wage contracts and remunerations persisted. Casual labourers tended to be poorer than labourers on longer-term contracts. This was partly due to casual labourers' greater exposure to unemployment, sometimes lower wage rates, and their greater concentration among young workers and women. Casual workers were also most prone to wage variability. Wage differentials between male and female workers were the result of a complex set of factors, including differences in employers' criteria for assessing male-female productivity.

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<sup>40</sup> See Evenson (1990), and Walker and Ryan (1990).

<sup>41</sup> The reasons are largely contextual. Population growth may not dampen wages if at the same time it induces intensification of agriculture. Infrastructural development (e.g. roads) may have a favourable effect on wages by facilitating labour mobility to areas with higher remuneration. Tractors may also have a favourable effect on wages if bottlenecks imposed by time are broken by the greater speed of operations and new possibilities are opened up for more intensive uses of land.



### 3.3 Rural Public Works

34. Public employment schemes were used extensively in sub-Saharan Africa - in such countries as Ghana, Kenya, Lesotho, Malawi, Mozambique, Tanzania, Zimbabwe, Cape Verde, and Botswana - during the famines that occurred in the 1980s. The Labour-based Relief Programme (LBRP) of Botswana was one of the better known drought relief programmes in this region. This programme, which offered opportunities for wage labour to the rural poor, employed 60 000-90 000 persons each year and replaced almost one-third of lost incomes during the 1983-85 drought period.

35. In South Asia, wage employment schemes in the form of rural works often formed the core of government anti-poverty strategies. The mainstay of India's anti-poverty strategy, for instance, consisted of a self-employment scheme called the Integrated Rural Development Programme (IRDP) and supplemental wage employment through public works such as the National Rural Employment Programme (NREP). The Employment Guarantee Scheme (EGS) in Maharashtra was distinct from many public employment schemes in that it guaranteed work to all registered workers within 15 days of work being demanded. Unlike other rural public works (RPW) programmes in South Asia and other parts of the developing world, which had a large direct employment impact over limited time periods, EGS generated a large number of rural jobs year after year.

36. Many countries in Latin America, such as Bolivia, Chile and Peru, used public works programmes to counter the temporary drops in labour demand that occurred during periods of structural adjustment or macro-economic shocks. In 1983, at the peak of recession (when unemployment was about 20 percent), Chile's public employment programme provided employment to an impressive 13 percent of the labour force. As the labour market recovered, the programme was scaled back and virtually eliminated by 1989. At its peak in 1986, Peru's Programa de Apoyo de Ingreso Temporal (PAIT) employed 3.5 percent of the labour force. Under Bolivia's Emergency Social Fund (ESF), a special governmental financing agency was established to channel donor finance and foreign aid to local infrastructure projects that were chosen by local communities and executed by private contractors.

37. Most of these programmes were usually well targeted on the poor - including women. In the Chilean public employment programmes, two-thirds of the participants in 1986-87 were from the poorest 20 percent of the population, and one-half of the beneficiaries were women. In Peru's PAIT programme, three-quarters of the beneficiaries were women. In contrast, Bolivia's ESF programme was not as well targeted as the Peruvian and Chilean schemes, presumably because the workers in Bolivia were hired at market wages. Fewer than one-half of the workers employed on ESF schemes were drawn from the poorest 40 percent of Bolivian households.<sup>42</sup>

38. RPW programmes were useful in several ways. First, because the poor earned supplemental income during lean seasons or droughts, they did not have to sell cattle or other assets to survive. Secondly, these programmes allowed people who would otherwise have had to migrate to stay in the rural areas. Thus, physical and human capital was retained in the

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For a more detailed review, see Deolalikar (1990).



rural sector. Third, most RPW created and maintained social infrastructure assets, such as roads, irrigation works and forests, although "leakages" of funds and "privatization" of benefits (insofar as outputs of some of these assets accrued mainly to the more affluent sections) were not uncommon. Finally, self-targeting schemes with a universal coverage such as EGS in Maharashtra promoted political solidarity among the rural poor.

39. Recent experience with RPW indicated possibilities for enhancing their effectiveness. For a given RPW outlay, a strong case exists for low wages and wide coverage when the objective is to minimize a measure of poverty which takes into account the number of poor and the intensity of their poverty.<sup>43</sup> In view of the overriding concern for maximizing employment, RPWs often imposed restrictions on inputs other than labour. These were not always appropriate, especially when non-wage benefits to the rural poor from the project in question were substantial. Besides, restrictions on non-labour inputs also unduly restricted the choice of suitable projects.

### 3.4 Labour Legislation

40. In response to activities by labour unions and concerned groups, many governments enacted legislation to improve the working conditions of rural labourers. Minimum wage legislation was an important example.<sup>44</sup> However, except in the case of plantation workers, such legislation was rarely effective. There was evidence of frequent violation of minimum wage norms. These violations involved not just payment of wages much lower than the stipulated minimum, but also inordinately long delays in payment.

41. Given the characteristics of rural labour, implementation of minimum wage laws was extremely difficult and the administrative machinery in most countries was simply not equal to the task. The seasonal nature of employment, the wide scatter of places of employment and the desperate poverty of the workers made implementation of the laws difficult.

### 3.5 Skill Formation

42. The need for skill formation in rural areas, combined with the concern that existing vocational training programmes needed to be reoriented, resulted in some new initiatives in many developing countries. A number of WCARRD country reports (e.g. Fiji, Jordan, Morocco, Syria, Turkey, Mali, Senegal, Zimbabwe) drew attention to the need for vocational training and education in rural areas and listed innovative measures undertaken to ensure greater access of rural youth - especially women - to such training programmes. Several countries developed vocational training programmes to promote the use of non-wood forest products by cottage

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<sup>43</sup> In other words, a distributionally sensitive poverty measure. For the empirical basis of the above suggestion, see Ravallion (1990).

<sup>44</sup> The WCARRD country report for Thailand draws attention to the Social Security Act in July, 1990, with its wide ranging provisions for paid leave for sickness, accidents and maternal care together with some fringe benefits, for employees including wage labourers.



industries. Such programmes stimulated the awareness of rural populations to new sources of income to be obtained from forests, thus raising their interest in the protection and management of forest resources.

43. As part of IRDP in India, for example, a training scheme called Training of Rural Youth for Self-Employment (TRYSEM) was launched. Initially, the training was inadequate and confined largely to traditional skills and crafts. To address these concerns, a Composite Rural Training and Technology Centre (CRTC) was set up in every district ensuring that useful skills would be imparted, and with proper institutional support.



## CHAPTER 4

MARKETS, PRICES AND ACCESS TO INPUTS, SERVICES AND CREDIT

1. By the early 1980s, it became evident to many developing country governments that the policies they had been following needed to be radically changed.<sup>45</sup> The most immediate pressures for change were financial. While subsidies and parastatals were increasingly costly, the gains from low prices for agricultural products were small and diminishing over time. Potential benefit from low producer prices was either passed on to consumers in the form of low prices or was lost altogether as black markets emerged. Low official prices and resultant excess demand encouraged the development of black markets, leading to, among other things, a loss of revenue for the parastatals. Other reasons for change included a perception that the hitherto disappointing performance of agriculture would improve with reform; pressure from lending bodies; and shifts in favour of pro-market policies, both at home and abroad. All these resulted in major changes in policy.

#### 4.1 Agricultural Policy Reform

2. Although agricultural growth took place as a result of policy reform, it is not yet clear whether this represented a one-off efficiency gain or a long-term increase in the growth rate. Available evidence does not, however, rule out the latter.

3. The reform process itself encountered various difficulties. In some cases, the supply response of farmers was disappointing, and at times the position of the poorest deteriorated on account of higher food prices. First, some difficulties arose from the way in which reform was implemented. These included short-term teething problems; attempts at liberalization in the absence of a stable macro-economic environment; and problems arising from both incorrect sequencing and incomplete implementation of reform.<sup>46</sup> Second, there were cases where, due to an increased emphasis on the need for governments to limit their role (via price reform and privatization), there was a tendency to overlook the positive or enabling role required of the state in ensuring farmers' access to inputs and credit as well as transportation and market infrastructure. More generally, the relationship between output prices and investment was often overlooked. If prices were set too low, farmers did not invest. On the other hand, state budgetary support for high output prices and input subsidies tended to eat into funds available for government investment. A third problem with the reform process was that in some cases insufficient attention was paid to the needs of the poor. Smallholders experienced difficulties in gaining access to the credit and inputs necessary to increase output in response to the improved price

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<sup>45</sup> For a detailed discussion of the policy biases against agriculture and government involvement in marketing and distribution in the pre-reform period, see "International Agricultural Adjustment", Seventh Progress Report, FAO Conference, Twenty-sixth Session, November 1991, C91/18.

<sup>46</sup> See, for example, Thomson (1989), Thomson and Smith (1990), and FAO (1989b).



environment. Further, price reform often resulted in higher food prices as consumer subsidies and export taxes were scaled down, and net consumers of food were harmed. This category included many of the rural poor, especially the landless and small farmers. Some compensation for these groups, who were likely to have part- or full-time employment, came in the form of higher wage payments, but such adjustment by itself was slow and partial.

(i) Price Reform

4. Price reform - defined here as the freeing of agricultural prices from government control - was widespread. Many African countries undergoing adjustment raised or decontrolled prices for some or all staple food crops and lifted subsidies on fertilizer. Many of them also devalued their currencies and thus reduced the indirect taxation of agriculture which an over-valued exchange rate implied. The unweighted average devaluation rate in 24 African countries between mid-1984 and mid-1986 was estimated at 39 percent. Latin American countries also introduced price reform, with exchange rate depreciation, reduction of export taxes on agricultural output and import protection for industrial inputs, and a scaling-down of fertilizer subsidies (e.g. in Chile and Ecuador). In Asia, a very dramatic case of reform was China, whose integrated package of reforms included higher agricultural producer prices.

5. The above certainly implied a major shift, or, as one FAO document on pricing policy put it, "a quiet revolution in food and agricultural policies" (FAO, 1987). But not all countries liberalized. And the pace and extent of liberalization were often slow or incomplete in a number of countries.

(ii) Increased Competition and Privatization

6. Throughout the developing world more competitive arrangements emerged in both input and output markets. Some countries moved more quickly than others. In Nigeria, for example, all seven commodity boards were abolished in 1986. Malawi's main parastatal was not abolished but its scope of operation was narrowed and private traders were allowed to compete. Export monopoly boards were a favourite target and were abolished, for example, in Morocco, Turkey, Jamaica, Senegal, Nigeria and the Philippines. The private sector (including cooperatives) also became more involved in the distribution of inputs. Fertilizer distribution was handed over to the private sector in Bangladesh, for example.

4.2 Inputs, Services and New Technology

7. With population growth, and often only limited opportunities to extend the amount of land cultivated, it was increasingly common for countries to rely on technological advances to raise yields and per capita output. Governments increasingly provided incentives to promote more rapid and extensive adoption of innovations by farmers, especially smallholders.

(i) Input Subsidies

8. A number of governments operated input subsidy programmes in an effort to counteract the disincentive effect of taxes on output. As



technological innovations typically took the form of improved seed varieties and mineral fertilizers, input subsidies and government-guaranteed supplies were also used to encourage technology diffusion. In addition, subsidies were seen as a useful way to ensure that necessary inputs were not beyond the means of the poor.

9. As noted in WCARRD country reports (e.g. Fiji, the Philippines, Nigeria and Brazil), these policies were, in the main, scaled down for reasons of budgetary stringency and to lessen their distortionary effect on prices. In addition, despite their contribution in some countries to the diffusion of new technologies, reliance on input subsidies gave rise to a number of problems. Because of the financial burden they imposed on governments, input subsidies were usually intended to be temporary. However, once subsidies were established, it proved difficult to reduce them because of political pressures, even when the goal of widespread diffusion had been attained. Besides, government policies of subsidizing inputs aggravated rural inequalities as they often favoured heavy users of these inputs, such as larger farmers.

10. Recent experience confirmed that encouraging the adoption of agricultural innovations and improved practices required more than the provision of subsidized inputs. For example, Indonesia, which by 1985, achieved rice self-sufficiency, provided not only modest subsidies on fertilizer but, more importantly, a wide range of integrated support for agriculture. A considerable amount of government revenue, boosted by buoyant world oil prices, was devoted to the rehabilitation and extension of rural infrastructure.

11. In contrast to Indonesia and many other Asian and Latin American countries, the adoption of new agricultural technologies in sub-Saharan Africa was much less widespread. Growth in agricultural output was often not able to match the frequently high population growth rates in this region. Despite extensive government distribution and subsidization of inputs, sub-Saharan agricultural production in the last two decades was disappointing; in one study, 22 out of 27 sub-Saharan countries examined had negative annual per capita growth rates of agricultural production over the period 1970-84. Even where positive rates were recorded, they were below 1 percent (Drèze and Sen, 1989). The introduction of modern wheat and rice varieties in this region made little headway compared to other developing countries, since conditions for wheat are not suitable in much of the continent and rice cultivation is limited by lack of irrigation. More than 50 percent of farmland in Asia and Latin America devoted to the cultivation of wheat and rice was sown with modern seed varieties, compared with only 13 percent in sub-Saharan Africa (Lipton and Longhurst, 1989). The slow growth in agricultural output in sub-Saharan Africa was due to a number of factors including an uncertain policy environment, weak infrastructure, especially irrigation, roads and supporting services, lack of high-yielding varieties for some major food crops and poor soil fertility management.

12. The adoption of technology in various parts of the world was positively correlated with extension. However, the rate of return on investment in extension programmes in Latin America and Africa was not uniformly high. Results from these schemes were often slow. The diffusion



of technology from contact farmers to follower farmers was much slower than expected. Contact farmers were also unreliable in spreading complex or specialized practices.<sup>47</sup>

13. Infrastructure, particularly irrigation, played a central role in the achievement of yield increases. The overall success of technical change in agriculture depended crucially on the combined presence of a number of factors. There was growing awareness that new seed varieties and fertilizers would not ensure yield increases unless other technological inputs, infrastructure and price incentives were provided. A recent survey of villages in rural Bangladesh, for example, indicated that infrastructure was a major factor in boosting incomes, especially of smallholders and wage-earners.<sup>48</sup>

(ii) Agricultural Research and Development

14. As well as assisting in the diffusion of existing technologies, governments also directed the development of new technologies. Whereas international institutes undertook costly or complex research that was beyond the capacity of most national centres, the latter concentrated on research of direct relevance to local producers. In India, one of the main influences leading to the diffusion of high-yielding varieties was the effectiveness of national and regional research capacity. As noted in the WCARRD country report for China, efforts were made to strengthen national research capability through, for example, the setting up of a large number of agricultural research centres. Largely as a result of national research efforts, China became the first developing country to mass-produce hybrid rice. However, research for the development of high-yielding varieties of other crops which are important foods for the poor, such as staple cereals (e.g. sorghum and millet) or tropical root crops (e.g. sweet potatoes, cassava and taro), was not as successful. This was a particular handicap for many parts of Africa where the area under cultivation of these crops was large.

(iii) Technological Change and the Poor

15. Evidence suggests that larger farmers were adopting new technologies more extensively and rapidly than small farmers. The latter were often disadvantaged relative to larger farmers in a number of ways. In particular, restricted credit access, risk aversion, and uncertainty of tenure contributed to a greater reluctance on the part of small farmers to participate in the modernization of agriculture.

16. The cultivation of new seed varieties often required the additional application of labour in a number of farming activities. In those regions where double cropping was made possible with irrigation and the adoption of new varieties, the utilization of labour clearly increased. Where the landless constituted the bulk of the poor, the adoption of modern varieties was beneficial due to the increase in employment. But in general not all groups benefited equally from the rise in employment. In addition, the impact of modern varieties on wages received by labourers was not uniformly positive. For example, in some countries, following the

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<sup>47</sup> For further details see Evenson (1989) and Dejene (1989).

<sup>48</sup> For further details, see Ahmed and Hossain (1990).



introduction of new technologies and a consequent raising of land rents, an increase in the number of tenants seeking to supplement their income with casual labour had a depressing effect on the daily wage rate.

17. Greater attention has been given in recent years to check income disparities between regions which adopted modern varieties successfully and those which did not. Where food prices declined as a result of improved technologies, the poor as consumers clearly benefited. On the other hand, the declining competitiveness of farmers in the backward regions led to reduced employment. In China, Bangladesh, India, Indonesia, Nepal, Philippines and Thailand, migration of agricultural labourers towards the more favourably endowed regions partially offset income differentials between regions. Government policies played an important role in offsetting the adverse distributional consequences of the differential adoption of modern varieties through, for example, land reforms and allocation of research funds.

18. There was greater recognition that the constraints under which rural women work call for special measures, particularly in access to land, credit and extension. In some specific cases, the effects of new technologies on women were not altogether favourable. In the Gambia, for example, an attempt to introduce new technology in the cultivation of rice (a food and cash crop traditionally cultivated by women) resulted in the expansion of household farming under male control, and in the displacement of women by men in the cultivation of rice.<sup>49</sup>

#### 4.3 Rural Financial Markets

19. Weaker population groups, such as women and the landless, had limited access to credit at reasonable costs. Some of the factors which restricted their access to credit were high transaction costs and default risks. Various innovative attempts were made to overcome these difficulties.

##### (i) Credit Subsidies and Guarantee Schemes

20. The most prevalent policies for the provision of rural credit were channelling of subsidized funds through specialized government agricultural lending institutions, and encouraging commercial bank participation in low-interest rural lending. High lender transaction costs and perceived high default risks called for a lowering of commercial banks' costs of funds via central bank rediscount facilities and/or loan guarantee schemes to reduce default risk. Often commercial banks were legally bound to direct a specified portion of their portfolios to the agricultural sector or more narrowly targeted groups, with ceilings on admissible interest rates.

21. The use of commercial banks as intermediaries often led to superior performance compared to government agricultural lending institutions, for a number of reasons. Commercial banks tended to have more extensive branch networks and less centralized decision-making and required less documentation, thus lowering both borrower and lender transaction costs. In Jamaica, the Philippines, and Sri Lanka, where both intermediaries were

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<sup>49</sup> For a detailed exposition, see Dey (1990).



used, the specialized government institutions experienced substantially higher levels of arrears on similarly sized loans. Default rates were often extremely high. Of the US\$ 20 million disbursed under the Jamaican Crop Loans Programme, only 6 percent was ever recovered. This was due to lack of adequate supervision and follow-up of loans disbursed. High default rates meant that credit programmes became income transfers with serious implications for their viability in the long term. Also, lending institutions in general failed to reach disadvantaged groups, particularly women.

22. Schemes operated through commercial banks also ran into problems. Frequently, commercial banks showed little enthusiasm for loan guarantees because of procedural costs and doubts about the credibility of government promises to pay claims. As a result, demands for collateral over 100 percent of loan value and/or compensatory deposits were reported for guaranteed loans. Even when guarantees were credible, some schemes had to leave enough default risk with the agents responsible for screening and repayment collections to ensure careful performance on their part.

23. The administrative cost of lending to small farmers was estimated to be 10-30 percent or more of loan value (FAO, 1986). As a result of the high costs of lending to weaker groups and the imposition of interest rate ceilings, the twin benefits of subsidized funds and guarantees were often inadequate to make such lending attractive. Commercial banks evaded lending obligations by redefining loans to non-agricultural sectors, by breaking down large loans, or by simply misreporting. In a study by the Bank of Thailand, exaggeration of agricultural lending by Thai banks was estimated at 25 percent. Banks also responded by transferring transaction costs to the borrower, adding fixed fees, demanding interest in advance, and giving larger loans to the few landholders who could satisfy collateral demands.

24. Programmes which lowered the interest rates on formal credit resulted in credit rationing which was often detrimental to the poorest members of the target group. According to an estimate, only 5 percent of farmers in Africa and 15 percent in Latin America and Asia had any access to formal credit. Typically, a few large farmers benefited most, with 80 percent of formal credit going to 5 percent of borrowers (Gonzalez-Vega, 1984).

25. In short, subsidized interest rates were likely to be of little value, and might even be harmful, both for the equity reasons cited above and because of factor price distortions. When credit subsidies were implemented to counteract other policies, such as low purchase prices, the negative equity effects were magnified for those without access to formal credit. Further, the fungibility of credit lessened its effectiveness in counteracting negative production policies. A more recent criticism was the adverse effect of low interest rates on rural savings mobilization. With recourse to central bank rediscount facilities, banks neglected or actively discouraged the collection of rural savings. This issue is addressed further below.

26. Because of the problems encountered with subsidized interest rates, attention focused mainly on alternative ways of lowering the total costs of credit in rural financial markets, primarily in order to improve services to weaker groups. Attempts were made to reduce both transaction costs and default risks.



(ii) Transaction Costs

27. As rural borrowers often need loans which are quickly disbursed, small and of short duration, transaction costs are a more important factor than interest rates in the total cost of a loan to the borrower. A study of formal credit in the Indian state of Orissa estimated that borrower transaction costs as a percentage of loan amount were 10 percent for small landholders and 0.6 percent for larger landholders. In Bangladesh, Ecuador, Honduras, Panama and Peru, borrower transaction costs as a percentage of loan amount ranged from 4 to 29 percent for small loans and from 1 to 7 percent for large loans (FAO, 1986). As a result, small borrowers' credit demands tended to be relatively inelastic in response to interest rate subsidies. However, they were the major beneficiaries of policies which lowered the transaction costs of borrowing.

28. Transaction costs to the borrower include travel expenses, time spent in waiting and on repeated visits, filling out complicated forms, non-interest charges, and inflexibility in repayment terms. Despite higher interest rates, informal credit sources were attractive because they imposed fewer of these additional costs. Village money-lenders were nearby, required no documentation, made decisions immediately, and were flexible about repayment terms. On the other hand, lower transaction costs to the borrower often imposed higher transaction costs for the lender. For example, opening new rural local branch offices or hiring more personnel to speed loan decisions raised lending costs.

29. Successful schemes to lower the transaction costs of formal credit were initiated by the Badan Kredit Kecamatan (BKK), Indonesia, which established offices in 35 percent of all villages, used simple forms and made quick decisions. The Pakistan National Bank, a private commercial bank, instituted a "banker on a motorbike" programme which took bank services to the villages. A particularly innovative programme was developed in Nicaragua. Mobile banks went out to villages and used simple numerical application forms which could be completed quickly and then processed by a central computer. Computers were also used to monitor repayments and to coordinate credit and input needs. The extension of small five-year lines of credit lowered annual reapplication costs for both parties. Within three years, the programme had disbursed over 20 000 loans at market rates of interest to 8 500 smallholders with a loan delinquency rate of 10 percent.

(iii) Default Risk

30. An important element in the cost of lending is the risk of default. While there is some evidence which suggests that smaller farmers are less likely to default than larger farmers, the poorer groups in the population, in particular the assetless, present a lender with few ways of insuring against this risk. Traditionally, the risk of default has been minimized via collateral requirements - often limited to land - and the use of information about the creditworthiness of the borrower.

31. Expanding the range of assets which are accepted as collateral may be important in increasing the availability of credit, particularly to women. In many countries, land was registered only under the names of male household members, while assets typically controlled by women, such as jewellery, were not normally accepted as collateral by formal credit institutions. Pawnshops, which were discreet, convenient and flexible



about collateral, were often an important source of credit for women. In Sri Lanka, the government tried to control pawnshop rates through registration and taxation, with the perverse result of increasing the rates. Recognizing this, the People's Bank, a government rural lending institution, competed with the informal sector by providing pawnbroking services.

32. The use of substantial physical collateral obviates the need for assessing the creditworthiness of the borrower, but for those without assets the possibility of using "social collateral" (e.g. reputation of a potential borrower) may be essential. Several approaches were used to tap this knowledge to expand credit opportunities. In West Malaysia, the Agricultural Bank of Malaysia ran a scheme which formalized the intermediary role of local traders and tried to enhance competition. Cooperatives, farmers' organizations and private traders were appointed as bank agents and given a commission for screening applicants and securing repayment of loans for input purchases. A comparison of these intermediaries showed higher rates of disbursement and repayment for the private traders. In India, production loans were channelled through local fertilizer dealers with mixed results.

33. Credit which was extended through traders where repayment was tied to other transactions also benefited from ease of collection. Repayments were synchronized with borrowers' income, and evasion became difficult since output was sold through the lender. Interlinkages could, however, sometimes be exploitative. The WCARRD country report for Thailand, for example, points out that interlinkage of credit and marketing involved a real charge much higher than market interest rates.

34. Group lending became a popular way of promoting the use of social collateral. This was particularly important for women who tended to have fewer assets and who were drawn to schemes organized around groups also because membership offered social support in engaging in the new experience of borrowing. The central feature of such schemes was the formation of groups of borrowers with joint liability for a loan, reducing the screening costs to the lender. Many variations of this basic theme were initiated since the pioneering Grameen Bank. Other successful examples included the Agricultural Development Bank in Panama, with an average default rate in 1985 of 12 percent on group loans as against 21 percent on loans to individuals. The Bank for Agriculture and Agricultural Cooperatives, Thailand, sent bankers to villages to establish and monitor groups of 8 to 15 farmers. It kept administration costs to 5 percent of total loan value with a 3 percent default rate, though it was reluctant to include the poorest among its clients.

35. The results of group lending varied. Small homogeneous groups of individuals without family ties who voluntarily joined together (and obtained benefits from cooperation additional to credit) tended to perform best. Problems occurred in Ghana in enforcing group joint liability and in the Philippines in creating effective peer pressure.

36. A policy of gradually increasing loan sizes on repeated loans allowed the poor to develop their creditworthiness. The Grameen Bank, Bangladesh, used this system to create group reputations, while the BKK, Indonesia, used it for individual borrowers, who received initial loans less than US\$ 5. The opportunity to obtain further loans was a very



important incentive to repay. A survey of 30 credit unions in Honduras showed that repayment delinquency was closely related to a borrower's assessment of future loan opportunities.

37. Direct supervision of loans reduced default risk but was not necessarily cost-effective. Of four smallholder credit programmes operating in Jamaica, arrears were substantially lower in the one supervised programme, but administration costs were over 14 percent of loan value. The "banker on a motorbike" programme in Pakistan involved substantial supervision costs, but very low default rates made it cost-effective: total costs of lending were 19 percent versus 33 percent on similar loans extended by the Agricultural Development Bank operating a conventional scheme.

(iv) Savings Mobilization

38. A study of savings in southwestern Cameroon showed 98 percent of wage-earning and 82 percent of non-wage-earning women sampled saved. In addition to rotating savings and credit associations (ROSCAs), the most popular savings institution was regular ethnic-group or family-based "meetings", where savings were collected and the group sum deposited in a bank. Individual bank savings deposits were rare due to inconvenience and minimum size restrictions. Savings clubs were also popular in Zimbabwe with some 140 000 members, mainly women, and more than US\$2.7 million in savings in 1984 (FAO, 1986). These clubs frequently used their funds for investment purposes, such as the purchase of agricultural inputs.

39. Successful attempts to mobilize savings focused on the convenience offered by informal systems. The Ghana State Insurance Corporation sent agents to the market to collect contributions, as did the Syndicate Bank, India, in its "Pygmy Deposit" programme. Postal deposit accounts had been popular - mobilizing up to 4 percent of GDP - due to the dense network of offices. Their importance declined, however, in areas served by institutions offering credit to savers. This "reciprocity" was valued by customers and encouraged both loan repayments and savings. Credit cooperatives in Africa and credit unions in Latin America which generated lending capacity from group savings benefited from reciprocity and the influence of peer pressure. Performance deteriorated when governments used these institutions to target non-members, severing the savings-credit link and destroying the important advantage of peer pressure.



## CHAPTER 5

### HUMAN RESOURCE DEVELOPMENT

1. The development of human resources is increasingly recognized not only as an end in itself but also as one of the most effective methods of combating poverty, since human capital enhances the productivity of the poor's most abundant and often only asset - labour. Recent progress in human development - as measured by a number of educational, health and nutritional indicators - was reviewed in Chapter 1. The present chapter complements this review with an analysis of progress in the public provision of basic services for human resource development. Sections 5.1-5.3 consider changes in government policies and programmes in the areas of health, education and agricultural extension, with a particular focus on access by specific disadvantaged groups of the rural poor. Since the rural poor are not only recipients of public services but also actors in the human development process, the chapter concludes with a review of recent efforts by countries to encourage and support rural organizations - such as cooperatives, workers' associations and women's organizations - in which the poor participate.

#### 5.1 Health and Nutrition

2. Evidence reviewed in Chapter 1 shows that health and nutritional status in developing countries improved considerably in the last decade but the situation is still far from satisfactory. Significant differences, however, remained between countries, between socio-economic groups, between urban and rural areas and between regions of countries depending on the level of socio-economic development and the level of provision of social and health services. The WCARRD country reports indicate that improvements were due to a number of factors, which varied by country. These included: increased food supply and improved access to food through better distribution and communication systems, including street foods, enhanced budgetary allocations to the health sector, greater support for primary health services and preventive health care (such as immunization, prenatal care and distribution of Vitamin A capsules and iron tablets), use of low-cost, effective curative treatments (e.g. oral rehydration), better targeting of nutrition supplementation/food subsidy programmes, improved environmental hygiene and food safety (especially drinking water and sanitation), sensitization of the population (particularly women) to health problems and the need to seek early treatment, and increased awareness of nutritional needs and proper diet, particularly of young children.

3. Despite these achievements, Table 5.1 indicates that access to general health services, sanitation and clean drinking water in 1985-87 fell far short of requirements and that there were striking disparities between rural and urban areas. Since the estimates refer to the median country in each region, they blur the enormous variation between countries and the extreme rural-urban disparities. In several low-income countries, for example, less than 20 percent of the rural population had access to health services, safe water and sanitation while the urban population



was served satisfactorily and in some cases received 80-100 percent coverage.<sup>50</sup> Other low-income countries (e.g. Tanzania, Viet Nam) and lower middle-income countries (e.g. Botswana, Costa Rica, Jordan, Mauritius, Thailand, Tunisia, Zimbabwe) achieved considerable success in reducing rural-urban disparities. This suggests that a reduction in disparities between rural and urban areas can be reduced at all income levels through appropriate public policies.

Table 5.1

**Disparity in Access to Health, Sanitation, and Drinking Water  
between Rural and Urban Areas in Developing Countries in 1985-87<sup>a</sup>**

Region	Health Services		Sanitation		Drinking Water	
	Rural (%)	Urban (%)	Rural (%)	Urban (%)	Rural (%)	Urban (%)
Sub-Saharan Africa	40	90	14	68.5	22.5	68
Near East and North Africa	65	97.5	16	84	54.0	95
Asia and the Pacific	62.5	98.0	38	65	36.0	70
Latin America and the Caribbean	40	90	16	77	40	85

<sup>a</sup> The percentage of the population in a region corresponds to the median country in each region. The table was constructed for the present report using data obtained from UNICEF (1990), and UNDP (1990).

4. Available evidence indicates that public health subsidies were in general fairly equitably distributed among income groups though with a bias in some countries towards the higher income groups and in others (e.g. Iran, Sri Lanka) towards the poorest groups. Expenditures on urban hospitals tended to benefit the richer income groups while primary health centres and rural clinics more effectively reached the poor.<sup>51</sup> Data from Indonesia<sup>52</sup> suggest that the poor were unable to compensate for limited access to public health services with private expenditure.

5. As a result of the debt crisis and consequent adjustment programmes of the 1980s, many developing countries were under pressure to reduce social expenditure. While the evidence is inconclusive, many countries were able to avoid major cutbacks which would have seriously affected the health of the poor. There is evidence, for example, that macro-economic adjustment in Indonesia between 1983 and 1988 was associated with reduced poverty, in part because government policies cushioned the poor from adverse effects. Nonetheless, when health expenditures were cut by nearly

<sup>50</sup> See UNICEF (1991) and UNDP (1991) for country-level data.

<sup>51</sup> See Deolalikar (1990) for a review of evidence.

<sup>52</sup> Brotowasisto *et al* (1988) and Gish *et al* (1988).



50 percent in real terms in this period, expenditures on communicable disease control programmes fell by 75 per cent, compared with only 23 percent for hospitals. The tuberculosis control programme was virtually suspended, and malaria control activities were cut back extensively. A study for Jamaica also found that while there were substantial cuts in governmental expenditures on social services during the adjustment period 1983-86, there was little evidence of significant short- or medium-term deterioration (relative to the long-term secular trend) in health indicators. Greater efficiency and rationalization of health interventions, as well as substitution of private for public health care, in part offset the decline in real government health expenditures (Behrman and Deolalikar, 1991).

6. Substantial reductions in governmental budget and distribution costs of existing food subsidies were achieved in some countries by tighter targeting. For example, when Sri Lanka shifted in the second half of the 1970s to a more targeted food subsidy programme (including a switch to food stamps and the exclusion of about half the population from the programme), it cut the fiscal costs by more than half without any adverse effects on the poor. The Indian state of Tamil Nadu operated a highly successful integrated nutrition supplementation programme that was extremely cost-effective because of close targeting by area of residence, age, and nutritional need of beneficiaries. The cost/benefit ratio of child nutrition intervention programmes was generally substantially improved when they were combined with existing health delivery systems, improving coverage and saving on fixed-cost investment, personnel and management. In Mexico, considerable improvements were made in the direct distribution of tortilla to 2.6 million poor families, which received 1 kg of tortilla free a day. Improved efficiency in the programme led to a four-fold reduction in operating costs. Venezuela and Colombia were also in the process of improving targeting of the beneficiaries of food assistance. Subsidization of low-status foods was another particularly effective approach, since it directly targeted the low-income groups which consumed these foods to a much greater extent than did higher income groups.

## 5.2 Education

7. As indicated in Chapter 1, many developing countries made impressive strides in primary school enrolments during the 1980s. Average public expenditures on education, as a percent of GDP, rose significantly in all developing regions from 1960 to 1986, particularly in the Near East and North Africa where the figure increased from 3.7 to 5.8 percent of GDP.<sup>53</sup> During much of the 1980s in sub-Saharan Africa, however, primary school enrolment increased less rapidly than the population of primary school-aged children, resulting in a decline in the expected years of schooling. Where there were declines in per-pupil expenditure, they undoubtedly were related to the broader economic decline that took place in Africa and Latin America during the 1980s and the consequent need of many countries to undertake macro-economic adjustment. Intra-regional variation in public expenditures on education was greatest in the Middle East/North Africa, South Asia and Latin America and the Caribbean, and least in East and Southeast Asia.

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<sup>53</sup> UNDP (1990).



8. Little progress appeared to have been made in improving the equity of public expenditures on education in many countries. As a group, the developing countries spent over 25 times as much per student in higher education as in primary education, although 75 percent of the school-age population was enrolled in primary education and 7 percent in higher education. Countries in Anglophone Africa spent over 50 times as much per student in higher education as in primary education, with only 1.2 percent of the school-age population enrolled in higher education. Not only did relatively few individuals benefit from the high levels of public spending on higher education, but those that benefited were often from affluent family backgrounds. Available evidence indicates that, in Indonesia, the poorest 40 percent of individuals received only 7 percent of higher education subsidies, while the richest 20 percent benefited from 83 percent of the subsidies. Even in Malaysia, where higher education subsidies were more equally distributed, the poorest 40 percent received 10 percent of the subsidies, while the richest 20 percent received 50 percent.<sup>54</sup> Nonetheless, about one-third of developing countries spent more than 50 percent of their public education budgets on primary education, and a few countries allocated exceptional proportions, such as Sri Lanka (93.5 percent), Angola (94.6 percent), Jordan (89.9 percent), Cameroon (77.7 percent) and El Salvador (60.3 percent).<sup>55</sup>

9. The bias in expenditures in favour of higher rather than primary education was particularly significant in view of recent evidence that private and social returns on education fall as schooling level rises. Of particular relevance was the finding of a recent survey of eight developing countries that the productivity of farmers with four years of schooling was on average 9 percent higher than for those with no schooling. A more detailed study for Malaysia, Thailand and Republic of Korea found that a year of schooling was associated with a net increase in farm product of 5.1, 2.8 and 2.3 percent, respectively.<sup>56</sup> This does not necessarily mean, however, that investment in higher education by developing countries is a poor use of resources. School curricula in rural areas generally failed to integrate academic subjects with technical training in agriculture and environmental management and take sufficient account of community values and priorities. Positive developments, however, took place in some countries. For example, a school, ecology and rural community programme in Peru increased the awareness of rural communities of environmental concerns and agroforestry practices.

10. Many of the WCARRD country reports drew attention to attempts to reduce disparities between male and female educational attainments. It was increasingly recognized that female education was an important variable in reducing infant and child mortality, improving child nutritional and health status, and contributing to fertility decline. Evidence from sub-Saharan Africa also suggests that the gain in agricultural productivity from education was larger for female than male farmers (World Bank, 1988). Several countries (e.g. Fiji, Morocco, Syria,

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<sup>54</sup> See World Bank (1986) for details.

<sup>55</sup> UNDP (1991).

<sup>56</sup> Jamison and Lau (1982).



Mali, Senegal, Tanzania) obtained both efficiency and equity improvements by giving higher priority to women's schooling in public resource allocations. While many countries experimented with new approaches to encourage girls to attend and stay in school - such as establishing female teacher training schools in rural Tanzania, educating girls at night in India, providing scholarships to girls in Guatemala and Bangladesh - the problem remained substantial. Some WCARRD country reports (e.g. Fiji, Jordan, Morocco, Syria, Turkey, Mali, Senegal, Zimbabwe) also indicate that there was greater emphasis on vocational education and training for rural youth - especially women.

### 5.3 Agricultural Extension

11. A survey of agricultural extension systems conducted by FAO in 1988-89 indicates that half of all agricultural extension organizations in developing countries were established or reorganized since 1970, and half of those in the last decade. Comparison with a similar survey in 1980 indicates significant increases in extension personnel during the 1980s in developing countries. At the time of the 1988-89 survey, some 500 474 professional/technical extension staff were working in 92 developing countries. More than 70 percent of these workers were located in Asia and the Pacific Region.

12. Agricultural extension expenditures as a percent of agricultural GDP declined between 1980 and 1988, particularly in Africa where the figure fell from 1.17 percent in 1980 to 0.98 percent in 1988 (Table 5.2). Thus, as extension organizations proliferated in developing countries in the 1980s, average expenditures per extension worker declined. The downward trend of real public expenditures on agricultural extension was particularly serious in Africa. Since the number of extension workers did not fall (indeed, it increased in many countries), the burden of falling expenditures affected largely recurrent non-salary budget items such as transport and fuel - essential to the mobility and effectiveness of extension staff. As in the case of education, the decline in public spending on agricultural extension was largely attributable to general economic decline, and the consequent need for adjustment during the 1980s.

13. The variety of approaches to agricultural extension was expanded in the 1980s as new methods were tested and refined. These included general agricultural extension, the commodity specialized approach, training and visit (T&V), the participatory approach, farming systems development, the project approach, cost-sharing, and extension activities organized by agricultural colleges and universities. These approaches were not mutually exclusive and were combined in many countries. The cost-effectiveness of an agricultural extension programme depended largely on the approach followed. Systems that involved large numbers of farmers, such as general, participatory, and T&V, had lower per-farmer costs and therefore lower cost-benefit ratios. Those that maintained high agent/farmer ratios, such as project and specialized commodity, had higher per-farmer costs and higher cost-benefit ratios. Cost-benefit ratios for selected approaches within countries (and thus not representative of entire countries) ranged anywhere from 1:1 in Rwanda to 1:32 for the Philippines (Contado, 1990).

14. Available evidence suggests that agricultural extension systems often did not serve smallholders and women farmers as effectively as large cultivators and male farmers. The bias against women was particularly



striking, especially in Africa where the role of female labour in food and cash crop production, food processing, food storage, and marketing was critical. A 1987 survey of 565 rural women in Kenya, Malawi, Sierra Leone, Zambia and Zimbabwe revealed that women farmers felt neglected - perceived as farmers' wives and not as legitimate farmers - by extension field staff. The women surveyed thought that female extension agents would better understand their problems and communicate more effectively with them (FAO, 1988).

Table 5.2

Extension Expenditures as a Percent of Agricultural Gross Domestic Product<sup>a</sup>

	Africa	Asia & Pacific	Latin America	Near East	North America	Europe
1980	1.17	0.48	1.22	n.a.	0.39	0.44
1985	0.98	0.68	0.90	0.96	0.41	0.47
1988	0.98	0.56	1.40	1.00	n.a.	n.a.
Average	1.04	0.57	1.17	0.98	0.40	0.46
N =	20	13	13	7	1	3

<sup>a</sup> Because 1988 AGDP data were not available when the analysis was completed, the computations for 1988 used 1988 extension expenditure data and 1987 AGDP data. The percentages in the table are unweighted means. The Europe and N. America data are included for comparison.

Source: Adapted from Swanson *et al* in FAO (1990b).

15. Women constituted only 11.1 percent of agricultural extension personnel in Africa, 14.5 percent in Latin America, 19.5 percent in the Near East and 17 percent in Asia. Perhaps more significant was the generally low representation of women among extension field staff in developing countries: 7 percent in Africa, 14 percent in Latin America, 9 percent in the Near East and 14.5 percent in Asia. In Africa, the low proportion of female extension workers contrasts with the rural population as a whole where there were more women than men.<sup>57</sup> In the rural areas of Sierra Leone, for instance, where there were only 85 men for every 100 women, only 3.5 percent of agricultural extension workers were females (FAO, 1988).

16. Several WCARRD country reports reflected a growing consensus that agricultural extension services could better serve women farmers by working with women's groups. This was seen as a way of reducing cultural problems of interpersonal communication between male extension workers and female farmers. Working with women's groups was common in Burkina Faso's extension system. Several Nigerian agricultural development projects formed or used existing women's groups to reach rural women with the T&V

<sup>57</sup> This occurs because males migrate to the urban areas in search of better jobs.



system. India tried pilot schemes using female "information brokers" to organize women into groups to meet regularly with male extension agents. In Indonesia, more than 8 000 groups were established as part of the farmer extension system.

17. Traditionally, agricultural extension services included dissemination of improved farming practices, new techniques, high-yielding technology packages, and, to a smaller extent, assistance with marketing, farm input supply, and farm management. More recently, however, some countries utilized their extension systems to disseminate information about other, broader aspects of rural development including population education, home management, kitchen garden production, child nutrition, household grain storage, community forestry, pond aquaculture, and livestock health. While this concept of integrated rural services aroused interest in recent years, its implementation in national agricultural extension systems was limited.

18. Active participation of farmers in extension programme development and extension activities was increasingly viewed as important to the programme's success. Participation by local communities helped ensure that programme content was relevant to the needs and interests of the farmers and increased the rate of adoption of new techniques and practices. In addition, farmer participation sometimes included cost-sharing, thus reducing the public cost of extension programmes.

19. Extension programmes that incorporated community participation included the Small Farmers Development Projects in Nepal and Bangladesh, Sri Lanka's Sarvodaya Shramada Movement, the Puebla Project in Mexico, the Basic Village Education Project in Guatemala, and the local brigades in the People's Republic of China. Other examples of community participation were given in the WCARRD country reports for Mali, Malaysia, Indonesia and Sudan. Nevertheless, most of the agricultural extension programmes in developing countries remained top-heavy. Farmer participation in extension planning and programme development was not a routine practice in the majority of extension organizations. Even at the village level, 45 percent of the agricultural extension organizations in Africa, 46 percent of those in Latin America and the Caribbean, 60 percent in Asia and 87 percent in the Near East had no formal channel for farmer input (Swanson, et al, 1990).

#### 5.4 People's Participation through Rural Organizations

20. Rural development in the 1980s was characterized by an expansion of rural organizations and grassroots initiatives, and a growing commitment on the part of governments to development approaches which involved disadvantaged segments of the rural population in the design and implementation of policies and programmes that affected their well-being.<sup>58</sup> This was reflected, for example, in the "African Charter for Popular Participation in Development and Transformation" which was adopted

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<sup>58</sup> This section complements the discussion on people's participation in "International Agricultural Adjustment", Seventh Progress Report, FAO Conference, Twenty-sixth Session, November 1991, C91/18.



by an International Conference on Popular Participation in the Recovery and Development Process in Africa, sponsored by ECA in 1990. Several WCARRD country reports (Burkina Faso, Burundi, Morocco, Peru and the Philippines) highlighted the importance of participation in their overall development strategies. Other countries (Ethiopia, Kenya, Tanzania and Zimbabwe) noted that the strengthening of people's participation forms a specific objective of their national development plans.

21. It was increasingly recognized that local self-help grassroots organizations of various types and forms (cooperatives, producers' associations, rural workers' organizations and trade unions, informal groups, and village councils) play a key role as vehicles which facilitate participation of rural people, especially the rural poor, in the development process. The greater emphasis on local initiatives and participatory development approaches found expression in increased government support for such rural organizations. The WCARRD country reports (Benin, the Islamic Republic of Iran, Malaysia, Philippines, Jamaica and Honduras, for example) indicated that this support took various forms including legislation, training, credit and, in some cases, withdrawal of direct government involvement in the operation of rural organizations. In some countries undergoing structural adjustment, reduced government involvement was in part necessitated by financial stringency.

22. Agricultural cooperatives continued to be the most common form of rural producer/service organization. By the late 1980s, some 175 000 agricultural cooperatives in developing countries, with over 30 million members, were affiliated with the International Cooperative Alliance. Cooperatives in Cameroon, Ghana, Nigeria and Togo succeeded in stimulating crop production and expanding use of new farm equipment. In Latin America, Brazilian cooperatives marketed 83 percent of all wheat and 68 percent of all milk produced in the country. In Colombia, in 1985, small farmer cooperatives marketed 35 percent of fresh milk and 6 percent of total coffee exports. In Indonesia, 97 percent of grain crops were marketed through cooperatives; in India, 27 percent; and in the Philippines, 15 percent. Dairy and sugar cooperatives captured a dominant share of the market in India during the 1980s and brought benefits to millions of small farmers. Coffee marketing cooperatives in Kenya continued to provide significant returns to their members, and farmer service cooperatives were widespread in Latin America. The economic growth of the Republic of Korea in the 1980s owed much to cooperatives in the agricultural, livestock, fisheries and credit union sectors. According to the WCARRD country report for the Islamic Republic of Iran, some 80 000 households were organized as Moshaa production cooperatives. They were allocated a total of some 657 000 ha as well as tractors, pumps, wells and other machinery. Rural cooperative societies, with a total membership of 3.9 million in 1984, undertook a variety of activities including distribution of petroleum products, agricultural inputs and rationed food items, marketing of agricultural produce and provision of credit.

23. The WCARRD country reports indicated considerable progress in recent years in the decentralization of cooperative structures, and a reduction of government involvement in their management. In Burkina Faso, Burundi, Ethiopia, Senegal and Tanzania, for example, governments strengthened policies and legislation in support of cooperatives run by



rural groups or their elected representatives. In some countries (e.g. Laos), modifications also included the restructuring, and even the dissolution, of some cooperatives.

24. Particularly impressive progress was made during the decade by the credit union movement in Africa, in mobilizing domestic savings and capital for investment purposes. As of 1989, over 5 100 such credit/savings cooperatives (mostly in rural areas) operated in 25 African countries, serving over 2.3 million members and mobilizing over US\$ 540 million in member savings.

25. Rural workers' organizations (RWOs) also played an increasingly important role in many developing areas. By January 1990, 29 countries (14 of which were developing countries) had ratified the ILO Convention 141 which recognizes the right of free association of voluntary and independent rural workers' organizations and supports their socio-economic activities. Progress was made in some countries (for example, Bolivia, Brazil, India and Kenya) in strengthening organizations of wage earners on agricultural estates and plantations including efforts to improve workers' education. In a number of countries rural workers' unions broadened their base to include smallholders and landless farmers. While they sometimes played an advocacy role for land reform and improved rural services, in many cases (for example, the Ghanaian General Agricultural Workers' Union), RWOs collaborated closely with government.

26. Evidence suggests that formal rural organizations were less effective in reaching the most disadvantaged rural groups with goods and services, and that these groups rarely played a significant role in the management and decision-making processes within the organizations. In some cases informal projects that worked with small, socially homogeneous groups of the poor were more effective (for example, the savings clubs in Zimbabwe, the Grameen Bank groups in Bangladesh, and small farmer groups in Nepal).

27. Local and regional NGOs played an increasingly important role in stimulating and supporting such initiatives. International NGOs also enhanced their contribution to these activities in the last decade. NGO collaborative mechanisms, such as umbrella organizations or networks, grew in importance as channels for information exchange, training of leaders of people's organizations and promoting cooperation between government and donor agencies on policy issues. Several WCARRD country reports (for instance, the Philippines) noted efforts to strengthen government/NGO collaboration.

28. Available evidence suggests that women represented a very small proportion of the total membership of agricultural cooperatives. However, women's groups gained in importance in recent years as vehicles for promoting women's participation in rural development. In Tanzania, women's groups organized by the Department of Community Development increased from 478 to 1 803 between 1979 and 1989. In Rwanda, women's agricultural groups were targeted for training in modern techniques, while crafts groups received assistance for marketing their products. In Senegal, a national federation of women's groups was established in 1987, with official government recognition. By late 1990, it encompassed 3 614 member groups. The female membership in agricultural cooperatives in Syria rose from just over 25 000 in 1985 to more than 34 000 in 1988, representing about 6 percent of total membership.



29. The sustainable management of natural resources such as water, soils, fisheries and forests was an area where numerous people's initiatives arose. Considerable improvement was made, for example, in water users' associations, thus making irrigation systems more responsive to farmers' needs. These and other related issues are discussed more fully in Chapter 6.



## CHAPTER 6

ENVIRONMENT, PUBLIC POLICY AND POVERTY

1. The 1980s witnessed increasing international recognition of the threat to sustainable agricultural and rural development posed by environmental degradation. Some of the environment-poverty linkages of growing concern to governments are discussed in Section 6.1. Recent evidence of resource depletion and environmental degradation is reviewed in Section 6.2. Section 6.3 discusses the role of public policies in influencing natural resource use and the inter-relationships with rural poverty. This includes an examination of economic policies; agricultural productivity, land degradation and poverty; the relationships between population, resource use and poverty; land rights; and the importance of fostering participation by the rural poor in sustainable agricultural and rural development.

6.1 Environment-Poverty Linkages

2. Rural poverty is generally seen as both a cause and consequence of environmental degradation in most developing countries. The relationship is, however, complex. Although there were many instances in recent years where the poor over-exploited and irreversibly degraded their natural resource base, there was also evidence of environmentally sound and often innovative ways in which the poor secured their livelihoods. The technical options open to the poor varied according to whether they were in marginal or resource-rich agro-ecological areas and the adequacy of physical and social infrastructure. Even in marginal areas, the variety of responses to long-term stresses such as growing population pressure on limited or depleting natural resources, and to unexpected shocks such as drought, indicated the complexity of their survival strategies. These strategies varied for different poverty groups - the landless, smallholders, pastoralists and fishermen - and also for men and women within these groups. Depending on their access to private and common property resources, their specialized skills and socio-economic status, the rural poor could either (i) diversify and/or intensify their farming systems; (ii) combine farm and non-farm employment; (iii) migrate, either permanently or temporarily; (iv) rely on mutual assistance among kinship groups, or use a combination of strategies. The effectiveness of these options, however, depended on the policy and institutional environment in which poor rural households operated.

3. There was growing recognition that the rural poor were not the only agents of environmental degradation. Serious and sometimes irreversible degradation often was caused by the non-poor through, for example, excessive or careless use of agro-chemicals, irrigation water and mechanical equipment, or over-exploitation of forests and fishstocks. These diverse experiences drew attention to the crucial role of public policies in influencing the distribution and use of natural resources. Both the poor and non-poor responded in different ways to these policies, the results of which did not necessarily lead to environmental degradation and, in some cases, may have led to reduced pressure on natural resources and increased benefits for the poor.



## 6.2 Trends in Degradation of Natural Resources and the Environment

4. This section reviews recent trends in the management of soils, forest cover and water resources in developing countries, in order to sketch the background for discussion of policies in Section 6.3.

### (i) Soil Degradation

5. Soil degradation was an increasingly serious problem in many developing countries.<sup>59</sup> Erosion was of particular concern in ecologically vulnerable areas such as the Himalayan-Tibetan and Andean ecosystems and large parts of Africa. Global estimates indicate an annual loss of 5-7 million ha of agricultural land through soil erosion, and a further 1-5 million ha as a result of waterlogging, salinization and alkalization. Crude estimates of the effect of soil degradation on agricultural production suggest a loss of 9 million tonnes of grain a year due to soil erosion; 2 million tonnes due to degradation from the burning of cow dung and crop residues, shifting cultivation, and compaction from heavy equipment; and 1 million tonnes due to waterlogging and salting of irrigated land (FAO, 1991b). While no firm data are available, rangelands, particularly in Africa, were also subject to severe nutrient depletion and diminished regenerative capacity.

6. Although soil degradation was recognized as a widespread problem, there was a dearth of reliable quantitative data in most developing countries on the status, rate and risk of soil degradation, as well as its economic and social causes and consequences.<sup>60</sup> The massive scale of the problem is suggested by recent data for Latin America which indicate that about 14 percent of the total land area was subject to soil degradation. The main problems were water erosion and nutrient decline, which accounted for nearly half and one-third of the incidence of soil degradation, respectively.<sup>61</sup> A study commissioned by FAO (Stoorvogel and Smaling, 1990) found that soil nutrient depletion in the arable land of sub-Saharan African countries was quite severe.<sup>62</sup> There were considerable variations between countries, with the highest rates in East Africa, while West Africa had moderate to high rates, and Central Africa and the Sahelian region moderate to low. A case study in Mali estimated the cost of replacing soil nutrients with imported fertilizer at 40 percent of net farmer income.

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<sup>59</sup> Soil degradation results from (a) erosion by wind and water, (b) chemical deterioration (particularly nutrient loss, salinization and acidification), and (c) physical deterioration (mainly compaction, sealing and crusting, and waterlogging).

<sup>60</sup> In response to this problem, a major international effort was launched in 1986 to develop a World Soils and Terrain Digital Database (SOTER) to provide reliable data based on uniform methods and concepts for national and regional policy and planning purposes.

<sup>61</sup> For further details, see ISRIC/UNEP (1990).

<sup>62</sup> Average depletion rates in 1983 were approximately 20 kg N, 10 kg P<sub>2</sub>O<sub>5</sub>, and 20 kg K<sub>2</sub>O per ha. These rates are not based on direct observations but have been inferred from available estimates of rainfall and other physical characteristics.



7. Additional information was given in the WCARRD country reports. Madagascar reported an annual loss of some 680 kilograms of soil per ha of arable land due to water erosion, while Niger stated that wind was eroding sandy clay soils under millet, sorghum and cowpeas at an annual rate of 7 to 10 tonnes per ha. A study in continental Chile covering 34.5 million ha (46 percent of the total land area) estimated that 2.4 million ha suffered extremely serious erosion, 9.2 million ha serious, 15.5 million ha moderate, and 7.4 million ha slight erosion. About 42 percent of land in Costa Rica showed signs of soil erosion: 24 percent light to moderate, 15 percent severe, and 3 percent totally destroyed. El Salvador reported an annual loss to erosion of some 13 tonnes of topsoil per ha in the most degraded areas. Erosion was attributed to logging and expansion of cropland in the Philippines, Comoros and Honduras, and to over-pasturing, reduced fallow periods and uncontrolled woodcutting in Niger, Rwanda and Tanzania. Paraguay attributed declining soil productivity to monocultural practices and compaction/erosion from mechanized ploughing.

8. A number of countries (Barbados, Brazil, Cuba, Jamaica, Uruguay, Rwanda and Senegal) launched national soil conservation programmes or introduced new regulations to induce farmers to adopt anti-erosion techniques. Chile and Indonesia reported research on appropriate production technologies for fragile areas cultivated by subsistence farmers. Anti-desertification programmes involving tree planting were reported by Algeria, Morocco, Oman, Saudi Arabia, Senegal and Syria.

(ii) Depletion and Degradation of Agricultural Water Resources

9. Much of the worldwide increase in agricultural production over the past two decades was due to expansion in irrigated area. By the mid-1980s, 15 percent of arable land in developing countries (excluding China) was irrigated and produced 36 percent of total crops. In recent years, however, the returns on irrigation investments appeared to be falling in some areas as a result of rising environmental costs - aquifer depletion, waterlogging, salinization/alkalinization of soils, and water quality degradation. Of the 235 million ha of farmland irrigated worldwide, most of which were in China, India and Pakistan, some 20 to 30 million ha were severely affected by salinity and an additional 60 to 80 million ha were affected to some extent. Water use efficiency was generally low, and it was not unusual to find that 60 percent of irrigation water did not reach the plants. Sedimentation of reservoirs was also a common problem, due largely to deforestation and degradation of upstream watershed areas. Nitrate contamination in groundwater caused by organic and inorganic sources of nitrogen and run-off from cattle feedlots affected the quality of water for agricultural and domestic purposes, often with serious consequences for human health as well as crop production (FAO, 1991b). Stagnant irrigation water also increased the incidence of water-borne diseases such as malaria and bilharzia.

10. While China's WCARRD country report specifically cited salinity/alkalinity problems, a number of countries (Indonesia, the Philippines, the United Arab Emirates, Barbados, Jamaica, Mexico, and Paraguay) reported on growing problems of water contamination from nitrates and pesticides. High levels of nitrate contamination were also found in some areas of Bahrain, Egypt, Qatar and Syria (FAO, 1991c). Mexico in its WCARRD country report raised a serious concern about groundwater depletion, though it seemed to be a critical problem also in many other areas, particularly the Near East Region.



(iii) Deforestation and Forest Degradation

11. Significant rates of deforestation were recorded for 62 countries in the moist tropics during the 1981-90 period.<sup>63</sup> The annual rate of change was particularly high for Africa (-1.7 percent) and Asia (-1.4 percent), but not negligible for Latin America (-0.9 percent). Provisional figures for 52 of these countries indicate that the annual rate of deforestation increased from 9.2 million ha during 1976-80 to 16.8 million ha during 1981-90. Forest biomass decreased more rapidly than forest area. Analysis undertaken for the present report of the data for 28 of these countries, as well as a larger data set for 85 developing countries in the period 1975-77 to 1985-87, showed that a reduction in forest area was correlated with increases in population density and in cropland. However, data are not available to assess the extent to which increases in cropland were due to population growth or incentives for cash-cropping, nor the relative importance of these and other reasons for deforestation, such as expansion in pastures, commercial logging, cutting of fuelwood, and construction of settlements and physical infrastructure such as roads.

12. Some indications of the diverse causes of high deforestation rates were provided by the WCARRD country reports. The most frequently cited reason was expansion in cultivated area. This concern was raised or implied in reports from Burkina Faso, Comoros, Niger, Rwanda, Senegal, Tanzania, Togo, Bolivia, Ecuador, Guatemala, Honduras, Nicaragua, Paraguay, the Philippines, Thailand and Vanuatu. The demand for domestic firewood or charcoal was also mentioned by several countries: Burkina Faso, Niger, Togo, Costa Rica, Guatemala, Honduras, Paraguay, Sri Lanka and Vanuatu. In no case were fuel needs given as the primary cause of deforestation, however. Indonesia, the Philippines, Costa Rica, Guatemala, Jamaica and Mexico attributed at least part of the problem to commercial exploitation of high value species, such as mahogany and cedar. A number of reports (Burkina Faso, Madagascar, Niger, Syria and Turkey) mentioned damage by forest fires.

13. Deforestation often, but not always, led to environmental degradation in the sense of loss of land productivity. The extent of degradation, if any, depended on the use to which the cleared land was put and its subsequent management. Forest land was often successfully converted to stable agro-livestock-forest systems which brought higher returns than the primary forest. However, there were also cases of unplanned and inappropriate land use, such as conversion of tropical rainforests into pastures, or slash-and-burn practices which did not allow sufficient time for regeneration. Such degradation was not necessarily related to population pressure and poverty, but may have been due to the absence of sound land use planning and supporting policies, or the lack of physical and institutional infrastructure necessary for economic exploitation of the cleared land. These issues are discussed in more detail in Section 6.3.

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<sup>63</sup> These countries include almost all the moist forest zone, along with some dry areas. For details see FAO (1990a).



### 6.3 Policy Issues

14. This section examines available evidence concerning a number of policy-related issues and their implications for sustainable resource use.

#### (i) Economic Policies

15. The environmental impact of macro-economic policies (such as exchange rate, monetary and fiscal policies) on both the poor and non-poor was often only indirect. However, cases were reported where, for example, a realignment of the exchange rate provided incentives for increased extraction of timber or cultivation of export crops which were soil-eroding or required heavy fertilizer and pesticide use. Although both the poor and non-poor responded to such incentives, high-income producers with larger asset-holdings and privileged institutional access tended to respond on a larger scale, with correspondingly greater environmental impacts. In such cases, the environmentally adverse effects had to be addressed through complementary measures such as agricultural pricing policy or environmental charges.

16. Sectoral and/or micro-economic policies (such as agricultural pricing policies, subsidies and user charges) impinged more directly on poverty-environment linkages. Available evidence suggests that many policies were misconceived, with negative impacts on the environment and sustainable resource use. In some cases this was because they were aimed at narrow and specific goals, such as export promotion or mechanization; in others, because of inadequate understanding of the environmental implications and their costs; or simply poor implementation. Some examples of policy failures are given below with regard to the development of forests, marginal cropland and pastures, and irrigated land.

17. The role of government policies and market distortions in causing massive deforestation has been well documented, particularly for the Amazon Basin but also parts of Africa and Southeast Asia. Binswanger (1989) and Mahar (1989) show that tax policies such as the virtual exemption of agricultural income from taxation, special tax incentives, rules of land allocation and the agricultural credit system accelerated deforestation in Brazil's Amazon region. These measures encouraged the conversion of forest to large-scale ranches by urban investors and corporations. Ranches were often developed on unsuitable land, and suffered serious weed infestation and soil nutrient depletion. Without these subsidies, ranching would have produced a net loss to the investor.

18. These policies in Brazil also had negative impacts on poor farmers. Tax incentives not only failed to benefit the poor since they did not pay income tax but, by creating tax shelters for agriculture, they raised the market price of land to levels too high for the poor to buy, even if credit had been available. The rules of land allocation, whereby a claimant who cleared land for production could get a title for up to three times the area cleared, further stimulated road construction and land clearance mainly by the rich. The poor were thus forced to push the forest frontier further back, in search of unclaimed land. Since the poor were also less likely to have land titles, they were often ineligible for institutional credit, and were unable to benefit from credit subsidies. Many official settlement schemes that specifically targeted the rural poor also failed to create self-sustaining agricultural communities, for a number of reasons, such as production systems unsuitable for the



ecological conditions; inadequate infrastructure, credit, markets and extension; high incidence of malaria; and considerably greater numbers of immigrants than planned for. Although many of these tax and subsidy policies have been largely phased out in recent years and some improvements made to increase the sustainability of settlement schemes, they nonetheless caused considerable damage to the rainforest and accentuated inequalities between rich and poor.

19. Other evidence pointed to insufficient attention to reforestation and conservation in granting commercial logging licences, and in road and dam construction. Studies of Indonesia, Sabah (Malaysia) and China indicated that licences and stumpage rates often failed to take account of the true opportunity cost of the forest and led to inefficient and unsustainable exploitation (FAO, 1991c). The Philippines WCARRD country report also noted that severe deforestation "was the consequence of government underpricing of forest resources which induced massive logging on the one hand and discouraged interest in reforestation on the other". To complement a series of bans and licensing restrictions, the government increased by 50 percent the "forest charge" levied on timber production agreements, and imposed a 20 percent export tax on logs.

20. Micro-economic and sectoral policies aimed at developing marginal land produced mixed results. A number of countries used a mix of tax incentives and subsidies to promote large-scale mechanized cultivation, with the aim of increasing output for urban or export markets. Since monocropping frequently led to soil erosion and nutrient mining, these policies tended to promote short-term gain at the expense of long-term sustainability. They also absorbed public investment and credit which could have been used to develop the production systems of the poor. Furthermore, studies from Ghana, Sudan and Tanzania indicate that these policies often displaced poor pastoralists and farmers from land held under customary tenure. In contrast to these policy failures, the WCARRD country reports indicate that many countries made determined efforts to increase the resilience of farm-livelihood systems for the poor in marginal areas. Measures included tax and price incentives to encourage shifts to more ecologically sound agro-forestry-livestock systems and adoption of appropriate improved technologies as well as creation of non-farm employment.

21. Some policies targeted to poor pastoralists on marginal land, for example in Africa, also had unexpected negative environmental impacts. Well-intentioned but misconceived input and/or output pricing policies, tax incentives, provision of wells and slaughter facilities, improved veterinary services and markets often disrupted traditional, ecologically sound pastoral management practices, and led to overstocking and pasture degradation. Such policies sometimes stimulated investment by urban dwellers who were not subject to community pressures and sanctions to observe customary management practices. Since these policies were often aimed indiscriminately at both rich and poor, the negative environmental impact could have been due as much to an increase in herds by a multitude of small producers as to increases by a few large-scale ranching enterprises. These problems, however, were increasingly recognized and addressed by policies and programmes to introduce improved technologies and sustainable management systems. These included diversification into agro-pastoral enterprises and non-farm employment and, for example, in Kenya and Senegal, contingency planning for pastoral systems vulnerable to drought (Swift, 1988).



22. Policy failures in the irrigation sub-sector also led to or were unable to halt environmental degradation. Underpricing of water or failure to levy water user charges tended to discourage conservation practices which would have reduced waterlogging, salinity and groundwater depletion. Inadequate planning of upstream watershed development and insufficient controls on spontaneous, inappropriate exploitation often led to siltation of irrigation reservoirs. Since these policies usually were not targeted to a single category of landholder, it was difficult to distinguish between the environmental damage caused by the poor and non-poor, except on a case-by-case basis. However, reversal of these policies might have intensified poverty among smallholders. For example, the elimination of water subsidies on environmental grounds could have seriously threatened the incomes of poor producers for whom low water charges were an essential production support. The feasibility of the policy option of reducing or eliminating such subsidies for higher-income producers while maintaining them for the poor needs to be investigated.

23. It was increasingly recognized that an important tool in rectifying these policy distortions is the use of environmental accounting.<sup>64</sup> While present methods are still in need of considerable refinement, a report on Indonesia by Repetto *et al* (1989) shows the importance of such procedures in ensuring that policies do not overemphasize short-term gains at the expense of long-term sustainability. When net domestic production (NDP) for the period 1971-84 was adjusted to take account of natural resource depletion in petroleum, timber and soils on Java, the growth in value of gross domestic product (GDP) fell from an average annual rate of 7.1 percent to only 4 percent. Similar adjustment of net domestic investment (NDI) showed that while NDI increased in 1971 and 1974 due to additions to petroleum reserves, in most years resource depletion was substantial. In 1979 and 1980 net investment was negative, implying natural resources were being used to finance current consumption.

24. A number of WCARRD country reports indicated growing interest in environmental accounting. Several countries were undertaking natural resource inventories (Indonesia, the Philippines, Vanuatu, Senegal, Togo, Syria, Ecuador and Guatemala). Both the Philippines and Togo reported plans to estimate the economic costs of environmental degradation.

(ii) Population, Resource Use and Poverty

25. In conditions of increasing population density and land scarcity, the options are: (a) intensification through increased inputs and improved production systems, or (b) environmental degradation due to continuous cropping and deforestation. As Lele and Stone (1989) demonstrate, intensification occurs as a result of (a) shortening of fallow periods and increasing labour and other inputs, and (b) shifts to higher-yielding or higher value crops, or to more productive land.

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<sup>64</sup> There are two distinct but complementary approaches to environmental accounting: (a) a physical approach in which sources and uses of natural resources are quantified and used to develop measures of environmental change and ecological stress; and (b) a monetary approach aimed at adjusting national income accounts in order to incorporate measures of depletion or other environmental changes (such as pollution) in the natural resource base.



Their review of the evidence in 6 African countries (Cameroon, Kenya, Malawi, Nigeria, Senegal and Tanzania) suggests that intensification of both types - especially the second - was influenced by public policies. Another review of available data for all four developing regions confirms the crucial role of economic and institutional policies in assisting the poor to intensify their production systems and avoid environmental degradation (FAO, 1991d). The important mechanisms underlying the processes of successful intensification are illustrated below with recent case study material.

26. Mortimore's (1989) study in semi-arid areas of northern Nigeria shows that intensive crop, livestock and tree husbandry systems (for instance, the Kano Close-Settled Zone) remained ecologically and economically stable in the last two decades and that the increasing population diversified out of primary production. Population pressure led to more complex tenurial relations. Mean plot sizes diminished with proximity to Kano while mean application rates of farmyard manure increased. Evidence from air photographs and ground observations of less intensive bush fallowing or shifting cultivation systems suggests that fallow periods were being reduced. However, there was no visible evidence of physical land degradation or abandoned land and settlements which would imply the systems had broken down.

27. In an examination of three case studies using remote sensing images and socio-economic data for West Java (Indonesia), Gombe (in the Savanna belt of North Nigeria) and Ekiti-Akoko (in the tropical rainforest zone of South Nigeria), Jagannathan (1989) shows that in situations of rapid population growth ecological change occurred largely in response to economic and institutional policies. Both the poor and non-poor responded to these policies which stimulated the development of the rural economy. In none of the study areas did population growth lead to mining of natural resources for survival or subsistence.

28. In West Java, where population densities are very high, public policies played an important role in promoting agricultural intensification and higher farm incomes. Although more than half of West Javan households were landless, rural poverty decreased as the landless poor benefited from growth in non-farm income-earning opportunities, particularly in the tertiary sector. The growth in these activities was stimulated by a combination of factors, including higher farm incomes which led to increased demand for consumer goods and services; public investment in transport and communications which contributed to increased population mobility and market integration between villages and cities; expanded health and education facilities which improved work-force participation rates; and special incentives for non-agricultural activities targeted to specific groups such as women traders and artisans. Changes in natural resource use were only indirectly induced by population or poverty-related factors. The Indonesian agricultural development programme, focusing on intensification of paddy production and expansion of tree crops, was based on sound land use planning. The main environmental problems in rural areas were due to some mining of aquifers and misapplication of mineral fertilizers and pesticides. Population movements to poor urban settlements, however, led to overexploitation of nearby common lands for fuelwood and pollution of rivers with untreated waste. Economic development also stimulated demand for improved housing, resulting in over-extraction of sand and gravel from riverbeds and felling of trees and bamboo.



29. The Nigeria case studies also indicated that land clearing for agriculture took place mainly on the more suitable land. Production increases were due more to expansion in area under both rainfed and irrigated crops than to intensification. Growing population was largely absorbed by expanding employment in the informal sector, particularly in urban centres, stimulated by an improvement in the overall performance of the economy, social and physical infrastructural investment, and public policies providing economic incentives for private investment. The most serious examples of land degradation were around urban settlements and accessible forest reserves.

(iii) Agricultural Productivity, Resource Degradation and Poverty

30. In order to assess the interactions between agricultural productivity, resource degradation and rural poverty, a distinction is drawn between two contrasting situations: (a) cases where adoption of improved technologies led to productivity growth and declining poverty, and (b) cases of declining productivity due to lack of suitable technologies or failure to adopt available technology.<sup>65</sup>

31. The first type of case, with increased productivity, was more prevalent in well-endowed agro-ecological areas, and was typified by the adoption of yield-increasing technologies (seeds, fertilizers, pesticides), particularly in association with irrigation development. Evidence reviewed in Chapter 2 suggests that both poor and rich farmers benefited from these improved technologies, though there was usually a time-lag in adoption by the poor.

32. Productivity-enhancing technologies often led to serious resource degradation. While the major causes of salinization and alkalinization of irrigated lands were over-use of irrigation water and lack of adequate drainage, inappropriate production technologies also led to depletion of groundwater resources or their contamination with agro-chemicals, increased resistance of crop pests to pesticides, invasive weed growth, and soil erosion. Many of these problems represented the cumulative effects over time of harmful practices by either a small number of large farmers or a large number of smallholders.

33. Indonesia's experience with pest management provides an example of how extensive use of pesticides can effect sustainability. During the 1970s and early 1980s small farmers, encouraged by official policy and price subsidies, used heavy applications of broad spectrum pesticides to protect their rice crops. However, these pesticides also destroyed natural predators with the result that in 1986 the brown planthopper became a serious threat to the entire Javan rice crop. The government responded by banning 57 broad spectrum pesticides, reducing pesticide subsidies and introducing the ecologically safer practices of integrated pest management. The first country to introduce such a programme on a nationwide scale, Indonesia's lead was followed by a number of other countries, for rice and other crops. Similarly, growing concern about the harmful environmental effects of inappropriate fertilizer use led many countries to undertake integrated plant nutrition programmes which increased efficiency while reducing pollution.

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<sup>65</sup> This section further develops the discussion in FAO (1991e).



34. Although techniques for water conservation, control of waterlogging and rational use of fertilizers and pesticides are well established, the introduction of improved drainage systems, water-saving technologies and better irrigation management often was not effective. However, WCARRD country reports from Haiti, Syria, Tunisia and United Arab Emirates discussed recent policy and investment initiatives aimed at conserving water resources.

35. In the second case, declining productivity, the inter-relationships between productivity, resource degradation and poverty were more explicit. Productivity decline was due mainly to reduced fallows, or expansion onto marginal lands, including steep slopes where inadequate soil management practices led to erosion and nutrient depletion. This situation was typical of the resource-poor, agro-ecological areas for which few improved technologies were available. When such land was cultivated more frequently than required for natural regeneration, initially there may have been an increase in land productivity (e.g. two crops instead of one every five years) but with gradually decreasing yields for subsequent harvests.

36. Declining productivity in marginal areas posed a policy dilemma, as several of the WCARRD country reports implied. On the one hand, it often made economic sense to concentrate limited resources for research and extension in the favourable areas where the biggest pay-offs were expected, in order to increase production, reduce imports and provide food at lower prices to the urban areas and to rural buyers of food. On the other hand, equity considerations demanded that greater attention be given to the resource-poor areas.<sup>66</sup>

37. Many WCARRD country reports indicated an attempt to tackle both simultaneously. However, results in resource-poor areas were generally disappointing and encountered a number of problems. First, there were no major breakthroughs in genetic research on crop varieties for unfavourable environments. Second, available soil conservation technologies often proved too costly for the poor. For instance, very high labour requirements for terrace construction often limited its adoption to those households with substantial male family labour, or with enough cash to hire additional labour and/or forgo opportunities for off-farm wage labour in the slack periods. Lack of money was cited as the main reason for not undertaking bench terracing by 87 percent of a sample of Javan upland farmers who had not adopted the technology.<sup>67</sup> Similarly, poor farmers were often unable to convert steep cultivated land to agro-forestry systems since they could not survive the long waiting period before the trees became productive. A third problem for small farmers in marginal areas arose from the fact that yield-increasing innovations in well-endowed areas generally led to increased national production. In the absence of opportunities to expand exports or reduce imports of these products, production increases resulted in lower producer prices. This harmed small producers who, facing declining productivity, were

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<sup>66</sup> For an appraisal of the specific needs and opportunities of fragile and high potential areas and the role of appropriate low external input or high input technologies, see Norse (1988). See also the Den Bosch Declaration and Agenda for Action on Sustainable Agriculture and Rural Development.

<sup>67</sup> Tampubolon and Sarigih cited in Hansen (1990).



unable to increase their marketed output. Fourth, there was a continuing failure to address the specific legal, economic and technological needs and problems of women farmers, who are often the dominant small-scale food producers.

(iv) Land Rights, Environment and Poverty

38. In many developing countries, population pressure of the poor in marginal areas was not so much the result of overall land scarcity as the inequitable distribution of land. Moreover, land concentration appeared to be increasing in some countries in response to new market opportunities and technological advances. Paradoxically, this process was sometimes accelerated by measures designed to halt environmental degradation by the poor. Case studies in India and Haiti, for example, found instances where land improvements which increased land values led the owners to impose more exploitative tenancy terms or to farm the land themselves. Farm forestry programmes in India provided absentee landowners with opportunities to plant marginal land with trees requiring little labour, thus circumventing legislation to transfer unused land to the poor (Molnar, 1989).

39. As discussed in Section 6.3 (i) and in Chapter 2, various land reforms including large settlement schemes in Latin America and Indonesia were introduced, among other objectives, to relieve demographic pressure on fragile environmental resources. However, the results were often disappointing and frequently failed to establish sustainable farming systems for the poor. Resettlement schemes often led to acute land conflicts with the indigenous populations. In frontier areas, overlapping and conflicting land rights that included customary rights, official land titles, illegal land markets and squatter rights, militated against sustainable land improvement and farming practices. Burkina Faso's WCARRD report also commented that environmental degradation was exacerbated by conflicting land rights, with herdsmen and cultivators competing for land in a setting of rapid population growth.

40. In their WCARRD reports, Zimbabwe, Costa Rica, Ecuador and the Islamic Republic of Iran described efforts aimed at the rational use and conservation of natural resources in conjunction with their agrarian reform programmes. Zimbabwe reported that some 230 000 ha in an arid agro-ecological zone would not be redistributed until appropriate farming systems could be developed. Ecuador was attempting to establish maximum and minimum holding sizes, taking account of ecological zone, soil characteristics and degree of demographic pressure. Ghana, Côte d'Ivoire, Indonesia, Malaysia and the Philippines reported attempts to develop effective programmes to prevent massive, environmentally destructive encroachments of land-poor shifting cultivators into forest lands. Thailand reported on a programme to provide squatters in state-owned forests with titles and assistance to develop ecologically sound agro-forestry systems.

41. The WCARRD country reports reflected a growing consensus that insecure land rights tended to encourage destructive or negligent practices in favour of short-term gains. Indonesia, Brazil, Honduras and Senegal stressed the importance of secure tenure in the adoption of soil conservation techniques and reforestation. The relationship between tenure security and land improvements was further complicated by the use of land as collateral for credit needed to finance land improvements and



conservation. Evidence reviewed in Chapter 2 clearly indicates that in Africa titling did not have a significant impact on credit while in Thailand and Costa Rica titled land used as loan collateral was an important factor in enhancing access to credit for land improvements.

42. The WCARRD reports as well as recent literature indicate mounting international interest in arresting the erosion of common property resources (CPRs) and strengthening and extending effective CPR management systems. It was increasingly recognized that rights to CPRs - particularly water, grazing and forests - did not imply open access but rather a distinct set of historic rights mediated through kinship ties and community members. They were generally subject to complex, but usually flexible systems of community management which regulated and rationed their use in an equitable and ecologically sound manner. Since CPRs tended to be of particular importance to landless and near-landless families, erosion of access to CPRs and their environmental degradation had serious implications for the survival of the rural poor.

43. CPRs were subject to many pressures in recent decades, which included rising or shifting populations, technological innovations and market penetration, all of which led to changes in and intensification of CPR use. Public policies were another source of pressure, either directly through privatization or nationalization of CPRs, or indirectly through construction of physical infrastructure, tax and price incentives, and subsidies for mechanized production, which tended to provide opportunities and incentives for encroachment on CPRs.

44. Evidence of the relative success or failure of community responses to adapt to and deal with these pressures is mixed. Jodha's (1986) study in India attributes degradation and declining productivity of CPRs largely to privatization. Studies of wool producers in the Peruvian Andes point to overuse of CPRs due to population growth (FAO, 1991d). A detailed review of pastoral systems in Sudan and West Africa also indicates that ecological sustainability was in many cases threatened by growth and shifts in population as well as the spread of both peasant and large-scale commercial production (Swift, 1988). For example, a mechanized wheat scheme which took over land of the Barabaig, a semi-nomadic pastoralist group in Tanzania, destroyed their long-established, ecologically sound land management system. Meanwhile, the mechanized scheme led to soil erosion, elimination of the most productive grasses for grazing, and dependence on imported inputs and foreign subsidies (Lane, 1990). Encroachment on indigenous tribal CPRs in the Amazon Basin - for large-scale timber or mineral extraction as well as agricultural estates and ranches - was also well documented.

45. Other evidence, however, points to the ability of some CPR management systems to resist or adapt to new demands. For example, the rules governing access to CPRs in the Tigray, Ethiopia, were changed to prevent overuse of resources under conditions of rising population, resulting in the migration of the surplus population (FAO, 1991d). The highly organized and integrated agro-pastoral system in the inner Niger delta in Mali accommodated population growth, with densities about five times as high as in the ecologically similar Senegal river flood plain



where institutions regulating resource use were not so well developed (Swift, 1988). Various NGO and government initiatives helped revive and strengthen community management of forest resources and watersheds in India, particularly in the hill regions (Arnold and Stewart, 1991).

(v) People's Participation

46. A growing body of evidence shows that people's participation, in its collaborative and/or adversarial forms, is a vital factor in successful environmental conservation or rehabilitation. Efforts in recent years increasingly shifted to supporting and strengthening existing community organizations and creating new local institutions where they did not exist, to manage CPRs.

47. Participation was often viewed mainly in terms of its collaborative role in mobilizing large numbers of people for rural development or environmental conservation projects. However, many of these projects failed to achieve their objectives since the beneficiaries were excluded from the decision-making and planning processes, and were thus unable to ensure that the projects reflected their own goals, values and indigenous technical knowledge. Stahl's (1990) study of a large food-for-work conservation project in Ethiopia provides a good illustration of these weaknesses. When the farmers refused to maintain the conservation work after food incentives were discontinued, it became clear that their relationship to the project had been that of paid labourers and that their reluctance was closely tied to insecurity of land tenure and exhaustion after two major famines and years of civil war.

48. Collaborative principles were also the basis of traditional CPR management systems, which were often governed by detailed rules and sanctions for non-compliance. Success in group resource management was contingent on a well-defined common interest among community members, and support of, if not actual management by, the traditional decision-makers in the community.

49. The importance of strong, cohesive community organization in maintaining sustainable common grazing lands and irrigation water was clearly demonstrated by Wade's (1987) study of 41 villages in Andhra Pradesh (South India). Of particular significance was his finding that the villages lower down a watershed were much more likely to have effective community action. He attributes this to the considerably greater potential for conflict since the water supplies in these lower villages were less plentiful and reliable while the soils were better. These led to more productive common pastures and greater supplies of crop residues and stubble, in turn increasing the stock of animals within the villages and demand by herdsman from drier areas for seasonal grazing after harvest. In these downstream villages, there was greater potential gain to be had from cooperating in a more complex community management system that reduced the possibility of disputes.

50. Activist or adversarial initiatives took the form of popular resistance to public or commercial activities which threatened the livelihoods of the poor. The Penan, a hunting and gathering community in Malaysia, obtained some concessions as a result of a campaign to halt large-scale logging on their traditional lands (Vivian, 1991). Kurien (1991) reports on fishermen on the Kerala coast in India who successfully organized to fight overfishing in common waters by commercial fishing



companies. In India, Chipko and a similar resistance movement among the Bhil tribals to save remaining forested areas were especially noteworthy for the heavy involvement of women. Other well-known grassroots initiatives included those of the rubber-tappers and other indigenous groups in the Brazilian rainforest.

51. Several WCARRD country reports were concerned with these issues and indicated a deliberate shift to decentralize CPR management to community decision-making bodies. Research and extension programmes also accorded greater respect to and built on local knowledge in sustainable CPR management. Progress in these areas was apparent in the community forestry initiatives mentioned in the WCARRD reports from Burkina Faso, Costa Rica, the Philippines and Sri Lanka.



CHAPTER 7

LESSONS FROM EXPERIENCE

A number of key lessons can be derived from the main findings and conclusions of the report, as follows:

(a) Rural Poverty Alleviation:

- (i) Negative effects of structural adjustment programmes on the rural poor can be effectively minimized through appropriate government policies. (Ch. 1, para. 23).
- (ii) Impressive improvements in social indicators (such as life expectancy, infant mortality rates, primary school enrolments and anthropometric measures of malnutrition) and a decline in the proportion of the poor in the total rural population can be achieved through increased public expenditure for social services and improved targeting to the poor, even in low- and lower middle-income countries. Growth per se is not sufficient to alleviate poverty unless its benefits are widely disseminated through public provisioning of social services, employment creation and supportive economic and sectoral policies. (Ch. 1, paras. 24-39, 41-56).
- (iii) The under-five mortality rate falls significantly with rising female literacy and, to a lesser extent, improved access to general health services and safe drinking water. (Ch. 1, para. 32).
- (iv) Considerable disparities in social indicators between rural and urban areas and between males and females with particular respect to school enrolment and literacy rates indicate that much greater effort is required in many countries to remove the bias against rural areas and women. (Ch. 1, paras. 33-35).
- (v) Public participation in both collaborative and adversarial ways is often crucial in influencing the direction and effective implementation of poverty-oriented government policies. (Ch. 1, para. 42).

(b) Agrarian Reforms:

- (i) There is a strong justification for agrarian reforms on grounds of equity in view of the inequitable distribution of land in many parts of the world. The effective implementation of redistributive land reforms is, however, contingent on political will and introduction of complementary



policies and measures to provide reform beneficiaries with improved technologies and supporting services. (Ch. 2, paras. 5-25).

- (ii) Although tenure security is vital for promoting long-term agricultural investments including environmentally sustainable land improvements, formal land ownership titles are not essential for tenure security. Long-term leases or secure rights under communal tenure systems serve the same purpose. Studies in Africa suggest that rather than restricting land sales and rental markets with tenancy legislations or establishing costly land registration and titling programmes, policy-makers can better assist by providing an appropriate legal and institutional environment for more efficient transactions. (Ch. 2, para. 31).
- (iii) Land titling does not appear to have a discernible impact on credit use in Africa though it can promote small farmers' access to credit in other regions. (Ch. 2, paras. 32-34).
- (iv) Land titling may adversely affect the poor: wealthier individuals sometimes obtain greater rights while the usual practice of registering land in the name of household heads tends to reduce women's customary rights over land use and transfer. (Ch. 2, paras. 35-36).
- (v) Where opportunities outside agriculture are few and market imperfections pervasive, legislation restricting land sales is likely to fail. (Ch. 2, para. 37).
- (vi) Since common property resources (CPRs) provide vital sources of food, fuel, fodder and other natural products for the poor, measures to strengthen community rights to and management of CPRs are important elements in poverty alleviation strategies. (Ch. 2, paras. 37-38).

(c) Employment:

- (i) Agricultural growth plays a key role in promoting non-farm activities and rural employment. Within non-farm activities, services and commerce are often more important than household manufacturing. (Ch. 3, para. 7).
- (ii) Efforts to rejuvenate and strengthen traditional community resource management systems operated by pastoralists, artisanal fisherfolk and people dependent on forest-based livelihoods have generally proved effective, low-cost ways of protecting/promoting employment and incomes for the poor. (Ch. 3, paras. 10-17).



- (iii) There is growing recognition of the important roles played by women in household and own-account agricultural production and processing and in farm and non-farm wage labour. Since they are more likely than men to be engaged in casual labour contracts than permanent ones, generally earning 30-40 percent of men's wages, there is a need for further measures to reduce the bias against women. (Ch. 3, paras. 18-22, 33).
  - (iv) Whether or not agricultural labourers were better off during the reporting period cannot be established conclusively from the limited data available. Higher wages were not necessarily accompanied by higher employment. However, evidence suggests that the spread of modern agricultural technologies (especially irrigation and HYVs), infrastructure development and improved education and nutrition generally have a positive effect on wage rates. (Ch. 3, paras. 23-33).
  - (v) Public employment schemes have proved effective means of countering temporary drops in labour demand occurring in periods of structural adjustment or natural disasters such as famines. Experience indicates the need for careful targeting to reach the poorest and most vulnerable men and women. (Ch. 3, paras, 34-39).
  - (vi) Greater attention is needed to remove barriers to the effective implementation of labour legislation. (Ch. 3, paras. 40-41).
  - (vii) More innovative and concerted efforts are needed to reach rural youth and especially women in skill formation training programmes. (Ch. 3, paras. 42-43).
- (d) Markets, Prices, Inputs and Services:
- (i) Agricultural policy reforms involving a more limited government role (e.g. price liberalization, increased competitiveness and privatization) are generally more successful if governments exercise an enabling role in ensuring farmers' access to inputs and credit as well as transportation and market infrastructure. (Ch. 4, paras. 2-6)..
  - (ii) Experience indicates that encouraging the adoption of agricultural innovations and improved practices requires more than the provision of subsidized inputs. A whole range of integrated support is required including credit, services, research, extension, infrastructure. (Ch. 4, paras. 8-14).



- (iii) Special measures are generally needed to promote technology adoption by small farmers and check income disparities between regions which adopt modern technologies successfully and those which do not. Such measures include provision of credit and extension, land reform and measures to increase tenure security, and research on small farmer conditions in resource-poor agro-ecological areas. Particular attention is required to address women's special problems. (Ch. 4, paras. 15-18).
- (iv) A number of innovative programmes operating at the village level and often based on group lending and "social collateral" have proved effective in lowering transaction costs and default risks, thereby increasing credit access by small rural borrowers. (Ch. 4, paras. 19-37).

(e) Human Resource Development:

- (i) Evidence suggests that disparities between rural and urban areas in the provision of health services, sanitation and safe drinking water can be reduced at all income levels through appropriate public policies. (Ch. 5, paras. 2-6).
- (ii) Educational expenditures have often tended to favour higher rather than primary education. Evidence that primary schooling improves farm productivity, and that female education is an important variable in raising child health and nutritional status and contributing to fertility decline, indicates the need in many countries to increase budgetary allocations to primary education and to promote women's education. (Ch. 5, paras. 7-10).
- (iii) The needs of women farmers for agricultural extension services would be better served by increasing the currently small number of female extension staff and working with groups of rural women to reduce problems of communication between male extension staff and female farmers. (Ch. 5, paras. 14-16).
- (iv) Agricultural extension services would better serve small farmers if farmer/community participation in extension programme development and implementation were promoted. (Ch. 5, paras. 18-19).
- (v) The effectiveness of grassroots organizations (cooperatives, producers' associations, women's groups, for example) can be enhanced by promoting self-reliant, member-controlled people's organizations and strengthening the participation of the rural population - including women - in decision-making processes. (Ch. 5, paras. 20-25).



- (vi) In some cases projects that work with small, socially homogeneous groups are more effective than formal organizations in reaching the most disadvantaged rural groups. NGOs can play an important role in stimulating and supporting such initiatives. (Ch. 5, paras, 26-27).
- (vii) Since women generally represent a very small proportion of the membership of formal rural organizations, special attention is needed to promote their participation, particularly in decision-making processes, and to support development activities of women's groups. (Ch. 5, para. 28).

(f) Environment:

- (i) Public policies play a crucial role in influencing the distribution of natural resources and their use by both the poor and non-poor. Tax and subsidy policies often promoted unsustainable ranching or mechanized cultivation on forest or marginal land, and failure to adopt water conservation practices in irrigation schemes. More finely tuned price and other incentives are needed to encourage the shift to more ecologically sound agro-forestry-livestock systems. (Ch. 6, paras. 15-22).
- (ii) In conditions of increasing population density and land scarcity, public policies can play an important role in promoting judicious intensification of production and improved farming systems, with a view to avoiding environmental degradation. In such conditions, creation of off-farm employment opportunities can also be of particular importance. (Ch. 6, paras. 25-29).
- (iii) Public policies, including subsidy and pricing policies and extension, can help reduce environmental degradation caused by careless or over-use of productivity-enhancing technologies such as irrigation water and agro-chemicals. Environmentally sound practices or integrated pest management and integrated plant nutrition can improve efficiency while reducing pollution. (Ch. 6, paras. 31-34).
- (iv) Greater attention is needed, both on environmental and equity grounds, for research and development of appropriate farming systems and technologies for resource-poor, environmentally degraded agro-ecological areas. It is also essential to provide the necessary agricultural inputs, services and infrastructure to enable the farmers in such areas to adopt improved farming systems, production technologies and conservation practices. (Ch. 6, paras. 35-37).



- (v) In conditions of marked inequalities in land distribution, land reforms can play an important role in relieving population pressure among the poor on environmentally fragile resources. Measures to improve tenure security also provide incentives for undertaking land improvements and conservation practices and the collateral for credit for financing the investment. (Ch. 6, paras. 38-41).
- (vi) Policies which support and encourage community management of common property resources (CPRs) generally lead to more ecologically sound management while protecting the access of the poor to vital sources of food, fodder, fuel and other natural products. (Ch. 6, paras. 42-45).
- (vii) People's participation is vital to successful environmental conservation or rehabilitation. Efforts are therefore needed to support and strengthen existing community organizations or create new local institutions where they do not exist, to manage CPRs and encourage environmentally sound practices on private land. (Ch. 6, paras. 46-51).



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Appendix 1

Country Reports submitted for the Third WCARRD Progress Report

AFRICA

Benin  
Burkina Faso  
Burundi  
Central African Republic  
Chad  
Comoros  
Congo  
Côte d'Ivoire  
Ethiopia  
Gambia  
Guinea  
Kenya  
Madagascar

Malawi  
Mali  
Mauritania  
Mozambique  
Nigeria  
Niger  
Rwanda  
Senegal  
Seychelles  
Sudan  
Tanzania  
Togo  
Zanzibar, Tanzania  
Zimbabwe

ASIA AND PACIFIC

China  
Fiji  
Indonesia  
Korea, Republic of  
Malaysia  
Myanmar

Pakistan  
Philippines  
Sri Lanka  
Thailand  
Vanuatu

LATIN AMERICA AND CARIBBEAN

Barbados  
Bolivia  
Brazil  
Chile  
Costa Rica  
Cuba  
Ecuador  
El Salvador  
Guatemala

Haiti  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Paraguay  
Peru  
Trinidad & Tobago  
Uruguay

NEAR EAST

Algeria  
Bahrain  
Cyprus  
Iran, Islamic Rep. of  
Iraq  
Jordan  
Morocco

Oman  
Qatar  
Saudi Arabia  
Syria  
Tunisia  
Turkey  
United Arab Emirates



Regional Classification and List of  
Developing Countries in the WCARRD Report

Sub-Saharan Africa	Near East/ North Africa	Latin America & the Caribbean	Asia and the Pacific
1. Angola	1. Afghanistan	1. Antigua & Barbuda	1. Bangladesh
2. Benin	2. Algeria	2. Argentina	2. Bhutan
3. Botswana	3. Bahrain	3. Bahamas	3. Cambodia
4. Burkina Faso	4. Cyprus	4. Barbados	4. China
5. Burundi	5. Djibouti	5. Belize	5. Cook Islands
6. Cameroon	6. Egypt	6. Bolivia	6. Fiji
7. Cape Verde	7. Iran, Islamic Rep. of	7. Brazil	7. India
8. Central African Rep.	8. Iraq	8. Chile	8. Indonesia
9. Chad	9. Jordan	9. Colombia	9. Korea, Dem. Peoples Rep.
10. Comoros	10. Kuwait	10. Costa Rica	10. Korea, Rep. of
11. Congo	11. Lebanon	11. Cuba	11. Laos
12. Côte d'Ivoire	12. Libya	12. Dominica	12. Malaysia
13. Equatorial Guinea	13. Morocco	13. Dominican Rep.	13. Maldives
14. Ethiopia	14. Oman	14. Ecuador	14. Mongolia
15. Gabon	15. Qatar	15. El Salvador	15. Myanmar
16. Gambia	16. Saudi Arabia, Kingdom of	16. Grenada	16. Nepal
17. Ghana	17. Syria	17. Guatemala	17. Pakistan
18. Guinea	18. Tunisia	18. Guyana	18. Papua New Guinea
19. Guinea-Bissau	19. Turkey	19. Haiti	19. Philippines
20. Kenya	20. United Arab Emirates	20. Honduras	20. Samoa
21. Lesotho	21. Yemen	21. Jamaica	21. Solomon Islands
22. Liberia		22. Mexico	22. Sri Lanka
23. Madagascar		23. Nicaragua	23. Thailand
24. Malawi		24. Panama	24. Tonga
25. Mali		25. Paraguay	25. Vanuatu
26. Mauritania		26. Peru	26. Viet Nam
27. Mauritius		27. St. Kitts & Nevis	
28. Mozambique		28. St. Lucia	
29. Namibia		29. St. Vincent & the Grenadines	
30. Niger		30. Suriname	
31. Nigeria		31. Trinidad & Tobago	
32. Rwanda		32. Uruguay	
33. Sao Tomé & Principe		33. Venezuela	
34. Senegal			
34. Seychelles			
35. Sierra Leone			
36. Somalia			
37. Sudan			
38. Swaziland			
39. Tanzania			
40. Togo			
41. Uganda			
42. Zaire			
43. Zambia			
44. Zimbabwe			