

## PREFACE

Bangladesh Resident Mission (BRM) of the Asian Development Bank (ADB) conducted a study entitled “An Assessment of Poverty Reduction Objective of ADB’s Operations in Bangladesh” in 1999 as part of its Economic and Sector Work Program. The purpose of the study is to assist the Government and the ADB in jointly implementing the Partnership Agreement on Poverty Reduction (PAPR) which was signed between the Government of Bangladesh and the Asian Development Bank on 3 April 2000.

The study analyzes four potential channels to influence poverty in the Bangladesh context: growth projects, human development, microcredit-based self-employment, and income transfer programs. Bangladesh faces four major challenges in the broad area of poverty. The first challenge relates to the income-dimension of poverty: the pace of reduction has been too slow; it needs to be accelerated and sustained. The second challenge pertains to the human poverty dimensions: despite considerable progress, the overall record is yet to be comparable vis-à-vis some regional countries. The third challenge relates to the significant differentiation in both income and non-income dimensions of poverty across various regions within the country. The fourth challenge is about having a society where distribution of incomes and social opportunities would become more equitable over time.

The report reveals that development of human capital has relatively the largest impact on poverty, followed by investments in physical infrastructures such as road and electricity. However, available evidence is also suggestive of the synergies that exist among different growth projects, between growth and social sector projects, and between growth and microcredit projects. There is a need for balancing between investments in social infrastructure (education, health and nutrition) and physical infrastructure (road, electricity, drainage and flood control) as they both provide critical inputs in overall process of sustainable poverty reduction. One key unanswered question is how to make best use of an “optimal mix” of anti-poverty policy instruments, and what ADB can do to enhance the poverty impact of its operations.

According to the study, poverty impact of the road projects of ADB, as suggested by the wage effects would be considerable. The poorest of the poor were benefited by the implementation of such projects. The evidence also demonstrates significant poverty alleviating effects of the area development projects with irrigation and credit-for-the-poor components. Given the increasing importance of urban sector in national poverty alleviation, rising share of urban portfolio in ADB projects has been a shift in the right direction.

The report also identifies some sectors which merit special attention but has so far received less emphasis in the ADB’s program of assistance for Bangladesh. Given the relatively neglected status of the regional factor in general in government’s policy and planning, ADB, as one of the key development partners, can play an influential part in this area. Greater emphasis needs to be given to regional and sub-regional issues, which were virtually missing in ADB’s past lending strategy. There is also a greater need for ADB support in ensuring better disaster preparedness and in general developing a more people-centered approach in managing disaster. ADB should increase its gender focus through the implementation of road, water and forestry sector projects where the scope for gender involvement is considerable, especially in maintenance programs.

Mr. Binayak Sen, Senior Research Fellow, Bangladesh Institute of Development Studies (BIDS) was engaged to conduct this study. Mr. Rezaul Karim Khan, Economist, BRM designed, supervised and coordinated the study. The comments, suggestions and valuable inputs provided by the ADB headquarters staff on the draft report, and feedback received at the workshops both at headquarters and Bangladesh Institute of Development Studies to discuss the draft report are gratefully acknowledged.

Phiphit Suphaphiphat  
Resident Representative  
Bangladesh Resident Mission  
Asian Development Bank

Dhaka, June 2000

## ACRONYMS

ADB	:	Asian Development Bank
ADP	:	Annual Development Program
BADC	:	Bangladesh Agricultural Development Corporation
BBS	:	Bangladesh Bureau of Statistics
BIDS	:	Bangladesh Institute of Development Studies
BRAC	:	Bangladesh Rural Advancement Committee
BRDB	:	Bangladesh Rural Development Board
CHT	:	Chittagong Hill Tracts
COS	:	Country Operational Strategy
DTW	:	Deep Tube Well
GOB	:	Government of Bangladesh
HES	:	Household Expenditure Survey
HPI	:	Human Poverty Index
HYV	:	High Yielding Variety
IFPRI	:	International Food Policy Research Institute
LLP	:	Low Lift Pump
NGO	:	Non-Governmental Organization
PKSF	:	Palli Karma Sahayak Foundation
PPAR	:	Project Performance Audit Report
PCR	:	Project Completion Report
UNDP	:	United Nations Development Program
VGD	:	Vulnerable Group Development
VGf	:	Vulnerable Group Feeding
WFP	:	World Food Program

# CONTENTS

Executive Summary	i-iv
I. Routes to Poverty Alleviation	1
II. The Challenging Calculus of Poverty	2
III. Puzzles in Poverty: The Mismatch between Inputs and outcomes	9
IV. Relative Impact of Anti-Poverty Policy Instruments	11
A. Road, Electricity and poverty	11
B. New Technology in Agriculture and Poverty	13
C. Non-Agricultural Assets and Poverty	13
D. Education and Poverty	14
V. How Pro-Poor has been the Compositional Shift in ADB Lending?	15
A. Declining Share of Irrigation Projects	15
B. Re-defining ADB's Role in Agriculture	16
C. Putting More Emphasis on Human Capital	16
D. Physical Infrastructures as the Key Sector	17
E. Microcredit: Last, But Not the Least	17
F. Convergence with GOB Priorities	18
VI. Assessing the Impact of Selected ADB Projects	19
A. Poverty Impact of Road Projects	19
B. Poverty Impact of Integrated Area Development Projects	20
VII. Poverty Impact of Urban Projects	22
A. Heterogeneity of Urban Poor	23
B. Exploring Synergy from Urban-Rural Linkages	23
C. Workplace as Additional Entry-Point for Health	24
D. Exploring Sub-Contracting Linkages	24
E. Special Project for Street Children	24
VIII. Transition from Project to Policy Based Lending Institution	25
IX. Missing Dimensions in Current Approach: Concluding Remarks	26
A. Need for Balancing between "Social" and Physical" Infrastructures	26
B. Balancing Class, Gender, and Ethnicity in Anti-Poverty	27
C. The "Lead Agency" Factor	27
D. Looking beyond "the Border"	27
E. Enhancing Disaster Management Capacity	28
Tables 1-25	30-43
References	44

## Executive Summary

Income-poverty can be influenced via four channels: i) growth projects, ii) human development, iii) microcredit based self-employment, and iv) income transfer programs, often known as "safety nets". One key unanswered question is how to make best use of an "optimal mix" of anti-poverty policy instruments and what can ADB do to enhance the poverty impact of its operations?

Bangladesh faces four major challenges in the broad area of equity. The *first* challenge relates to the income-dimension of poverty: the pace of reduction has been too slow; it needs to be accelerated and sustained. The incidence of malnutrition remains at an unacceptably high level notwithstanding some progress in income-poverty. It is no longer adequate to engage in debate about the directionality of change in poverty. The question that looms large is: how to eradicate income-poverty in the shortest possible time.

The *second* challenge pertains to the human poverty dimensions. While some considerable progress has been made over the last two decades, the overall record turns pale when measured against some suitable comparators. Income-poverty and human-poverty dimensions need to be tackled independently according to their importance.

The *third* challenge relates to the significant differentiation in both income and non-income dimensions of poverty across various regions within the country. Income-poverty in major cities such as Dhaka and Chittagong is about half that observed in smaller cities such as Khulna and Barisal. Average progress in human development measured at national level also conceals significant variation across regions. Rajshahi division has the lowest level of adult literacy, life expectancy at birth and child immunization rate. It has also the highest level of income-poverty. All these show the growing importance of targeting the *poor areas* both in ADB lending and Annual Development Program (ADP) of the Government of Bangladesh (GOB). Given the relatively neglected status of the regional factor in general in GOB policy and planning, one has to give due weight to ethnicity consideration as in matters relating to Chittagong Hill Tracts (CHT)—the government clearly needs to be made more sensitized about the disparity issue. ADB, as one of the key development partners, can play an influential role in this process.

The *fourth* challenge is about having a society where distribution of incomes and social opportunities would become more equitable and democratic over time. Policies that can moderate the recent trend of rising inequality need to be understood better. The scope for land-redistribution (except as applied to *char* and *khas* lands) is very limited given the adverse land-person ratio. Investment in human capital and development of rural non-farm sectors can be compensatory in promoting greater equity in the system.

Poverty reduction was minimal despite considerable flow of resources into rural areas through budgetary allocations as well as via massive expansion of traditional microcredit. This naturally questions the legitimacy of the current paradigm, which puts excessive reliance on non-government organization (NGO)-led credit approach. Opportunity costs of the scarce resources channeled through NGOs need to be weighed and alternative modes of resource use explored. This is not to deny the importance of microcredit for the poor. Undoubtedly, the proven innovativeness associated with microcredit has more than justified its intrinsic worth. The question is whether poverty alleviation in Bangladesh should be defined in future as "microcredit plus", or the real need of the hour warrants something beyond that. The rather

lop-sided attention that these "targeted programs" currently enjoy must be re-considered to pave the way for more creative alternatives to emerge.

The attempt to rank the relative impact of various anti-poverty policy instruments yields the following results. Development of human capital has the largest impact on poverty, followed by investments in physical infrastructures such as road and electricity. The role of new high yielding variety (HYV) technology comes next in importance. While the existing studies show some positive income-effects of microcredit, the elasticity is typically low, possibly reflective of the low productivity that characterizes most of the activities financed by it.

Available evidence is also suggestive of the synergies that exist among different growth projects (road, electricity, new technology, for instance), between growth and social sector projects (the idea of combining physical infrastructure and human development follows from this), and between growth and microcredit. On the latter topic, we shall only add (following Osmani 1989) that further expansion of credit for the poor should be seen in the broader context of infrastructure development. Such a packaging (along with rural and human development) will not only enhance the return to microcredit schemes and contribute to its viability, but also accelerate the rate of poverty reduction.

The shift in the ADB's lending, as observed between 1978-87 and 1988-1997 shows declining importance of agriculture (dropping from 48 to 30 percent) and energy (decreasing from 29 to 15 percent). Greater emphasis is now being given to social infrastructure (rising from 6 to 25 percent), transport and communications (increasing from 13 to 22 percent). The importance of several factors in ADB loan portfolio is revealed when more disaggregated data for 1978-87 and 1988-97 is taken into consideration. These are education (11 percent), road (20 percent), electricity (14 percent), and, to a lesser extent, microcredit (roughly 2 percent).<sup>1</sup> While the share of education should go up a little bit (receiving at least an equal amount allocated to roads), one gets the impression the broad pattern is consistent with the ranking of various anti-poverty instruments derived earlier.

Two sectors which merit special attention but has so far remained de-emphasized in ADB's development concerns, relate to non-crop agriculture (with strong growth potentials) and health (with implications for alleviating poverty through its influence on income erosion). Even as peripheral concerns, they must get active support in ADB's financial and non-financial assistance/efforts.

There is a broad convergence of the priorities set by ADB with those of GOB. This is revealed when sector distribution of ADB lending in the recent period is compared with the pattern of ADP allocations in the Fifth plan. One striking moment of contrast between the two relates to the relative position of social sectors. GOB plans to allocate more resources to "social infrastructure" (35 vs. 25 percent for ADB as observed during 1988-97). Since investments in education, health and nutrition have considerable elements of public goods, it is only natural that the state should play the key role in these areas. These elements significantly improve the long - term growth prospects of the economy. In contrast, ADB puts more emphasis on physical infrastructures as embodied in "transport and communications" (22 vs. 17 percent in case of GOB). Development of these sectors has positive crowding -in effects for the overall private investments and would help to stimulate future growth even in the short to medium term. Since

---

<sup>1</sup> The order of magnitude of resources allocated for these sectors are shown in parentheses.

both "social" and "physical" infrastructures are essential ingredients, balancing between the two sectors represents the central task in the Country Operational Strategy (COS) of ADB.

Poverty impact of the road projects of ADB, as suggested by the wage effects, would be considerable. The poorest of the poor were benefited by the implementation of such projects. In some cases, the wage impact may be higher than is usually observed in case of microcredit projects.

The evidence also amply demonstrates the poverty alleviating effects of the area development projects such as Northwest Rural Development Project with irrigation and credit-for-the poor components.

Given the increasing importance of urban sector in national poverty alleviation, the rising share of urban portfolio in ADB projects have been a shift in the right direction. Within the urban sector, the poverty level is much higher in small cities than in big cities. This justifies the greater emphasis being given by ADB to the development of small and secondary towns. However, differential demands of various categories of urban poor need to be conceptualized better. At the credit intervention level, what is needed is a combination of three distinct types of interventions: microcredit for the urban poorest, microenterprise loans for the moderate poor, and credit support for the urban small-scale industries (with emphasis on hired labor). These interventions have potential sub-contracting linkages which needs to be kept in view.

Urban health interventions should combine area-based (slums and squatters) approach with workplace-based approach. The exclusive slum-based approach to urban poverty alleviation may miss an important segment of the urban poor (women workers of readymade garments for instance) who may not live in slums. The workplace-based approach is now being applied to annual health check-up of readymade garments workers implemented through NGOs such as Bangladesh Rural Advancement Committee (BRAC) and Gonoshasthya Kendra.

The case of street children in urban areas as the most vulnerable section merits priority attention in designing direct anti-poverty interventions. ADB can provide support to some NGOs who have already started working in this area.

There is a need for balancing between investments in social infrastructures (education, health and nutrition) and physical infrastructures (road, electricity, drainage and flood control) as they both provide critical inputs in the overall process of sustainable poverty alleviation. The synergies between the two need to be explored in full.

Nutrition and health are the most neglected items within the ADB program for support to human capital development. Nutrition is almost overlooked and health is, until recently, usually associated with family planning. The category of "human capital", as it is used in the Project Completion Report (PCR) and the Project Performance Audit Report (PPAR), is being associated with education in 90 percent cases, and in only 10 percent cases does one see some relevance for core health care related interventions. While allocating resources to social sector projects, ADB should be more careful in adopting a balanced approach recognizing the role of all three elements: education, health care and nutrition for the poor.

ADB should increase its gender focus through the implementation of road, water and forestry sector projects where the scope for gender involvement is considerable, specially in maintenance programs. Women can play a strong role as direct beneficiaries in livestock and fishery sectors. Their involvement in health and nutrition projects would also be crucial.

Following the Peace Accord, the development opportunities have expanded in CHT and ADB should exploit in full the new situation. Involvement of ADB in this area is also going to be important from the view-point of reducing regional disparity in poverty.

The complex nature of ADB's involvement in a variety of activities demands that greater attention be paid to the institutional aspects of collaboration. Given the misgovernance in many of the poverty alleviation projects, ADB should feel discouraged to enter into a sector (even if it is a priority one) if there is no effective "lead agency" either from GOB or from NGO's side.

The pace of poverty reduction cannot be accelerated within the given national boundary. The role of transboundary factors has increased over the nineties across the globe, and Bangladesh is no exception to this. Greater emphasis needs to be given to regional and sub-regional issues, which were virtually missing in ADB's past lending strategy. Considerable scope exists for sub-regional cooperation in the areas of water, energy, transit, trade, tourism, and environment, to name the few obvious channels. Note that the density of poverty is highest in the South Asia North East. Implementation of sub-regional schemes will help to accelerate the pace of poverty reduction in the entire area.

ADB should continue to support schemes which would take into account the "flood factor" in the designing stage of the projects over and above its direct involvement in projects explicitly aimed at flood control and drainage. More attention also needs to be paid to dredging and strengthening of the capillaries in order to reduce the intensity of flooding in the major rivers. There is also a greater need for ADB's support in ensuring better disaster preparedness and in general developing a more people-centered approach in managing disaster.

Poverty alleviation cannot be viewed merely as an agglomeration of various projects. Indeed, increased projectization of external assistance gives rise to coordination problems. This has led to a growing realization within ADB to shift away from a primarily project based lending institution to a primarily policy (and program) based lending institution. This shift will lead to enhanced institutional capacity for governance on the part of GOB as well.

Shift to the role of a more policy based institution which ADB is setting for itself would mean that it needs to play a more active part as a knowledge-based institution and "clearing house" in areas where its natural advantage lies. The operational policy research umbrella of ADB needs to be strengthened. Institutions such as the Bangladesh Institute of Development Studies (BIDS) can be effective local partners in undertaking programmatic policy research in the broad area of poverty alleviation encompassing public finance, health, environment, education, microcredit, monitoring and evaluation.

## I. Routes to Poverty Alleviation

There are many routes to poverty alleviation. This paper is about why some routes may matter more than the others.

Poverty has many roots. There are important synergies between income and non-income dimensions of poverty. In this paper we shall mainly discuss income-dimension of poverty.<sup>2</sup> The latter can be influenced principally through four different channels. It can be reduced indirectly via growth projects. It can also be directly influenced through the capability raising programs such as education and health. It can be alleviated through targeted self-employment programs such as micro-credit. And, finally, it can be moderated through safety net programs such as income transfers.

A considerable heterogeneity exists within each of these channels. Thus, growth projects can range from physical infrastructure provisioning via road, electricity, and irrigation, to development of labour-intensive exports. Education and health programs can be designed under alternative institutional modes such as government organizations, NGOs, or private arrangements; the emphasis can also differ in respect of specific issues of quality and targeting as in food for education and non-formal primary education. Equity in health care stands on its own as a thorny and unresolved policy issue till date.

Similarly, targeted employment programs can include traditional—usually of very small size—microcredit, with exclusive reliance on family labour and screening through peer groups. But, it can also involve (increasingly so in recent years) larger credit diffusion via microenterprise loans with less emphasis on group-based lending.

Post-monsoon relief programs clearly fall under the category of income transfer programs. However, some of the transfer programs such as food for work and vulnerable group development (VGD) are often difficult to distinguish from the targeted employment generation projects. Even though both the programs have built-in "transfer elements", they have undergone considerable evolution over time. For instance, the program, which was in the mid-eighties primarily a feeding program, has included since then a training component, resulting in the shift from vulnerable group feeding (VGF) to VGD. Similar logic underlies the shift from food for development as in CARE, or to rural development as in the case of World Food Program (WFP).

To re-cap, diversity of anti-poverty policy instruments cuts not only across the channels but also within each channel of poverty alleviation. The moot policy question that springs up is—which of the aforementioned channels should get priority given the objective of accelerated poverty reduction? This is by no means to deny the significant complementarities and synergies involved in pursuing all the anti-poverty channels (we are far from taking an "either-or" approach). However, hard choices are to be made given the resource constraints. While all routes matter for poverty, they may differ in their intensity to influence the poverty reduction process and hence,

---

<sup>2</sup> Reliable trend information is available mainly on the income-dimension of poverty. Besides, most of the ADB project operations were primarily related—directly or indirectly—to the income-dimension of poverty. However, income effects of non-income dimensions of poverty such as education and health are too large to ignore, and have been given due considerations later.

some may merit more attention than others in designing the COS. In short, some sort of ranking among the anti-poverty policies and programs are needed.

For ADB, which provides roughly one-fourth of the country's foreign aid, the poverty question has assumed greater significance in recent years. Since 1990 the objective of ADB operations has been made explicit in social impact terms, "poverty reduction" being characterized as the key developmental goal. Which of the available instruments of poverty reduction should get maximum focus in ADB's future medium-term assistance strategy, given its comparative advantage as institution as well as country's need? Admittedly, the answer is not an easy one. There are theoretical (methodological) difficulties to resolve and informational gaps to fill in. In the remaining sections we have tried to develop an approach to addressing the issue.<sup>3</sup>

### Summary Points

- Income-poverty can be influenced via four channels, namely, growth projects (including infrastructure, new technology in agriculture, etc), human development, microcredit based self-employment, and income transfer programs, often known as "safety nets".
- One of the key unanswered questions is how to make best use of an "optimal mix" of anti-poverty policy instruments ("mix" in terms of both resource allocation as well as non-financial assistance/ service) and what ADB can do to enhance the poverty impact of its operations.

## **II. The Challenging Calculus of Poverty**

Despite some progress in poverty reduction in recent years, the challenge of poverty is indeed staggering. This can be assessed from a number of considerations.

*First*, the pace of income (consumption) poverty reduction has been rather slow.<sup>4</sup> According to a recent estimate, the incidence of national poverty (the head-count index based on consumption expenditure data) has declined by 5.4 percentage points in twelve years period between 1983/84 and 1995/96 (World Bank 1998). This implies an annual rate of reduction in the order of about 0.5 percentage point.<sup>5</sup> To put this in perspective one can note that in the neighboring state of West Bengal, poverty declined at a rate of 1.9 percentage point

---

<sup>3</sup> Given the very limited time available for the study we could not do any separate field survey probing the independent effects of various anti-poverty instruments, and had to rely on the existing information. What follows is an outline of an argument, which may be taken up in a separate study for fuller treatment.

<sup>4</sup> Poverty estimates referred here are based on consumption expenditure data rather than current income data since it is better suited to capture the welfare status of the household. For definitions of income-poverty, see Box 1. The term income-poverty and consumption-poverty is used interchangeably throughout the paper.

<sup>5</sup> We have used the upper poverty line based estimates to calculate the pace of reduction in poverty measures (see, Tables 1 and 2).

during 1983-93 period (Tendulker et al 1998). Currently about half of the population still live in absolute poverty in Bangladesh. Given the pace of poverty reduction historically observed, it will take about hundred years to eradicate national poverty.<sup>6</sup> The rate of poverty reduction in rural areas has been even slower (only 0.2 percentage point drop per annum over 1983-95). Such a modest reduction rate could not prevent the rising absolute number of the poor. This is the crux of the macro-failure of the "poverty alleviation paradigm" which is currently in operation.

### Box 1: Measures for Income-Poverty Calculations

The three poverty measures used in this study attempt to capture three aspects of poverty: its incidence, its depth, and its severity. The specific measures follow.

The *head-count index* (H), given by the percentage of the population living in households with a consumption per capita that is less than the poverty line. This can be interpreted as a measure of the "incidence" of poverty. The measure has the advantage that it is easy to interpret, but it tells us nothing about the depth or severity of poverty.

The *poverty-gap index* (PG), defined by the mean distance below the poverty line as a proportion of that line (where the mean is formed over the entire population, counting the nonpoor as having zero poverty gap). One can interpret this as a measure of poverty "depth." Its disadvantage is that it is unaffected by changes in inequality among the poor.

The *squared poverty-gap index* (SPG) of James Foster, J. Greer, and Erik Thorbecke, defined as the mean of the squared proportionate poverty gaps (again the mean is formed over the entire population, counting the nonpoor as having zero poverty gap). Thus the poverty gaps are weighted in aggregation, with greater weight given to larger gaps, and where the weights are simply the poverty gaps themselves. This simple change to the conventional poverty-gap index allows the index to reflect changes in the "severity" of poverty, in that it will be sensitive to inequality among the poor.

All three measures can be derived from the following formula:

$$P(\alpha) = \frac{1}{n} \sum_{i=1}^z \left( \frac{z - Y_i}{z} \right)^\alpha$$

Where  $z$  is the poverty line,  $Y_i$  is the income of the poor below poverty line,  $n$  is the total population, and  $\alpha$  represents the distribution-weight.  $\alpha = 0$  yields head-count index,  $\alpha = 1$  poverty-gap index and  $\alpha = 2$  distributionally sensitive squared poverty gap index.

In the Bangladesh context, the poverty line corresponds to 2112 calories per person per day. There are several methods for setting the poverty line. Of these, the approach which is based on costing of a given food bundle (corresponding to 2112 calories per person per day) ... the so-called fixed-bundle approach ... is found to be

<sup>6</sup> The pace of poverty reduction was higher in recent years: about 1.2 percentage point per year during the period between 1991/92 and 1995/96 (again, as per the "upper poverty line" method). If we take this trend to continue, *it will still take 44 years for eradication of poverty*. However, the pace of poverty reduction is sensitive to the choice of method for calculating poverty. Using the method described in Ravallion and Sen (1996), we find that the annual rural poverty reduction rate was in the order of only 0.5 percentage point (see, Table 1: original—Sen 1998, p. 164; and World Bank 1998, p. 6, for comparison).

better than other methods such as Food-Energy Intake (FFI). For details on the issue, see Ravallion and Sen (1996).

*Second*, the severity of the poverty issue in the Bangladesh context cannot be observed in terms of the proportion of the population living below the line alone. The aggregate number of the absolute poor population is simply staggering. According to one estimate based on Household Expenditure Survey (HES) data, the number of poor people has increased from 49 million in 1983/84 to 54 million in 1995/96 (see, Table 3). This implies that the overall growth of the national poor was at the rate of 0.8 percent per year which is, incidentally, lower than the matched figures observed for Pakistan, Nepal, and all-India level.<sup>7</sup> The comparatively slow growth in the number of absolute poor in Bangladesh vis-a-vis some other countries and regions in South Asia is attributable to the success that the country has displayed in the field of population control since the early-eighties. Currently the population growth rate has come down to 1.6 percent from the very high level of 2.9 percent observed during 1974-81 period. Note that the current population growth rate in Bangladesh (estimated to be 1.6 percent per annum) is much lower than that of Pakistan (2.8 percent) and Nepal (2.6 percent) and comparable to that observed at all-India level (2.1 percent).

*Third*, the growth in the number of absolute poor was not uniform across rural and urban areas. The number of urban poor grew at a much higher rate than that for rural poor during 1983-95 (3.1 vs. 0.5 percent per annum). As a result the share of urban poor in total poor increased from 9.8 percent in 1983/84 to 12.9 percent in 1995/96. This points to the growing importance of urban poverty both as an aspect of *new type* of poverty and as a matter of increasing *policy* priority.

*Fourth*, even with regard to trends, one cannot say on the basis of existing data that Bangladesh has at last entered the phase of sustained poverty reduction. Instability in poverty reduction process is a pointer in this regard. Rural poverty improved during 1983-86, started worsening after that right up to 1991/92, began to improve again in 1991-95 interval. A bad harvest (such as the one experienced during the 1997 Aman) or a sudden devastating flooding (such as the one experienced during July-September 1998) can easily subvert the trends of decline. The essential vulnerability of the poverty reduction process to sudden and unanticipated shocks such as natural calamities cannot be ignored despite some modest gains.

*Fifth*, the level of progress in income-dimension of poverty measured at the aggregate level turns pale when one considers the nutritional dimension of poverty, especially among children. It is true that the extent of under-five malnutrition, as measured by the proportion of underweight, has been declining from 71 percent in 1990/91 to 66 percent in 1995/96 (Sen 1997). This still ranks among the highest levels of child malnutrition in the world (higher than many Sub-Saharan economies) with very severe implications for long-term capability of the population. Why the level of malnutrition persisted at such unacceptably high levels for over the last two decades despite some acknowledged progress in income-poverty, we do not have any satisfactory answer.

---

<sup>7</sup> During the period between mid-eighties and mid-nineties total poor population in South Asia grew at a rate of 1.7 percent per annum: 1.9 percent in India, 3.1 percent in Nepal over 1985-96, and 1.4 percent in Pakistan over 1986-93. However, due to lack of recent data it is difficult to judge to what extent the past trend of decline in absolute number of poor observed during 1986-91 in Sri Lanka still retains its validity. These estimates are taken from Sen and Rahman (1998).

But, this is certainly one question that merits top priority if the poverty alleviation strategy is to be taken seriously.

*Sixth*, the key factor behind the drop in national poverty was the relatively high pace of urban poverty reduction (Table 4). Urbanization should not be seen in negative light; poverty alleviating potentials for decentralized urbanization—the one that derives its strength from small town development—are immense, especially if one takes a longer term view. So far the country did not have the right kind of (balanced) urbanization process which has created tremendous pressure on the basic public service infrastructure (water, sanitation, drainage, power, road network,

housing, etc) pre-existing in the large metropolis such as Dhaka and Chittagong.<sup>8</sup> Add to these the problem of pollution in Metropolitan Areas such as Dhaka which has assumed crisis proportions and is having a serious toll on the health status of urban population in general, and poor population in particular. From the public health point of view, children represent the most vulnerable group at risk as a result of this almost unbearable degree of urban pollution. The upshot of the above is to point out that although the income poverty level has gone down, some of the non-income dimensions of poverty either stagnated or, in some cases, even worsened in urban areas.

*Seventh*, social and regional disparities in income-poverty are considerable and, only of late, these dimensions have begun to be better appreciated. Thus, considerable regional variation in income-poverty is notable from the 1995/96 household expenditure survey (HES) data (BBS 1998). The incidence of income-poverty is found to be highest in the Rajshahi division (62 percent) and lowest in Chittagong division (45 percent).<sup>9</sup> Regional disparity appears more prominent in the urban sector, which is, again, reflective of the unbalanced urbanization process. Thus, income-poverty in the major cities such as Dhaka and Chittagong is about half that observed in Khulna and Barisal (cities in the Southern belt).

Data on social disparity is difficult to come by. Successive HES missed out the districts included in the CHT, thus barring any comparison between the hill-people and the Bengali population residing in other districts in terms of poverty status. However, there are strong impressions that the hill-people are much deprived than the rest of Bangladesh both in terms of income and non-income dimensions of poverty. Now that an opportunity for a sustained process of development has opened up in CHT following the Peace Accord, attention should be given to minimizing the extent of ethnic disparity in poverty.

*Eighth*, Bangladesh achieved significant progress in human poverty dimensions since the early eighties.<sup>10</sup> The human poverty index (HPI) has declined from 61 percent in 1981-83 to 47

---

<sup>8</sup> This has been paralleled by the gradual erosion of social capital, as manifested in declining physical spaces available for community sports and cultural activities in urban life. The recent literature has argued that poverty reduction process is slower in communities with lower social capital. Poor performance of many water, sanitation, and housing projects is attributed to the underdevelopment of social capital. This aspect of the problem has not been explored in the poverty literature as applied to Bangladesh.

<sup>9</sup> See, the last column of Table 6 for the entire range of variation.

<sup>10</sup> For human-poverty definition and related indices, see Box 2.

percent in 1993-94 (Sen 1998). Note that the rate of improvement on human poverty scale is substantially higher than that observed for income-poverty. The rate of human poverty reduction was about 1.4 percent per annum during the same period compared with the annual drop by just 0.5 percentage point observed with respect to income-poverty discussed earlier.

Notwithstanding this progress on human poverty front, the level of HPI appears quite high even on a South Asian scale. Often the success of a particular country is measured only in terms of over-time change, without judging the recorded improvement against some suitable comparators. As a result, a false sense of achievement may set in the policy mind-set, obstructing to see the longer-term bottlenecks in the way of achieving a major breakthrough. One can illustrate the problem by considering four key indicators such as adult literacy, life expectancy at birth, infant mortality rate, and maternal mortality rate.

BOX 2: MEASURES FOR HUMAN POVERTY CALCULATIONS
<p>The HPI was proposed in a background paper by Sudhir Anand and Amartya Sen for the global <i>Human Development Report (HDR) 1997</i>, and has been a regular feature in the successive HDRs since then. Conceptually, the approach represented a step forward in capturing <i>deprivations</i> with respect to the key non-income dimensions of welfare. The analytical relationship between HDI and HPI is very much similar to the one that exists between economic growth and income-poverty.</p> <p>Two immediate differences between HDI and HPI may be highlighted. <i>First</i>, HDI seeks to highlight the aggregate social and economic achievements on an average for the <i>entire</i> population of the country. In contrast, HPI focuses on the <i>deprived segments</i> of the population. This is consistent with the standard practice of confining poverty measures exclusively to the deprived segments. HDI, in contrast, is an inclusive measure for the entire population. <i>Second</i>, ingredients going into HPI concentrate on health and education, while those going into HDI contain an additional component, namely, a transform of the purchasing power parity adjusted GDP per capita.</p> <p>HPI is composed of three indicators (one of which is a composite of three sub-indicators) capturing three types of deprivations: deprivation in <i>health</i>, deprivation in <i>knowledge</i>, and deprivation in <i>overall economic provisioning</i>. These dimensions are given equal weights in the construction of HPI. The specific description of each of these dimensions is given below:</p> <ul style="list-style-type: none"> <li>(i) Deprivation in health is indicated by vulnerability to death at a relatively early age as quantified in the percentage of people expected to die before the age of 40 years;</li> <li>(ii) Deprivation in knowledge is captured by the percentage of adults who are illiterate;</li> <li>(iii) Deprivation in overall economic provisioning is quantified in three variables, namely, (a) percentage of people without access to safe drinking water, (b) percentage of people without access to health services, and (c) percentage of children under 5 who are moderately and severely underweight.</li> </ul>

As Table 5 shows, in respect of all four indicators, Bangladesh's record is no better than Bihar (which is considered by many as the Sub-Saharan State of India); indeed, if

anything, they are slightly worse than in Bihar (except for adult literacy).<sup>11</sup> Note that, for all the progresses made, Bangladesh's current attainment of key non-income indicators falls much short of that observed for the neighboring West Bengal.

*Ninth*, earlier we have observed considerable regional variation in income-poverty. Similar regional variation may be observed with respect to human-poverty indicators as well. Comparison of key human development indicators, however, is not available at district levels. Evidence available at division level points to considerable differentiation of human development across regions (see, Table 6). As of mid-nineties, Rajshahi division has the lowest level of adult literacy (35 vis-a-vis the peak point of 56 percent in Barisal), life expectancy at birth (56.5 vis-a-vis 58.4 in Khulna) and child immunization rate (54.5 vis-a-vis 72.2 in Chittagong). Rajshahi has also the second highest level of infant mortality rate (79.9 vis-a-vis 72.4 in Khulna). Note that Rajshahi division has the highest level of income-poverty as well.

Three aspects need to be specially noted in the disaggregated data:

- (i) The regional variability is considerably higher for some human development indicators than others. Divisional data show considerable variability in adult literacy, immunization rate, and income-poverty. As for other indicators such as life expectancy and infant mortality the variability is much lower. This suggests that there is a greater need for developing a spatial focus in designing COS when it comes to tackling the issues of primary education, primary health and income-poverty reduction.
- (ii) While there is a general correspondence between the ranking of income-poverty and human-poverty (Rajshahi division, for instance, occupies the bottom position on both counts), the matching is not exact: there are very important omissions. Thus, Chittagong division has the lowest level of income-poverty but highest level of infant mortality rate. In terms of life expectancy and adult literacy the otherwise most affluent division occupies the second lowest position. This once again underscores the need for acting simultaneously on all the fronts, income and non-income. Even in cases where the income route is instrumentally important in achieving the non-income (human development) outcomes, the latter cannot simply be seen as

period even during a normal agricultural year. Thus, a significant differentiation in poverty may be observed even within the Rajshahi division. Bogra, for instance, represents the fastest growing area in that division on account of both crop agriculture and small-scale industries, putting the district on top of the list in terms of higher average affluence and lower income-poverty. In contrast, areas located in the river-erosion belts of Kurigram, Sirajganj, and Gaibandha (all falling within the Rajshahi division) have the highest income-poverty level in Bangladesh.<sup>12</sup> Poverty mapping developed by the 1991 GOB Task Force Report on Poverty Alleviation, and, subsequently by the World Food Program (WFP), can

---

<sup>11</sup> Of course, the recorded achievement would appear in a much better light if comparisons are made with actual Sub-Saharan levels. But, a within-region comparison would surely make more sense than a global comparison.

<sup>12</sup> The poverty mapping carried out by World Food Program (WFP) displays these areas as being marked in "red", implying their greater propensity to intensified poverty and widespread hunger.

be consulted to identify the areas of extreme distress to allow more spatial focus in the COS for addressing poverty reduction.

*Tenth*, the available results are also suggestive of the lack of synergies that normally exist between reduction in human-poverty and improvement in income-poverty. The reduction rate of human poverty would be much larger in the contexts, which have registered faster reduction in income-poverty,<sup>13</sup> and *vice versa*. The spread of education illustrates the issue at stake. Despite the best of our efforts, we are still unable to achieve universal coverage, and this is likely to remain so in the future if a substantive drop in poverty is not achieved. On the basis of the HES data for 1995/96, it has been estimated that some thirty percent of the eligible age-group population are still out of the primary schools. Of them, 15 percent have never been enrolled, while the rest 15 percent are drop-outs (Mahmud and Sen 1998). Income-poverty and the level of parental education appear to be the major determinants of non-enrollment and drop-out. This applies to the causes of drop-out from secondary schools as well. The drop-out (and, non-enrollment) rates for both boys and girls are found to be much higher in the case of income-poor and asset-poor households compared with the non-poor. The study shows that a reduction of income-poverty would have strong synergistic effects on reaching the targets of universal primary and secondary education.

*Eleventh*, although in this paper we are mainly concerned with the dimension of absolute poverty, a few words on the level and trends of relative inequality would be in order. If growth is accompanied by increasing inequality, opportunities are missed for the alleviation of poverty. A high initial level of inequality can reduce subsequent economic growth with adverse implications for poverty reduction. Thus, relative consumption inequality has increased in both rural and urban areas (Table 7). Note that during the earlier surveys up to 1991/92, the level of inequality did not vary much: the urban Gini hovered around 30-32 percent, while the rural Gini fluctuated in and around 25-26 percent. The situation has changed in a major way since the early nineties. The increase in inequality was very sharp on a scale not seen before. Thus, the urban Gini index went up to 37 percent in 1995/96 from 32 percent in 1991/92. Similarly, the rural Gini index rose to 29 percent from 26 percent during the same period.<sup>14</sup>

### **Summary Points**

- In the new millennium, the country faces four major challenges in the broad area of equity. The *first* challenge relates to the income-dimension of poverty: the pace of reduction has been too slow; it needs to be accelerated and sustained. The incidence of malnutrition remains at an unacceptably high level notwithstanding some progress in income-poverty. It is no longer adequate to engage in debate about the directionality of change in poverty. The question that looms large: how to eradicate income-poverty in the shortest possible time?
- The *second* challenge pertains to the human poverty dimensions. While some considerable progress has been made over the last two decades, the overall

---

<sup>13</sup> This result follows from the earlier works, most notably by Anand and Ravallion (1993).

<sup>14</sup> Similar trends follow through if one considers *income distribution* data as distinct from *consumption expenditure* data. However, HES income data are generally believed to be less reliable than consumption data.

record turns pale when measured against some suitable comparators. Income-poverty and human-poverty dimensions need to be tackled independently, according to their importance.

- The *third* challenge relates to the significant differentiation in both income and non-income dimensions of poverty across various regions within the country. Income-poverty in major cities such as Dhaka and Chittagong is about half that observed in smaller cities such as Khulna and Barisal. Average progress in human development measured at national level also conceals significant variation across regions. Rajshahi division has the lowest level of adult literacy, life expectancy at birth and child immunisation rate. It has also the highest level of income-poverty.
- All these show the growing importance of targeting to the *poor areas* both in ADB lending and ADP of GOB. Given the relatively neglected status of the regional factor in general in GOB policy and planning, one has to give due weight to ethnicity consideration as in matters relating to CHT—the government clearly needs to be made more sensitized about the disparity issue. ADB, as one of the key development partners, can play an influential part in this process.
- The *fourth* challenge is about having a society where distribution of incomes and social opportunities would become more equitable and democratic over time. Policies that can moderate the recent trend in rising inequality need to be understood better. The scope for land-redistribution (except as applied to *char* and *Khas* lands) is very limited given the adverse land-person ratio. Investment in human capital and development of rural non-farm sectors can be compensatory in promoting greater equity in the system.

### **III. Puzzles in Poverty: The Mismatch between Inputs and outcomes**

So far we have considered the key aspects of macro-level poverty and inequality trends that have bearing on policies. One of the central puzzles in the poverty statistics of Bangladesh is the apparent mismatch that one discerns between the increased inputs that went into poverty alleviation efforts and the very modest outcomes that one discerns in the HES results as well as other social statistics. To provide an illustration of the magnitude involved, one may note that the combined volume of microcredit of Grameen Bank and BRAC exceeds the aggregate rural lending of the entire nationalized commercial banking sector by a considerable margin (this has been the case throughout the nineties). The lending program of Grameen Bank alone has doubled within a span of just two years between 1995 and 1997, an indication of the pace of expansion. According to one estimate, the aggregate lending of 50 major NGOs currently approximates taka 2 billion.<sup>15</sup>

The massive expansion of microcredit is truly impressive. Microcredit now encompasses about half of the target group households (defined usually as those falling below the cut-off mark of half an acre). To illustrate the scale of expansion, one may note that Grameen Bank alone has

---

<sup>15</sup> This has been culled from Credit and Development Forum (CDF) source and cited in Sen and Rahman (1998).

to its credit 2.2 million borrowers, 94 percent of which are women, and operates in 37,000 villages. If one adds to this the contributions made by BRAC, Proshika, Association for Social Advancement—the three major NGOs—the aggregate coverage will translate into a truly formidable figure. Here we must also include Palli Karma Sahayak Foundation (PKSF), which has emerged in recent years as an increasingly influential source of funding for small NGOs.<sup>16</sup> Indeed, the presence of NGOs in rural Bangladesh has by now become a common phenomenon.

The expansion of NGO programs in rural areas was accompanied by favorable shifts within public spending as well. Thus, the aggregate allocation of budgetary resources which have either a direct or indirect bearing on rural poverty has gone up substantially since the early eighties, from a level of 30 percent to 50 percent by 1994/95 (Table 8). The above trend of increased aggregate allocation has been accompanied by a compositional shift favorable to the poor. Educating the children—at least in fiscal terms—appears to have received the top priority it genuinely deserves: the weight of primary and secondary education in ADP has risen from a mere 11 percent in 1983/84 to 27 percent in 1994/95. A pro-poor shift has also occurred within the category of public spending on physical infrastructure, as expressed in the rising ratios for rural roads and electricity.

The immediate question that springs to mind is—why did the poverty situation change as little as it did during the period since the early eighties through to the mid-nineties despite the "progressive" shifts in public spending, on the one hand, and massive expansion of microcredit on the other? One may argue that the bulk of the expansion in microcredit actually took place during the nineties and, therefore, the slow rate of progress on poverty reduction front cannot be attributed to any failure on the part of the latter. If the argument is valid, one would have expected a significant decline in the level of poverty during the first half of the nineties. While the rate of poverty reduction has indeed accelerated during this period, the quantum reduction was far from satisfactory: poverty gap index (which will be the relevant measure in this case) dropped from 18 percent in 1991/92 to 15.4 percent in 1995/96. Indeed, the highest quantum reduction in poverty gap index was achieved not during the period of micro-credit expansion, but in the sub-period of early eighties when public spending on creating upazilla infrastructures increased substantially. In any case, not all of the decline in poverty during the nineties can be attributed to the microcredit phenomenon: this has been also the period of rapid expansion of education, road, and electricity in the rural areas. Once the respective influence accruing to each of these factors is disentangled, the net impact of microcredit on poverty reduction would be much less.

In short, despite favorable directionality of change in poverty ratios, the quantum reduction has been extremely modest if the entire period since the early eighties is taken into consideration. It is against this backdrop we attempt to assess—and perhaps re-think—the poverty impacts of ADB's operations in Bangladesh. As mentioned earlier, the key question in this respect is: how to accelerate the rate of poverty reduction, and what can ADB do to facilitate such rapid transition?

### **Summary Points**

- Poverty reduction was minimal despite considerable flow of resources into rural areas through budgetary allocations as well as via massive expansion of traditional

---

<sup>16</sup> PKSF disbursed total loan amounting to Tk. 1100 million covering 9229 villages in 51 districts of the country up to June 1996 (FFYP, p.155). The program has expanded further over the past two years.

microcredit. This naturally questions the legitimacy of the current paradigm, which puts excessive reliance on NGO-led credit approach. Opportunity costs of the scarce resources channeled through NGOs need to be weighed and alternative modes of resource use explored. This is not to deny the importance of microcredit for the poor. Undoubtedly, the proven innovativeness associated with microcredit has more than justified its intrinsic worth. The question is whether poverty alleviation in Bangladesh should be defined in future as "microcredit plus", or the real need of the hour warrants more than just that. The rather lop-sided attention that these "targeted programs" currently enjoy must be re-considered to pave the way for more creative alternatives to emerge.

#### **IV. Relative Impact of Anti-Poverty Policy Instruments**

To raise the central question: how to allocate a given budget of concessionary aid resources in a manner so as to achieve the largest possible impact on poverty? Is there any way of even guessing it? Unfortunately, the poverty literature provides very little answer to such a question so close to each policy maker's heart. We, therefore, remain sensitive to the inadequacy of the proposed approach, which largely ignores the dynamic effects, as well as synergies that exist among various anti-poverty policy instruments. However, a comparative static exercise (involving with and without) is what we can attempt at this stage as a second-best.

To address the relative impact of various anti-poverty policy instruments, we estimate a multivariate model of income determination and use a number of data sets to check the robustness of the findings. Data are available only for the rural areas, but this may not be a major limitation of the exercise since, after all, about 85 percent of the national poor still reside in rural areas.

Among the growth projects we are especially interested to see the effects of road, electricity, expansion of new HYV technology, and access to non-agricultural assets (as a proxy for microcredit). In addition, we are interested in assessing the impact of human capital (as proxied by education).<sup>17</sup> Each is reviewed in turn.

##### **A. Road, Electricity and poverty**

The impact of rural roads (and, to a lesser extent, of rural electricity) is well-documented in the Bangladesh literature. Roads can influence poverty by creating new employment

---

<sup>17</sup> This is, of course, a narrow definition of human development. The impact of two other components—health and nutrition—on alleviating poverty is something for which we could not gather enough empirical evidence. The importance of exploring in full the synergies among the three components of human development is crucial. For instance, the positive income effects of education can be negated by sudden and unanticipated ill-health related shocks that remain unaddressed by poor public health services. Similarly, the educational attainment of children can be thwarted by the incidence of severe malnutrition.

opportunities (especially in the non-farm sector) as well as by changing input and output prices. Improved road access can encourage the cultivation of perishable products, thereby exerting favorable influence on crop diversification. Similarly, electricity access can impact through a number of channels. In the Bangladesh context, a large part of its impact is realized through its cost-reducing effects on the use of irrigation machines. As may be seen from Table 9, average cost for electricity operated irrigation pumps is substantially lower than in the case of diesel operated machines; the difference is substantial with respect to low lift pump (LLP) and deep tube well (DTW). Electricity can directly impact on the modernization of rural industry, contribute to longer working hours for commercial enterprises, and often has favorable influence on social development. We provide below some relevant evidence on these scores.

According to the pioneering study by Ahmed and Hossain (1990): "The most important finding is the profound effect that infrastructure has on the incomes of the poor. Overall, estimations based on the most and least developed villages indicate that infrastructural endowment causes household income to rise by 33 percent: income from agriculture increases about 24 percent, that from livestock and fisheries about 78 percent, that from wages almost doubles, but income from business and industries only rises by 17 percent. Most striking, however, is the distribution of these increases: the functionally landless and small farmers gained a larger share of the increases from crops, wages and livestock and fisheries, while the large landowners capture most of the smaller increase in business and industries".

This observation leads the authors to conclude that development of rural infrastructure, with roads explicitly identified as being the central component, has to play a key role in any poverty alleviation strategy for Bangladesh. In short, the BIDS/International Food Policy Research Institute (IFPRI) study came very close to characterizing road investment as a strategic "catalyst" of more general development.

Is the above observation made about a decade ago still valid as applied to rural Bangladesh? Tables 10 and 11 use the 1994 income and consumption data for the purpose.<sup>18</sup> Controlling for the variation in the initial resource endowment of the households and after making some allowance for the potential factors that affect productivity as well as the choice of economic activities, one can still discern a significant positive effect of all weather roads and electricity. Households residing in villages with good roads and electricity have, on average, around 13 percent higher incomes than their counterparts in infrastructurally underdeveloped villages.

However, the presence of road considered in isolation from electricity does not always yield statistically significant results, at least for the 1994 data set. For income data, its separate effect turned out to be significant only for the non-poor households; while for consumption data, its independent effect was significant at *average* household level. Note that independent effect of road is smaller than the combined effects of having both road and electricity. Thus, an average rural household residing in villages with good transport facility earns about 7 percent higher incomes than their counterparts in infrastructurally backward villages; the combined presence of road and electricity, however, increases the incremental effects to 19 percent (Table 11).

---

<sup>18</sup> The data were originally collected by the 62-village survey carried out under the auspices of the Analysis of Poverty Trends Project of BIDS.

The importance of combined effects of road and electricity is upheld even when the model is run for the poor and the non-poor households separately. Indeed the measured effects are slightly higher for the poor than the non-poor households. Poor households have 9 percent higher incomes in villages with good transport access and electricity than their counterparts in villages without such facilities; for consumption data, the impact is even higher (15 percent). Note that these are pure effects, i.e., after controlling for the influence of other factors. The results clearly demonstrate the poverty alleviation effects of the rural infrastructures, specially road and electricity.

It would be wrong to conclude that the independent impact of rural road (except in conjunction with electricity) is negligible. Another set of data (using similar type of model, but with slightly altered specification) shows that households residing in villages with good transport access have, on balance, 10 percent higher incomes than those without such facility (Table 12). In that data set, however, the independent impact of electricity turns out to be significant only for the non-poor households (Table 13).<sup>19</sup> It is possible that the two infrastructural variables, specified a

cant in both household (Table 14) and village level regressions (Table 15).

Both the infrastructural variables, however, have suffered from ill-maintenance, especially over the nineties. This may, in part, explain why the incremental impact of road and electricity variables has declined somewhat between 1989/90 and 1994 (Table 16). The expansion of electricity in rural areas has particularly suffered due to underinvestment in power sector.

## **B. New Technology in Agriculture and Poverty**

The spread of HYV paddy cultivation has strong impact on agricultural growth, benefiting all class of farmers because of the scale neutrality of the new technology. It also indirectly helps the landless households by triggering favorable changes in the labour market, at least in the initial stages of green revolution. Thus, a shift from local to HYV rice cultivation demands about 45 percent higher labour requirements (Hossain 1988). In case of the switch to the latter, the return is 10 percent higher than that for land cultivated under traditional varieties (Table 10). However, the variable is not significant when consumption data is considered. Although direct comparison is not possible, the results of the multivariable regression suggest that the incremental impact of the spread of new technology would be lower than the matched effects observed in case of electricity and road (see, Tables 10-11; and Table 16).

## **C. Non-Agricultural Assets and Poverty**

Access to non-agricultural assets is positive and significant in both income and consumption regressions (Tables 10 and 11). However, the elasticity of income (consumption) to non-agricultural assets holding is quite low. Indeed the rate of return to non-agricultural assets is considerably lower than in the case of non-land agricultural assets (livestock, poultry, and fishery). The results seem to suggest in general a low level of labor productivity in rural non-agriculture

---

<sup>19</sup> The data set refers to the study examining the impact of rural electrification, which was carried out for the USAID by Unnayan Shamunnay in 1996-97.

such as petty trading, transport, construction, and services in rural areas, sectors that are also the usual clientele of the traditional microcredit.

The stock of non-agricultural assets may be a poor proxy for microcredit. We have to look for other evidence for measuring the income (consumption) impact of the flow of microcredit. The study by Latif et al (1996) which used a 1991/92 survey data on three major credit programs (BRAC, Grameen and Rural Development-II), provides an opportunity to examine the issue.<sup>20</sup> The coefficient on the credit variable in the consumption regression was typically low (Pitt and Khandker 1996). Indeed, the difference between the proportion of households who could meet calorie requirement between the group of participants and non-participants within the same landownership (target) group was found to be rather small. For female members, the matched difference in terms of direct calorie-based estimates of absolute poverty between participants and non-participants was only 5 percent in case of both BRAC and Grameen. For extreme poverty, the corresponding figures varied from 3 percent in case of BRAC to 10 percent in case of Grameen. While this evidence shows some albeit modest poverty alleviating impact of the program on the female members, the same study failed to discern any such effect with respect to male members (Chowdhury and Khandker 1996).

Another important way of measuring the effects of microcredit would be to see its possible influence on village-level wage rates. The Latif et al study found some positive impact of Grameen lending on male (agricultural) wage rate while it was found insignificant in the case of BRAC and Rural Development-12.

#### **D. Education and Poverty**

Education appears to contribute most to the alleviation of poverty. In both income and consumption regressions, average rural households with at least primary level of education have considerably higher incomes than those who failed to have exposure to formal education (Table 10). Note that the return to education, as estimated at average household level, appears to be generally higher than the matched effects calculated for physical infrastructures. The effects of education become truly impressive in case of household heads that have successfully graduated from high schools. For the poor category, households with primary education have 10 percent more incomes than those without it. In short, the enhanced emphasis on the human development approach in recent years has been a step in the right direction. Development of human capital appears to have a strong poverty alleviating impact and should merit equal (if not more) priority along with the development of physical infrastructures.

#### **Summary Points**

- The attempt to rank the relative impact of various anti-poverty policy instruments yields the following results. Development of human capital has the largest impact on poverty, followed by investments in physical infrastructures such as road and electricity. The role of new HYV technology comes next in importance. While

---

<sup>20</sup> The authors estimated a multivariable econometric model, which allows to test for the randomness of program placement (to explicitly account for the so-called "unobserved village characteristics") as opposed to the "naive" OLS specification, which ignores the issues of endogeneity.

the existing studies show some positive income-effects of microcredit, the elasticity is typically low, possibly reflective of the low productivity that characterizes most of the activities financed by it.

- Available evidence is also suggestive of the synergies that exist among different growth projects (road, electricity, new technology, for instance), between growth and social sector projects (the idea of combining physical infrastructure and human development follows from this), and between growth and microcredit. On the latter topic, we shall only add (following Osmani 1989) that further expansion of credit for the poor should be seen in the broader context of infrastructure development. Such a packaging (along with rural and human development) will not only enhance the return to microcredit schemes and contribute to its viability, but also accelerate the rate of poverty reduction.

## **V. How Pro-Poor has been Compositional Shift in ADB Lending?**

We now turn to examine the evolution of ADB loan portfolio to see whether the underlying shifts reflect any awareness of the relative impact of various anti-poverty policy instruments discussed in the earlier sections. Table 17 captures the change in sector distribution of Bank lending till 31 December 1997. More disaggregated comparison of sub-sector shares is available for specific sub-periods: 1973-78, 1979-88, and 1989-96. Several aspects are noteworthy from these data (Table 18).

### **A. Declining Share of Irrigation Projects**

The overall share of agriculture and agro-industry has gone down very sharply over the recent years. The decline in lending in irrigation and rural development has been the major factor pushing this drop: the matched figure went down from 32 percent in the second sub-period to just 13 percent in the third sub-period. This is not difficult to explain: in the initial period of substantial import-control, irrigation loans were used to import shallow tubewells, LLPs and deep tubewells which were distributed via Bangladesh Agricultural Development Corporation (BADC) to encourage cultivation during the winter season.<sup>21</sup> In the latter years, however, the need for such intervention declined.

Following privatization and import liberalization, shallow tubewells were installed in rapid pace so much so that some observers termed the phenomenon as "quiet revolution". As for deep tubewells, its economics did not work out as initially expected (except in certain areas such as Comilla). Projects after projects with deep tubewell involvement rapidly turned into failures; initial scopes were revised to downsize the number of DTWs, but it could not prevent the bulk of them from being out of operations. Initially it was thought to be an organizational failure, but when the Grameen Bank experiments with DTWs in North Bengal failed, it became apparent that deep tubewell-led ground water irrigation holds out little promise for the minifundist agriculture. It is the adverse economics of DTWs in the agro-climatic context of Bangladesh that plays the central part in the failure. Given the very high level of subsidies involved in the running of DTWs, its gradual phasing out was inevitable.

---

<sup>21</sup> Many agricultural credit projects as well as integrated area development projects will fall under this category.

Overlooking of the hydro-ecological realities have rendered many aid-funded flood control and drainage projects either unprofitable, or simply non-functional, as in a number of areas of Northern Bengal. LLP-based irrigation system did not take off (as was initially expected) largely for the same reason.<sup>22</sup> LLPs are suitable for only certain regions where adequate surface water is available. Besides, many of the earlier irrigation and rural development projects were integrated with complex interplay between various sub-components (apart from being socially complex as well). Several performance audit reports pertaining to IRDP-type projects such as Sirajganj, Pabna, and North-West projects have repetitively drew attention to the problems of coordination and opted for a more simplified approach. The institutional weakness of the Bangladesh Rural Development Board (BRDB)-Thana Central Cooperatives Associations-Krishak Samabaya Samity structures has also contributed in a major way to the failure of certain components of these projects. As a result, even though in most cases the irrigation component of such program was generally successful, other components suffered. The drop in the share of irrigation and water development in the ADB loan portfolio, therefore, needs to be viewed in this light.

## **B. Re-defining ADB's Role in Agriculture**

The declining role of irrigation in the loan portfolio does not mean any negation, on the part of ADB, of the potential role that rural development can play in the poverty alleviation process. On the contrary, rural development merits more—and not *less*—attention than before, but only in areas where the support is currently most needed. What are these areas?

The whole issue of crop diversification merits priority attention especially in the backdrop of rice self-sufficiency around the corner. Indeed, further probing is warranted to explain the paradox as to why, despite successive policy emphasis, both crop diversification and agro-industry failed to take off over the last decade. One proximate explanation relates to the fact that the entire system of agricultural extension has been in a state of shamble for a long time and no serious effort is discernible to redress this pathetic situation. The interface between research and extension is either weak or often simply non-existent; underfunding of agricultural research stands out as a major long-run bottleneck in the country's effort to attain self-sufficiency in food (i.e., not just in rice) and achieve higher pace of crop diversification.

Similar research and extension needs are felt in the sectors of non-crop agriculture. Indeed, the growth of non-agriculture such as livestock and fisheries was particularly strong over 1989-96, i.e., at a time when ADB was drastically reducing allocations for such activities. Clearly this was a misreading of the underlying rural dynamics. The lessons are clear: ADB should re-define its role in agriculture, allocate more attention to fostering an institutional environment whereby research and extension can play a vital role in the future agricultural growth.

---

<sup>22</sup> Some projects got good ratings in the initial stage. However, the latter evaluations showed that early optimism was misplaced. Thus, the project on low-lift pump maintenance was considered successful in the evaluation carried out in 1985: the project "helped to restore BADC's capacity to provide LLPs in sufficient numbers". However, in the post-evaluation of a number of projects, BADC's capacity to manage LLP was questioned.

Successive researches have shown a very strong and positive relationship that exists between research, extension and agricultural productivity. This factor should be given due cognizance in the designing of the COS for the next phase.<sup>23</sup>

### **C. Putting More Emphasis on Human Capital**

The drop in the share of agricultural sector was matched by an increase in resources that were used to create social infrastructure and foster human capital development. Thus, the share of education in total loan assistance increased from mere 2.4 percent in 1979-88 to 11.6 percent in 1989-96. There can be little doubt that putting more resources into education was a step towards the right direction. This needs to be sustained and supported further. As pointed out earlier, investment in human capital has a strong poverty alleviating effect. However, with rapid increase in the demand for primary education, it is important to ensure the quality of supply over and above enrollment, and repeater's rates. Ill-designed programs such as food for education (at least in its current format) need to be re-considered in the light of accumulated evidence.<sup>24</sup>

### **D. Physical Infrastructures as the Key Sector**

The most impressive shift in the ADB loan portfolio is perhaps expressed in the doubling of allocations for the transport and telecommunications sector considered as a whole. For roads (which comes next to education in order of importance from the anti-poverty policy ranking done earlier), the matched share has increased from just 9 percent in the second sub-period to about 20 percent in the third sub-period.

The only aspect that needs to be commented upon while discussing the development of infrastructures is the rather sluggish growth of investments in power sector during the third sub-period. As we have seen earlier, the combined effects of good transport access and rural electrification can be quite large from the view-point of poverty alleviation. The task of rural electrification carried out by Rural Electrification Board (REB) cannot be made contingent upon power sector reform, including the vitally needed institutional reforms as applied to Bangladesh Power Development Board (BPDB) and/or Dhaka Electric Supply Authority (DESA). This would be tantamount to penalizing the efficient agents for the deficiencies of inefficient ones.

### **E. Microcredit: Last, But Not the Least**

In recent years ADB has also moved into financing of microcredit (included under the categories of "rural women employment generation" and "rural poor cooperative"—two sub-sectors under agricultural support services). Earlier experiences of ADB with formal credit

---

<sup>23</sup> This is, of course, a very difficult task, but the important issue here is to design an incentive-compatible institutional arrangement. There are lessons to be learnt in this respect from the concrete ways the interface between research-extension and production is being put into practice in agriculturally successful states of India for the last decade (as in West Bengal, Tamil Nadu, Andhra Pradesh, Kerala and Punjab).

<sup>24</sup> Food-for-Education or FFE was acclaimed as a huge success. The recent reviews were, however, very critical of the ways it was fashioned and implemented with adverse implications for the quality of education (so much so that the program is viewed by many as "food or education"). For details, see Sen (1998).

programs run by government organizations were not successful: loan recovery record was very poor (though much better than in the case of industrial development finance institutions). Set against this support for microcredit is an improvement on both efficiency and equity terms (Chowdhury and Garcia 1993). However, microcredit is not the main route for poverty alleviation and, in all likelihood, cannot be one. Microcredit addresses only one segment of the poor who can bear the risk of self-employment and cope with the repayment pressure, i.e., the entrepreneurial section of the poor. By all intent and purpose it has to exclude the extreme poor, on one hand, and the vulnerable non-poor (who may be just above the poverty line), on the other, because they do not satisfy the targeting criteria. This explains why the program was successful, but the very logic of it also shows why it would be necessarily exclusionary. In any case, as pointed earlier, the incremental impact of traditional microcredit on poverty would be considerably lower than in the case of education or rural infrastructures. In short, while ADB should continue to support innovative credit schemes, its principal focus should be on growth projects which have potentials for broad-based participation (as with new HYV technology, road and electricity) and human capital development.

## **F. Convergence with GOB Priorities**

Another way to assess the effectiveness of the compositional shift in ADB's lending is to compare the resultant distribution with that of GOB, as reflected in sector allocations made in the Fourth (actual) and the Fifth (projected) Plans.

As may be seen from Table 19, there is a broad correspondence between the sector distribution of ADB's aggregate lending and the sector allocations of ADP, especially as projected in the Fifth Plan. Two moments are noteworthy here. *First*, GOB plans to allocate more resources to "social infrastructure" (35 vs. 25 percent for ADB as observed during 1988-97). Since investments in education, health and nutrition have considerable elements of public goods, it is only natural that the state should play the key role in these areas. These elements significantly improve the long-term growth prospects of the economy. In contrast, ADB puts more emphasis on physical infrastructures as embodied in "transport and communications" (22 vs. 17 percent in case of GOB). Development of these sectors has positive crowding-in effects for the overall private investments and would help to stimulate future growth even in the short to medium term. Since both "social" and "physical" infrastructures are essential ingredients, balancing between the two sectors represents the central task in the COS.

*Second*, both the ADB and GOB attach more or less equal weights to the energy sector, on the one hand, and to industry and finance, on the other. The rather low weight of industry and finance (9 percent in the case of ADB and 11 percent in the case of GOB) is justified, given the dismal experience in the past with industrial development finance institutions. Besides, it is expected that private sector will play the dominant role in these sectors and hence, the bulk of the needed investments will also be provided by the private sector—domestic and foreign. This would also require the phasing-out of the ailing public enterprises that are already putting a heavy drain on the budget and the economy.

Privatization of state-owned enterprises (SOEs) is not always a feasible option, however. Privatization may not be possible due to a lack of demand on the part of buyers (either because technologies prevailing in SOEs earmarked for privatization are of obsolete nature, or because

political uncertainties are perceived as very high, or both). It may also not be possible because of lengthy process of selecting the buyers (partly because the government may feel that it is dealing with a rather inexperienced class of entrepreneurs). Closure or liquidation of highly loss-making enterprises with near-obsolete technology (specially the ones which are of little attraction to private buyers) is the other alternative to privatization. Such exit policies can save scarce budgetary resources from being pumped every year into what are essentially non-viable enterprises. This would release additional resources for the anti-poverty programs aimed at increasing the poor's access to schools, health centres, nutrition, roads, electricity, and microcredit, to name the critical few.

### **Summary Points**

- The shift in the ADB's lending, as observed between 1978-87 and 1988-1997 shows declining importance of agriculture (dropping from 48 to 30 percent) and energy (decreasing from 29 to 15 percent). Greater emphasis is now being given to social infrastructure (rising from 6 to 25 percent), transport and communications (increasing from 13 to 22 percent). The importance of several factors in the ADB loan portfolio is revealed when more disaggregated data available for 1979-88 and 1988-96 is taken into consideration. These are education (11 percent), road (20 percent), electricity (14 percent), and, to a lesser extent, microcredit (roughly 2 percent).<sup>25</sup> While the share of education should go up a little bit (receiving at least an equal amount allocated to roads), one gets the impression the broad pattern is consistent with the ranking of various anti-poverty instruments derived earlier.
- Two sectors which merit special attention but has so far remained de-emphasized in ADB's development concerns, relate to non-crop agriculture (with strong growth potentials) and health (with implications for alleviating poverty through its influence on income erosion). Even as peripheral concerns they must get active support in ADB's financial and non-financial assistance/efforts.
- There is a broad convergence of the priorities set by ADB with those of GOB. This is revealed when sector distribution of ADB lending in the recent period is compared with the pattern of ADP allocations in the Fifth plan. One striking moment of contrast between the two relates to the relative position of social sectors. GOB plans to allocate more resources to "social infrastructure" (35 vs. 25 percent for ADB as observed during 1988-97). Since investments in education, health and nutrition have considerable public goods elements, it is only natural that the state should play the key role in these areas. These elements significantly improve the long-term growth prospects of the economy. In contrast, ADB puts more emphasis on physical infrastructures as embodied in "transport and communications" (22 vs. 17 percent in case of GOB). Development of these sectors has positive crowding-in effects for the overall private investments and would help to stimulate future growth even in the short to medium term. Since both "social" and "physical" infrastructures are essential ingredients, balancing between the two sectors represents the central task in the proposed COS.

---

<sup>25</sup> The order of magnitude of resources allocated for these sectors are shown in parentheses.

## VI. Assessing the Impact of Selected ADB Projects

Data on socio-economic impact of ADB projects are scarcely available, particularly since there is no benefit monitoring component attached to the major loan projects. The problems become even more acute when it comes to measuring the poverty impact of a particular project. In this section we try to assemble some indirect evidence on the possible poverty impact of rural infrastructure projects such as rural roads.<sup>26</sup> For large scale integrated area development projects, we could gather some useful secondary data to assess their likely impacts on poverty.

### A. Poverty Impact of Road Projects

The indirect method, which we deploy to capture the likely impact of rural roads, is to use agricultural (rural) wage rate as a proxy for poverty monitor. This is not unrealistic given the close correlation between rural wage and poverty rate.<sup>27</sup> Agricultural wage income constitutes about 35-40 percent of annual income earned by an extremely poor household (Hossain 1995). Hence, wage rate can be considered as an important indicator of the incidence of extreme poverty in an area.

We have selected the road-influence areas pertaining to Road Overlay and Improvement Project (Loan No. 1287-BAN[SFI]) to illustrate the wage (poverty) impact of a typical road project. A rapid appraisal survey was carried out during 17-22 August 1998 to collect wage data from both roadside and remote (defined as being located at least 4 kilometers away from the project road) villages.<sup>28</sup> The idea is that poverty impact of road will show up in the data as systematic difference in agricultural wage rate between the two groups of villages. Since the survey was done at a time when there was flooding in several road-influence areas, additional wage information was collected for the boro harvest as well as transplantation seasons through memory recall.<sup>29</sup> The results are presented in Table 20.

The results show that the wage rate was higher in roadside villages in all three seasons. The matched difference (the simple average) between the two groups of villages was 13.3 percent during the time of boro (paddy) harvest, 10.2 percent during boro (paddy) transplantation, and 9.1 percent during the week of survey. In a sample of 22 villages, roadside wage rate was higher in 14 cases during boro transplantation; in 13 cases during the time of boro harvest, and in

---

<sup>26</sup> Available data, however, considers road sector as a whole, although poverty impacts may vary considerably by type of roads. Future studies should be undertaken to probe the differential impact of various categories of rural roads.

<sup>27</sup> Wage rate, however, is not a substitute for a benefit/poverty monitoring survey.

<sup>28</sup> The enumerators traveled all the way from one end to the other end following the road map given in PCR. They stopped in various road points to collect wage information. Information was cross-checked by interviewing several people.

<sup>29</sup> Boro refers to a winter season crop, usually refers to the cultivation of irrigated paddy. The latter is transplanted in January-February and harvested in May-June.

12 cases during the time of field survey.<sup>30</sup> In a majority of the cases, road had a favorable impact on agricultural wage rate.

Note that the wage impact of roads are similar to (if not higher than) the magnitudes observed in case of possible wage impact of microcredit projects. Thus, if one considers "the peak season wage during the last one year" recorded in case of PKSF project areas, it appears that the incremental wage impact due to microcredit was in the order of 9.1 percent (Table 21). This may be compared with the incremental wage impact of 13.3 percent noted earlier with respect to the road project during the peak season of boro harvest.

## **B. Poverty Impact of Integrated Area Development Projects**

The major thrust of a typical integrated area development project was to provide stimuli to agricultural growth via irrigation expansion schemes. Although the role of such projects has declined over time, they played an important part in the alleviation of poverty. This may be true even for projects which may not have been successful in overall rating (performance in some components were good, while in other parts it may have suffered, as a result of which the project got overall "partially successful" rating).

To illustrate the issue at stake here, we focus on the Northwest Rural Development Project (Loan No. 615-BAN[SF]) which was approved in December 1982, completed in December 1991, and audited in March 1996.<sup>31</sup> According to the PPAR, the Northwest Rural Development Project was designed to "address rural poverty in the districts of Kushtia, Pabna, and Rajshahi by increasing agricultural production and employment opportunities". The components of the project include: (i) agricultural production, consisting of the minor irrigation equipment and technology, fertilizers, support for animal health and nutrition; (ii) a program for landless and rural poor, composed of off-farm enterprises in pond aquaculture and livestock production and the provision of rural credit and skills development training; and (iii) the strengthening of the institutional capability of the BRDB and the cooperative system" (ADB 1996). The project failed to achieve the targets on many counts; however, the formation of cooperative societies and bringing them into the mainstream of economic activity was judged to have made "useful contribution to the reduction in rural poverty". At the end, the project got "partially successful" rating in the PPAR.

The survey data was analyzed to assess the possible poverty impact of the project.<sup>32</sup> We carried out estimates for both income and consumption poverty using the standard procedure for

---

<sup>30</sup> Flood severely affected one roadside area during the survey, which is why wage rate is missing in one case (see, Table 20).

<sup>31</sup> When the project was closed, the actual cost of the project amounted to \$26.88 million. The original size of the project was much higher (US\$45 million). The downsizing of the scope was due to reformulation of the project during implementation. The changes were mostly attributable to "design deficiencies and wrong assumptions" according to PPAR.

<sup>32</sup> The survey was carried out in the post-PCR phase and was administered in July 1994. It collected information on 400 households involving various socio-economic aspects including income, consumption, asset, occupation, etc.

setting the poverty line.<sup>33</sup> The results are presented in Table 22. Note that the program-control group comparison is made for three types of cooperatives. Krishak Samabaya Samity represents the farmers group (with no explicit targeting criteria and can include households from marginal and small farmers to very rich peasants), while Bittohin Samabaya Samity and Mahila Bittohin Samabaya Samity represent only the rural poor groups (the criteria in the latter two cases are strictly defined to include only households with ownership up to 0.5 acre, as in case of Grameen). Hence, it is quite natural that the level of income (expenditure) would be higher in case of Krishak Samabaya Samity in comparison to Bittohin Samabaya Samity and Mahila Bittohin Samabaya Samity.

Since we are mainly interested here in the alleviation of rural poverty, we shall focus on the results derived for Bittohin Samabaya Samity and Mahila Bittohin Samabaya Samity.<sup>34</sup> The results show considerable anti-poverty effects of the project. Anti-poverty effects were larger in female groups than in male groups.<sup>35</sup> Thus, as per consumption data, the incidence of extreme poverty (which would be the more relevant indicator in this case) is 57 percent in case of Mahila Bittohin Samabaya Samity compared with 73 percent in the control group. This gives a difference of about 16 percentage points. The matched difference is smaller but still considerable in case of Bittohin Samabaya Samity: about 9 percentage points. The same trends follow through when one considers income data. The favorable effects of the project are also reflected in higher level of asset accumulation.

### **Summary points**

- Poverty impact of the road projects of ADB, as suggested by the wage effects, would be considerable. The poorest of the poor were benefited by the implementation of such projects. In some cases, the wage impact may be higher than is usually observed in case of microcredit projects.
- The evidence also amply demonstrates the poverty alleviating effects of the area development projects such as the Northwest Rural Development Project with irrigation and credit-for-the poor components.

## **VII. Poverty Impact of Urban Projects**

---

<sup>33</sup> Poverty lines in 1994 prices correspond to those derived in Hossain (1996).

<sup>34</sup> The limitations of mere project-control comparison is well-known, and need not be elaborated here. One needs to control for selectivity biases in measuring the incremental effect of the program. This, however, was not possible lacking access to unit-record data.

<sup>35</sup> In this the Northwest project finding is no exception. Several evaluations of credit programs for the poor showed higher level of impact when female members are made beneficiaries in lieu of their male counterparts. Even if the female members represent merely the conduits for loans, which are eventually used by the male members, there are favorable female empowerment effects in terms of enhanced status.

Bangladesh has one of the highest pace of urbanization in the developing world. The share of urban population has virtually doubled from around 12 percent in 1983/84 to 22 percent in 1995/96. The growth in urban per capita income was much higher than that of rural income (3.2 vs. 0.8 percent per annum during 1983-95), but still could not keep up with the pace of urbanization through rural-urban migration. As a result, although the proportion of urban poor declined in relative terms, the absolute number of urban poor continued to grow at a faster pace. As mentioned earlier, the growth in the number of urban poor outpaced that of rural poor during 1983-95 by a large margin (3.1 vs. 0.5 percent per annum). The share of urban poor in total poor is on increase—from 9.8 percent in 1983/84 to 12.9 percent in 1995/96, and is expected to grow to much higher proportions in future. According to one estimate, the share of urban population will rise up to 40 percent by 2020 (Hossain 1999). At the present rate of rural and urban poverty reduction, the share of urban poor in total poor will be about 25-30 percent, if not more.

Urbanization should not be seen in the negative light though. Whatever urbanization the country has witnessed in recent years has been a major contributory factor behind the decline in national poverty. During the period between 1983/84 and 1991/92, for instance, there has been a 5 percent reduction in national head-count index. The drop in rural index was in the order of only 1.7 percent. In contrast, the urban head-count declined by as high as 17.8 percent during the period. The same trends follow through when one considers the recent data over the nineties: the rate of reduction of urban poverty was much higher than in case of rural poverty between 1991/92 and 1995/96 (21.7 percent as against 5 percent).

However, the current pattern of urbanization falls short of the desired role consistent with the potentialities that it has in accelerating the rate of national poverty reduction. The question that we now ask is: to what extent were ADB projects able to respond to these imperatives of supporting the role of urban sector in poverty alleviation?

Given the increasing importance of urban sector in national poverty reduction, there is a need for balancing between rural and urban focus in ADB lending program. As mentioned earlier, regional variation in urban poverty is quite prominent: small cities have twice the level of poverty than the big cities. Hence, within the urban sector, the emphasis should be laid on small and secondary cities rather than on the big cities such as Dhaka and Chittagong.

A number of urban projects undertaken over the last five years attach importance to water and sanitation, disaster prevention, microcredit and health, specially in the context of small and secondary towns. These are the Secondary Towns Infrastructure Development (I and II), Secondary Towns Integrated Flood Protection, Urban Primary Health Care, Second Water Supply and Sanitation, etc. While these are steps in the right direction, several aspects need to be reworked in the future design of such projects.

#### **A. Heterogeneity of Urban Poor**

Urban microcredit cannot be conceptualized simply as an urban extension of rural microcredit. Given the heterogeneity of urban poor population, three types of interventions corresponding to three distinct social segments need to be spelt out. Self-employment based microcredit of the usual variety is applicable only for the urban poorest, usually women, residing in slums.

The next stratum of the poor is comprised of households who are richer among the poor with demand for microenterprise loans, the average size of credit being higher than that for microcredit. These enterprises employ both family and hired labor. Loans for rickshaw, autorickshaw, small trading establishments are examples of this kind. Such loans constitute a rising proportion in urban credit program provided by NGOs such as Proshika.

One can identify yet another layer of poor households who would generally work as hired labor in small-scale enterprises. The welfare of this segment of the poor cannot be improved through self-employment programs. If the sector where they are employed as workers can be supported resulting in higher output growth in that sector, then the benefits are likely to trickle down to this class of the poor population. The case of metal-fabrication enterprises located in Dholaikhal at the outskirts of Dhaka city provide an example of this type. The latter is yet to figure prominently in the ADB's lending program.

#### **B. Exploring Synergy from Urban-Rural Linkages**

The growth of small and secondary towns will provide stimuli to rural non-farm growth and rural poverty alleviation as well. This reverse link needs to be worked out further. The current strategy to see the two in isolation is not a fruitful one. Once the projects specifically designed for secondary towns are completed, this will help to boost up urban demand for rural products (and labor) and rural demand for relatively cheap urban products produced in small cities. The underlying idea here is to replicate the experience of township and village enterprises, which originally developed in rural China and played a significant role in its economic development. Given the dismal experience with cottage and rural industrial development in villages for the last three decades, it makes sense now to shift the focus to small town enterprise, which would be easier to sustain following rapid development in roads and communication almost throughout the country.

#### **C. Workplace as Additional Entry-Point for Health**

Urban health care programs are usually slum-based. The problem with such area-based approach is that it may exclude some important segments of urban poor who may not reside in slum areas. The case of readymade garment women workers may be discussed here. Most of these workers do not live in slum areas either because these are quite far off from the work-place, and/or because of greater risks of insecurity and likelihood of stigma. Most of the garment workers suffer from a number of health problems documented in a number of studies. A slum-based urban health care approach will fail to reach these women. In other words, there is a need for a periodic health check-up at the work-place (preferably through some kind of a health insurance scheme, with contribution from the factory owners). That this is not an unrealistic proposition has been amply demonstrated by the recent involvement of BRAC and Gonoshasthya Kendra in carrying out annual medical check-up for the entire garments sector workers, with some assistance from Bangladesh Garments Manufacturers and Exporters Association (BGMEA) and the donors. In short, there is a need for combining area-based approach with workplace-based targeting in designing urban interventions. In general there is a greater need for targeting the urban poor population based on occupation.

#### **D. Exploring Sub-Contracting Linkages**

Another difference between rural and urban microcredit lies in the differing potentials in exploring sub-contracting linkages. Many of the small urban projects (the so-called "household industries") financed through microcredit can be linked with up-stream formal sector through sub-contracting linkages. Sectors where such interface can take place range from readymade garments to handicrafts. Sub-contracting linkages are also important for micro-enterprises and small-scale industries.

### **E. Special Project for Street Children**

Often there are social groups in society who merit special attention in designing anti-poverty strategy. They cannot be served through sector approach alone and demand greater social sensitivity and targeting. A number of small NGOs have already started working with street children and trying to mobilize resources to ensure their access to education and security. ADB can set up a special fund to support these agencies and/or forge links with its on-going urban projects in this greater cause. Compared to the vast canvas of growth-plus-social development strategy adopted in the draft COS, this would appear to be a rather modest proposition, but surely goes a long way in meeting the pre-condition of not forgetting the most vulnerable section in this society.

#### **Summary points**

- Given the increasing importance of urban sector in national poverty alleviation, rising share of urban portfolio in ADB projects have been a shift in the right direction. Within urban sector, the poverty level is much higher in small cities than in big cities. This justifies the greater emphasis being given by ADB to the development of small and secondary towns. However, differential demands of various categories of urban poor need to be conceptualized better. At the credit intervention level, what is needed is a combination of three distinct types of interventions: microcredit for the urban poorest, microenterprise loans for the moderate poor, and credit support for the urban small-scale industries (with emphasis on hired labor). These interventions have potential sub-contracting linkages which needs to kept in view.
- Urban health interventions should combine area-based (slums and squatters) approach with workplace-based approach. The exclusive slum-based approach to urban poverty alleviation may miss an important segment of the urban poor (women workers of readymade garments for instance) who may not live in slums. The workplace-based approach is now being applied to annual health check-up of readymade garments workers implemented through NGOs such as BRAC and Gonoshasthya Kendra.
- The case of street children in urban areas as the most vulnerable section merits priority attention in designing direct anti-poverty interventions. ADB can provide support to some NGOs which have already started working in this area.

## **VIII. Transition from Project to Policy Based Lending Institution**

Poverty alleviation cannot be viewed merely as an agglomeration of various projects. Indeed, increased projectization of external assistance gives rise to coordination problems. Projectization does not allow to systematically develop institutional capacity for governance, which is a central element in sustaining the impact of anti-poverty programs. This has led to a growing realization within ADB to shift away from a primarily project based lending institution to a primarily policy (and program) based lending institution. This shift will lead to enhanced governance capacity on the part of GOB as well.

In the early eighties, ADB's policy-based lending was mainly related to a few selected areas, such as de-subsidization and privatization in the distribution of agricultural inputs. However, the bulk of the assistance was mainly conceived as "projects". This has led to involvement in a large number of sectors with very few inter-connections and weakened the overall monitoring capacity. Without having a programmatic approach, often the ad-hoc nature of project undertakings could not be avoided. This can be judged by the incidence of "occasional" projects, as in the area of health or environment.

Creation of "procedural opportunity" is as important as supporting growth projects. If the institutional arrangements, which govern the state and the market, are not changed, the returns to growth projects would be low and the overall efficacy of project lending will decline. This is a cross-sector issue and cannot be dealt with within the framework of a single project. Program-based lending will allow to take on such cross-cutting and cross-sector issues ranging from governance to sustainable development.

Shift to the role of a more policy based institution which ADB is setting for itself would mean that it needs to play a more active part as knowledge-based institution and "clearing house" in areas where its natural advantage lies. The number of policy-based research undertaken by ADB is, however, quite limited in coverage and inadequate to the need envisaged by the anticipated transition from project-based to program-based lending. The operational policy research umbrella of ADB needs to be strengthened. Institutions such as BIDS and ICDDR,B can be effective local partners in undertaking programmatic policy research in the broad area of poverty alleviation encompassing public finance, health, environment, education, microcredit, monitoring and evaluation.

## **IX. Missing Dimensions in Current Approach: Concluding Remarks**

The discussion of "missing dimensions" in ADB approach (prior to drafting of the new COS) is not an advocacy for "new projects" to be added to the current list of projects. ADB is already involved in over 30 sectors and sub-sectors which need to be reduced to, perhaps, no more than 20. Such cut-back on the diversity of project activities will help to ensure longer-term involvement in a particular sector, bring about favorable institutional changes, contribute to enhanced borrower's ownership, and would be instrumental to overall effectiveness of lending. Hence, the discussion of "missing dimensions" needs to be viewed in the context of the proposed cut-back on the diversity of project involvement on the part of ADB.

## **A. Need for Balancing between "Social" and Physical" Infrastructures**

Investments in both social infrastructures (education, health and nutrition) and physical infrastructures (road, electricity, drainage and flood control) are seen as critical inputs in the overall process of sustainable poverty alleviation. From the view-point of equity, one could argue that the role of social sector investments—specially when targeted to the poor—are actually higher, since the non-poor can benefit more from the development of physical infrastructures (as generally has been the case with respect to rural electricity). However, leaving aside the debate as to which type of infrastructure is more important from the view-point of poverty alleviation, it is fair to say that both are important, considered individually and in combination with each other. The role of one set of factors in development cannot be replaced by the other set of factors. The synergies between the two need to be exploited in full.

Having said that one must at the same time note that nutrition is the most neglected item within "human capital", the latter being almost in 90 percent cases associated with education, and in only 10 percent cases does one see some relevance for core health sector related interventions. It is important to distinguish between core and non-core sectors in health, as in many cases what passes under health is mainly population sector program with some primary health elements. In short, meeting the health needs of the poor and the poorest and providing support to nutrition (food-security) of the poor are integral parts of human capital, or social infrastructure. Separating the elements of human capital from each other is the unfortunate legacy of projectization of the planning process whereby each item of policy interest exists only as "project" with little inter-project coordination. Such a state of affairs cannot lead to the desired results in the field of human or social development.<sup>36</sup> While allocating resources to social sector projects, ADB should be more careful in adopting a balanced approach recognizing the role of all three elements:

## **B. Balancing Class, Gender, and Ethnicity in Anti-Poverty**

It is often not enough to follow the criteria of income-poverty (the so-called class factor) alone. If the vulnerability dimension is kept in view, then the poor-targeting must explicitly take the gender and ethnicity status into consideration. This will also help to reduce social exclusion by incorporating the views of the "other" on development and contribute to the rebuilding of social capital found conducive to economic growth (Kothari 1993).

ADB should also try to increase gender focus through the implementation of physical infrastructure and forestry sector projects where the scope for gender involvement is quite large in maintenance programs. Women can play a strong role as direct beneficiaries in livestock and fishery sectors. Their involvement in health and nutrition projects is also crucial.

Following the Peace Accord, the development opportunities have expanded in CHT and ADB should exploit in full the new situation. Involvement of ADB in this area is also going to be important from the view-point of reducing regional disparity in poverty. Again, given the ethnicity dimension to CHT, the design of the projects including microcredit should be culturally sensitive.

---

<sup>36</sup> The links among the elements of human capital are crucial. One can cite many examples in this regard. For instance, education without nutrition leads to underperformance at schools. Similarly, nutritional status of children depends on early maternal health care, child health care and parent's education.

Once the Regional Council is formed, the task of finding the lead agency for development activities in CHT would be resolved to a considerable extent.

### **C. The "Lead Agency" Factor**

The extent of involvement in any sector having a relevance to poverty alleviation must take into account the presence of a "lead agency" which would be the key partner-in-development for ADB in that sector. The lead agency can be either from GOB (such as LGED in the road sector) or an NGO (such as BRAC in the WFP-supported VGD program). ADB's partners in forestry and fishery sectors (Departments of Fishery and Forestry) have rather weak implementation capacities, reducing the effectiveness of ADB assistance to these sectors. Stronger involvement of NGOs as well as handing over of some responsibilities to agencies of stronger capacities such as LGED and Water Board away from the Ministry of Forestry or Fishery are considered to be better alternatives, at least in the medium-term. In short, the complex nature of ADB's involvement in a variety of activities demands that greater attention be paid to the institutional aspects of collaboration. Given the misgovernance in many of the poverty alleviation projects, ADB should feel discouraged to enter into a sector (even if it is a priority one) if there is no effective "lead agency" either from GOB or from the NGO's side.

### **D. Looking beyond "the Border"**

The pace of poverty reduction cannot be accelerated within the given national boundary. Greater emphasis needs to be given to regional and sub-regional issues, which are found virtually missing in ADB's lending strategy. However, the role of transboundary factors has increased over the nineties across the globe, and Bangladesh is no exception to this. Considerable scope exists for sub-regional cooperation in the areas of water, energy, transit, trade, tourism, and environment, to name a few of the obvious categories. The principle of inter-dependence—projects executed in one country may have implications for another country, as in the classic case of Farakka barrage—is yet to be built in the planning process of the member countries of the region. As a multilateral donor agency, ADB can promote this agenda while planning ahead for the region by sensitizing the target audience to the aspects of synergy that one can extract from the deeper ties of cooperation and collaboration. Such climate of trust, cemented through the resolution of common problems, will have the indirect effect of de-militarization in the region and thus releasing resources for poverty alleviation.<sup>37</sup>

### **E. Enhancing Disaster Management Capacity**

Experience of the 1998 flood points to several policy implications for future ADB lending. The disaster once again showed the essential vulnerability of the poverty reduction process. But, it also showed the resilience capacity of the people that were affected by the flood. The aggregate production short-fall during the *aman* harvest of 1998 was estimated to be not more than 25 percent—less than the amount of short-fall estimated during the 1988 flood (which was also devastating in nature). What is, perhaps, more important is the difference that the combined effort of GOB, NGOs and the people can make in fast overcoming what was termed as the worst flood of this century. The increased crisis-coping capacity of GOB is also something which was better

---

<sup>37</sup> After all, South Asia is the only region in the world where military budget as percentage of GDP has gone up following the cold war while in other regions it has gone down (Haq 1997).

appreciated during the flood and its aftermath. ADB should continue to support schemes which would take into account the "flood factor" in the designing stage of the project over and above its involvement in projects explicitly aimed at flood control and drainage. More attention also needs to be paid to dredging and strengthening of the capillaries in order to reduce the intensity of flooding in the major rivers. There is also a greater need for ADB's support in ensuring better disaster preparedness, and, in general, developing a more people-centered approach in managing disaster and in accelerating the rehabilitation program.

### **Summary Points**

- There is a need for balancing between investments in social infrastructures (education, health and nutrition) and physical infrastructures (road, electricity, drainage and flood control) as they both provide critical inputs to the overall process of sustainable poverty alleviation. The synergies between the two need to be explored in full.
- Nutrition and health are the most neglected items within the ADB program for support to human capital development. Nutrition is almost overlooked and health is (until recently) usually associated with family planning. The category of "human capital", as it is used in the PCR and the PPAR, is being associated with education in 90 percent cases, and in only 10 percent cases does one see some relevance for core health care related interventions. While allocating resources to social sector projects, ADB should be more careful in adopting a balanced approach recognizing the role of all three elements: education, health care and nutrition for the poor.
- ADB should increase its gender focus through the implementation of road, water and forestry sector projects where the scope for gender involvement is considerable, specially in maintenance programs. Women can play a strong role as direct beneficiaries in the livestock and fishery sectors. Their involvement in health and nutrition projects would also be crucial.
- Following the Peace Accord, the development opportunities have expanded in CHT and ADB should exploit in full the new situation. Involvement of ADB in this area is also going to be important from the view-point of reducing regional disparity in poverty.
- The complex nature of ADB's involvement in a variety of activities demands that greater attention be paid to the institutional aspects of collaboration. Given the misgovernance in many of the poverty alleviation projects, ADB should feel discouraged to enter into a sector (even if it is a priority one) if there is no effective "lead agency" either from GOB or from the NGO's side.
- The pace of poverty reduction cannot be accelerated within the given national boundary. The role of transboundary factors has increased over the nineties across the globe and Bangladesh is no exception to this. Greater emphasis needs to be given to regional and sub-regional issues, which are found virtually missing in ADB's past lending strategy. Considerable scope exists for sub-regional cooperation in the areas of water, energy, transit, trade, tourism, and environment,

to name the few obvious channels. Note that the density of poverty is highest in the South Asia North East. Implementation of sub-regional schemes will help to accelerate the pace of poverty reduction in the entire area.

- ADB should continue to support schemes which would take into account the "flood factor" in the designing stage of the project over and above its involvement in projects explicitly aimed at flood control and drainage. More attention also needs to be paid to dredging and strengthening of the capillaries in order to reduce the intensity of flooding in the major rivers. There is also a greater need for ADB's support in ensuring better disaster preparedness and, in general, developing a more people-centered approach in managing disaster.

**Table 1**

**Headcount indices of Poverty with the Cost of Basic Needs Method,  
1983 - 84 to 1995 - 96**  
(percentage of population below the poverty line)

	Poor (upper poverty line)				
	1983 - 84	1985 - 86	1988 - 89	1991 - 92	1995 - 96
National	58.50	51.73	57.13	58.84	53.08
Rural	59.61	53.14	59.18	61.19	56.65
Urban	50.15	42.92	43.88	44.87	35.04

Source: World Bank (1998)

**Table 2**

**Poverty Gap and Squared Poverty Gap Measures of Poverty,  
1983 - 84 to 1995 - 96**

	Poor (upper poverty line)				
	1983 - 84	1985 - 86	1988 - 89	1991 - 92	1995 - 96
<b>Poverty gap</b>					
National	16.52	12.27	15.35	17.19	14.37
Rural	16.83	12.50	16.01	18.06	15.40
Urban	14.26	10.85	11.06	12.00	9.19
<b>Squared poverty gap</b>					
National	6.61	4.20	5.77	6.76	5.36
Rural	5.72	4.27	6.07	7.15	5.74
Urban	5.78	3.81	3.83	4.43	3.44

Source: World Bank (1998)

**Table 3**

**Estimates of Total Poor Population in Bangladesh**

Area	Mid-Eighties	Mid-Nineties	Change Per Year (percent)
	(million)	(million)	
National	49.0	54.1	0.8
Rural	44.2	47.1	0.5

Urban	4.8	7.0	3.1
-------	-----	-----	-----

Note: Bangladesh data are for 1983/84 and 1995/96 respectively.

Source: Fighting Poverty: Emerging Perspectives South Asia Poverty Monitor'98

**Table 4**  
**Poverty Measures for Bangladesh**

	Head - Count Index (percent )	Poverty – Gap Index (percent )	Squared Poverty - Gap Index (percent )
<b>Urban</b>			
1983/84	40.9	11.4	4.4
1985/86	30.8	7.3	2.5
1988/89	35.9	8.7	2.8
1991/92	33.6	8.4	2.8
1995/96	26.3	6.0	1.9
<b>Rural</b>			
1983/84	53.8	15.0	5.9
1985/86	45.9	10.9	3.6
1988/89	49.7	13.1	4.8
1991/92	52.9	14.6	5.6
1995/96	51.1	14.1	5.5

Source: Ravallion and Sen (1996); Sen (1998)

**Table 5**  
**Comparative Human Development in Bangladesh,  
Bihar, and West Bengal**

	Bangladesh	Bihar	West Bengal
Infant Mortality Rate (per 1000 births)	78 (1995)	73 (1995)	59 (1995)
Maternal Mortality Rate (per 100000 births)	470 (1992)	470 (1982 - 85)	389 (1982 - 85)
Life Expectancy at Birth	56.4 (1989 - 93)	58.5 (1989 - 93)	61.5 (1989 - 93)
Adult Literacy Rate	38.8 (1991)	38.7 (1991)	57.1 (1991)

Source: Sen (1998)

**Table 6**  
**Human Development Profile at Disaggregated Level in Bangladesh**

Area	Adult Literacy Rate	IMR (per 1000 live births)	Life Expectancy at Birth	Immunization (12-23 months)	Child Death Rate 1-4 Years	Head-Count Index of Poverty
	1995	1995	1995	1995	1995	1995/96
<b>Division:</b>						
Barisal	56.4	76.6	57.2	64.6	10.8	59.9
Chittagong	41.2	81.9	57.0	72.2	8.9	44.9
Dhaka	43.0	78.3	58.3	52.7	10.8	52.0
Khulna	47.2	72.4	58.4	81.3	9.5	51.7
Rajshahi	35.2	79.9	56.5	54.5	8.6	62.2
<b>Sector:</b>						
Rural	36.6	83.3	57.1	61.3	10.2	56.7
Urban	60.0	60.8	60.6	76.3	7.7	35.0
National	42.6	77.7	57.9	65.4	9.7	53.1

Source: HDS, 1994 and 1995; HES 1995/96. Poverty estimates are carried out by Bangladesh Bureau of Statistics (BBS) and based on CBN method (upper poverty line).

**Table 7**  
**Summary Statistics on Growth and Inequality**

Mean	Poverty Line (Tk/Person/Month)	Consumption (Tk/Person/Month)	Mean/Poverty Line	Gini Index (percent)
<b>Urban</b>				
1983/84	301.72	396.53	131	29.8
1985/86	368.62	581.13	158	31.4
1988/89	453.65	695.19	153	32.6
1991/92	534.99	817.12	153	31.9
1995/96	642.58	1233.06	192	36.7
<b>Rural</b>				
1983/84	268.92	284.84	106	24.6
1985/86	319.06	373.93	117	24.6
1988/89	379.08	435.39	115	26.5
1991/92	469.13	509.67	109	25.5
1995/96	567.00	658.45	116	28.8

Source: Ravallion and Sen (1996); Sen (1998)

**Table 8**

**Allocation of Development Budget for "Poverty Allocation" Projects  
and Programs in Rural Areas, 1983/84 to 1994/95**

Sector	1983/84	1988/89	1992/93	1994/95
A. Growth	63.8	61.2	55.0	48.2
Production	10.5	13.8	11	19.2
Infrastructures	50.0	49.8	45.8	37.7
(rural roads)	(4.2)	(5.9)	(11.3)	(14.3)
(rural electricity)	(4.1)	(7.9)	(9.3)	(10.4)
B. Human and Social Development	36.2	33.0	40.1	48.1
Primary and Secondary Education	10.8	11.5	20.3	27.4
Health	7.0	4.7	7.0	6.8
Others*	18.4	16.8	12.8	13.9
C. Safety Net**	-	5.8	4.9	3.7
D. Total Allocation for Poverty Alleviation (A+B+C), million taka	9266	16741	32725	49702
E. Total ADB Budget, million taka	30683	38299	67904	99786
F. D as percent of E	30.2	43.7	48.2	49.8

Notes: \*\*"Other" includes spending on projects, related to housing family planning, women, youth, water supply & sanitation, etc.

\*\* Relief and VGD programs.

Source: Sen (1998).

**Table 9**

**Average Cost for Different Types of Pump**

Type of Pump	Electricity Operated Pump				Diesel Operated Pump			
	Area covered (hectare)	Electric cost US\$ (Tk.) [No.]	Lubricant cost US\$ (Tk.)	Total cost US\$ (Tk.)	Area covered (hectare)	Diesel cost US\$ [No.]	Lubricant cost US\$ (Tk.)	Total cost US\$ (Tk.)
LLP	20.64	445 (18089) [7]	4 (162)	450 (18292)	12.94	120 (4878) [4]	15 (609)	935 (38007)
STW	3.60	289 (11747) [13]	4 (162)	293 (11910)	2.67	327 (13292) [11]	20 (813)	347 (14105)
DTW	30.43	1301 (52885)	13 (528)	1315 (53454)	23.84	1699 (69064)	27 (1097)	1726 (70161)

Notes: The estimates are for the boro (winter paddy) season.

Source: Sen (1996)

**Table 10****Determinants of Income of the Poor and Non - poor households, 1994**

Variables	All Households		Poor Households		Non- poor Households	
	Regression Coefficient t	t- statistic	Regression Coefficient t	t- statistic	Regression Coefficient t	t- statistic
1. Land owned (acre)	0.161	13.89*	0.068	5.65*	0.164	9.98*
2. Proportion of Cultivated Land under Tenancy	-0.069	-1.21	0.014	0.25	-0.035	-0.42
3. Proportion of Cultivated Land under Modern Variety	0.101	13.89*	0.088	1.72***	-0.037	-0.63
4. No. of Earning Members	0.507	14.29*	0.509	12.49*	0.492	12.17*
5. Proportion of Female Earning Members	-0.473	-5.51*	-0.477	-5.59*	-0.199	-1.65***
6. Proportion of Non-agricultural Earning Members	0.525	12.23*	0.338	7.10*	0.353	6.36*
7. Non-land agricultural Capital	0.040	5.71*	0.035	4.82*	0.027	3.03*
8. Non-agricultural Capital	0.021	4.42*	0.006	1.08	0.017	3.16*
9. Household Heads with Primary Education	0.133	3.08*	0.103	2.26**	0.058	1.07
10. Household Heads with Secondary Education	0.194	3.74*	0.002	0.04	0.149	2.51**
11. Household Heads with High School Certificates	0.337	4.13*	-0.026	-0.20	0.193	2.40**
12. Household Heads with Higher Education	0.549	6.20*	0.333	1.89***	0.330	3.91*
13. Villages with Electricity and Good Roads	0.131	3.05*	0.088	1.80***	0.075	1.52
14. Villages with Good Roads and without Electricity	-0.023	-0.45	-0.031	-0.57	-0.119	-1.91***
R <sup>2</sup>	0.56	-	0.40	-	0.52	-
F	118.88	-	35.31	-	47.77	-
No. of Observations	1316	-	718	-	598	-

Note: \* Significant at 1 percent level; \*\* Significant at 5 percent level; \*\*\* Significant at 10 percent level

The dependent variable is measured in logarithms of household consumption. The variables of land, workers, and capital are measured in logarithm forms. The constant term is not reported.

Source: Sen (1997).

**Table 11****Determinants of Consumption of the Poor and Non-poor Households, 1994**

Variables	All Households		Poor Households		Non- poor Households	
	Regression Coefficient t	t- statistic	Regression Coefficient t	t- statistic	Regression Coefficient t	t- statistic
1. Land owned (acre)	0.100	12.00*	0.075	8.40*	0.095	6.56*
2. Proportion of Cultivated Land under Tenancy	0.039	0.94	0.046	1.06	-0.003	-0.05
3. Proportion of Cultivated Land under Modern Variety	-0.034	-0.99	0.007	0.19	-0.102	-
4. No. of Earning Members	0.364	14.28*	0.360	12.74*	0.452	11.33*
5. Proportion of Female Earning Members	-0.494	-8.00*	-0.50	-8.00*	-0.281	-2.38**
6. Proportion of Non-agricultural Earning Members	0.206	6.69*	0.148	4.33*	0.208	4.28*
7. Non-land Agricultural Capital	0.042	8.27*	0.040	7.07*	0.040	5.05*
8. Non-agricultural Capital	0.020	5.78*	0.016	3.87*	0.011	2.09**
9. Household Heads with Primary Education	0.064	2.07**	0.023	0.68	0.078	1.52
10. Household Heads with Secondary Education	0.130	3.47*	0.054	1.20	0.065	1.21
11. Household Heads with High School Certificates	0.215	3.66*	0.183	2.19**	0.076	1.02
12. Household Heads with Higher Education	0.413	6.49*	0.053	0.45	0.308	4.17*
13. Villages with Electricity and Good Roads	0.194	6.28*	0.154	4.29*	0.148	3.29*
14. Villages with Good Roads and without Electricity	0.066	1.79***	0.033	0.83	0.048	0.83

R <sup>2</sup>	0.53	-	0.49	-	0.50	-
F	109.00	-	57.76	-	36.47	-
No. of Observations	1316	-	817	-	499	-

Note: \* Significant at 1 percent level; \*\* Significant at 5 percent level; \*\*\* Significant at 10 percent level

The dependent variable is measured in logarithms of household consumption. The variables of land, workers, and capital are measured in logarithm forms. The constant term is not reported.

Source: Sen (1997).

**Table 12****Determinants of Rural Household Income: Regression Estimates**

Variables	Descriptions	All Households (Variant 1)		All Households (Variant 2)	
		Regression coefficient	't' value+	Regression coefficient	't' value+
LOLN	Land owned (dec.)	0.122	6.28*	0.138	7.20*
HYV	Proportion of cultivated land under modern variety	0.179	2.41**	0.191	2.56**
LLBR	No. of earning members	0.336	6.21*	0.347	6.39*
FLBRP	Proportion of female earning members	-0.711	-4.00*	-0.728	-4.98*
NAGLP	Proportion of non-agricultural earners	0.760	6.26*	0.815	6.72*
SECOND	Household heads with secondary education	0.172	2.50**	0.216	3.15*
HIGH	Household heads with higher education	0.182	2.24**	0.195	2.40**
NAFAS R	Value of non-agricultural fixed assets (hundred thousand taka)	0.218	2.57**	0.022	2.61*
ELCT	Household with access to electricity	0.214	3.47*	-	-
ELCTV	Village with access to electricity	-	-	0.004	0.06
TRANS	Village with good transport facilities	0.073	1.29	0.103	1.77***
R <sup>2</sup>		0.22		0.21	
No. of cases		1000		1000	

Note: The dependent variable is measured in natural logarithms of household income.  
The variables LOLN and LLBR are also measured in logarithm forms.

+ It is one of the widely used statistical tests showing the level of relationship between two variables (if  $t > 2$ , the relationship is significant at a certain level of confidence).

\* Denotes significance at less than 1 percent.

\*\* Denotes significance at less than 5 percent.

\*\*\* Denotes significance at less than 10 percent.

Source: Sen (1996)

**Table 13**

**Determinants of Income of the Non-Poor Households**

Variables	Descriptions	Non-poor Households		Non-poor Households	
		Regression coefficient	`t' value+	Regression coefficient	`t' value+
LOLN	Land owned (dec.)	0.139	7.62*	0.139	7.58*
HYV	Proportion of cultivated land under modern variety	-0.0002	-0.003	0.015	0.22
LLBR	No. of earning members	0.384	7.91*	0.379	7.72*
FLBRP	Proportion of female earning members	-0.503	-3.10*	-0.475	2.91*
NAGLP	Proportion of non-agricultural earners	0.451	4.03*	0.432	3.84*
SECOND	Household heads with secondary education	0.048	0.78	0.063	1.02
HIGH	Household heads with higher education	0.108	1.48	0.12	1.63
NAFASR	Value of non-agricultural fixed assets (hundred thousand taka)	0.016	2.76*	0.015	2.62*
ELCTV	Village with access to electricity	0.166	2.83*	-	-
ELAGE1	No. of years village is connected to electricity (up to 5 years)	-	-	0.165	2.06**
ELAGE2	No. of years village is connected to electricity (6-10 years)	-	-	0.213	3.12*
ELAGE3	No. of yeas village is connected to electricity (11+ years)	-	-	0.095	1.26
TRANS	Village with good transport facilities	0.05	0.94	0.049	0.91
R <sup>2</sup>		0.29		0.29	
No. of cases		537		537	

- Note: 1. The dependent variable is measured in natural logarithms of income. The variables LOLN and LLBR are also measured in logarithm forms.  
 2. ELAGE1, ELAGE2 & ELAGE3 denote number of years ("up to 5 years", "6 to 10 years", "11 years and above", respectively) electricity exists in a particular village. Villages without are considered as the reference category.

+ As explained above in Table 13.

\* Denotes significance at less than 1 percent.

\*\* Denotes significance at less than 5 percent.

\*\*\* Denotes significance at less than 10 percent.

Source: Sen (1996)



**Table 14**

**Determinants of Per Capita Rural Household Income Growth: 1989/90  
and 1994 Panel Survey Data**

Variable	Dependent variable: Rate of growth in per capita income of household (in percent)	
	Coefficient	t-statistic
Constant	24.19	9.37*
<b><u>Village initial conditions</u></b>		
Village income per capita (taka)	-0.00082	-2.91*
Gross School enrolment rate (percent)	0.052	2.02**
Dummy for villages with higher acreage under HYV	3.23	2.22**
Dummy for villages with access to electricity	2.17	1.83***
Share of natural disaster related risks in total risk-events recorded in a village (percent)	-0.29	-3.05*
<b><u>Household initial conditions</u></b>		
Land owned per capita (decimal)	0.082	6.45*
Dummy for tenant farmers	-0.039	-2.89*
Proportion of non-agricultural income in total income (percent)	0.026	1.76***
Number of earners per household education status of household head:	2.66	6.40*
Primary	5.01	4.34*
Secondary	7.96	5.88*
Higher	11.81	4.89*
Per capita direct development assistance (taka)	0.003	2.37**
Per capita income (taka)	-0.0045	-16.31*
Per capita income square (X10 <sup>4</sup> )	-0.0013	-8.97*
Per capita income cube (X10 <sup>9</sup> )	-0.0011	-6.62*
R <sup>2</sup>	0.312	-
F	38.38	-
No. of observations	1316	-

Source: Sen (1997).

**Table 15**

**Determinants of Per Capita Village Income Growth: 1989/90  
and 1994 Panel Survey Data**

Village-level initial conditions variables	Dependent variable: Rate of growth in per capita villages income (in percent)			
	Unrestricted Model		Restricted Model	
	Coefficient	t-statistics	Coefficient	t-statistic
Constant	16.148	4.66*	18.04	5.21*
Village income per capita (taka)	-0.004	-7.93*	-0.003	-7.42*
Area owned per capita (dec.)	0.185	2.90*	0.132	2.17**
Gross school enrolment rate (percent)	0.095	2.23**	0.096	2.20**
Dummy for villages with electricity	3.09	1.56	4.07	2.05**
Dummy for villages with higher share of non-agricultural income <sup>1</sup>	4.00	2.19**	-	-
R <sup>2</sup>	0.498	-	0.465	-
F	13.12	-	14.25	-
No. of observations	62	-	62	-

Source: Sen (1997).

Note: The dependent variable is per capita annual village income growth rate (expressed in

percentage) observed during 1989/94. Explanatory variables relate to initial conditions as observed during the 1989/90 Survey.

1. Villages where the share of non-agricultural sector is higher than 33 percent of total village income has been assigned "1", and "0", otherwise.

\* Significant at 1 percent level; \*\* Significant at 5 percent level

**Table 16**

**A Comparison of Determinants of Rural Household Income: Evidence from BIDS  
Panel Survey, 1989/90 and 1994**

Variables	All Households (1989/90)		All Households (1994)	
	Regression Coefficient	t-statistic	Regression Coefficient	t-statistic
1. Land owned	0.257	20.0*	0.195	17.62*
2. Proportion of Cultivated Land under Tenancy	0.159	2.7*	-0.011	-0.20
3. Proportion of Cultivated Land under Modern Variety	0.033	2.5**	0.141	2.94*
4. No. of Earning Members	0.460	11.15*	0.549	15.42*
5. Proportion of Female Earning Members	-0.586	-5.43*	-0.539	-6.17*
6. Proportion of Non-agricultural Earning Members	0.256	5.19*	0.507	11.78*
7. Households Heads with Education:				
Primary	0.073	1.28	0.143	3.25*
Secondary	0.080	1.47	0.220	4.16*
SSC and Higher	0.365	6.74*	0.477	7.24*
8. Households Receiving Remittances	0.041	0.69	0.040	0.56
9. Villages with Access to Electricity	0.272	5.40*	0.182	4.33*
10. Villages with Good Transport Facilities	0.110	2.48**	0.005	0.12
R <sup>2</sup>	0.49	-	0.54	-
No. of Observations	1112	-	1316	-

Note: The 1989/90 results are adopted from Hossain and Sen (1992).

\* Significant at 1 percent level

\*\* Significant at 5 percent level

Source: Sen (1997).

**Table 17**

**Sector Distribution of Bank Lending**

Sector	(\$ Million)							
	1973 – 1997		1973 - 1977		1978 - 1987		1988 - 1997	
	Loan Amount	Percent	Loan Amount	percent	Loan Amount	percent	Loan Amount	percent
Agriculture	1971.9	37.1	122.7	44.6	924.3	48.2	925.0	29.6
Energy	1069.7	20.1	55.0	20.0	558.4	29.1	456.4	14.6
Social Infrastructure	896.5	16.8	0.0	0.0	114.0	5.9	782.5	25.0
Transport and Communications	965.1	18.1	44.8	16.3	241.5	12.6	678.8	21.7
Industry and Finance	41.6	7.9	52.6	19.1	79.5	4.1	286.5	9.2
Total	5321.8	100.0	275.0	100.0	1917.7	100.0	3129.1	100.0

Source: ADB, Country Operational Strategy Study 'Bangladesh' 99.

**Table 18**

**Distribution of Bank Assistance to Bangladesh by Sector/Sub-sector, 1973-96  
(US\$ Million)**

Sector/Sub-sector	1973-1978			1979-1988			1989-1996		
	No. of Loans	Amount	Per-cent	No. of Loans	Amount	Per-cent	No. of Loans	Amount	Per-cent
<b>Agriculture &amp; Agro Industry</b>	11	181.98	49.8	30	1027.4	49.0	12	672.96	27.11
Irrigation & Rural Dev.	4	96.90	26.5	17	6	31.7	7	328.40	13.23
Industrial Crops	-	-	-	1	664.10	1.0	1	9.60	0.39
Fisheries	2	21.20	5.8	2	20.10	2.7	0	0.04	0.00
Livestock	1	12.40	3.4	1	56.26	1.9	0	0.00	0.00
Forestry	-	-	-	1	39.00	0.5	3	116.90	4.71
Agri. Support Services	2	18.98	5.2	5	11.00	5.4	3	218.02	8.78
Fertilizer Production	2	32.50	8.9	3	114.10	5.9	2	0.00	0.00
					123.00				
<b>Energy</b>	5	54.95	15.0	9	558.40	26.7	2	456.45	18.39
Electric Power	4	42.75	11.7	5	304.00	14.5	1	349.45	14.08
Natural Gas	1	12.20	3.3	4	254.40	12.1	1	107.00	4.31
<b>Development Finance</b>	5	77.60	21.2	1	30.00	1.4	0	30.00	1.21
<b>Industry &amp; Non-Fuel Mineral</b>	-	-	-	3	87.00	4.2	1	125.00	5.04
Industry (Non-Agriculture)	-	-	-	2	80.80	3.9	1	125.00	5.04
Industry (Non-Fuel Minerals)	-	-	-	1	6.20	0.3	0	0.00	0.00
<b>Social Infrastructure &amp; Education</b>	1	6.00	1.6	5	108.00	5.2	14	642.50	25.88
Water Supply	1	6.00	1.6	1	14.40	0.7	0	25.00	1.01
Education	-	-	-	2	50.50	2.4	8	287.80	11.59
Health & Population	-	-	-	2	43.10	2.1	1	51.00	2.05
Urban Development & Housing	-	-	-	-	-	-	5	287.70	11.23
<b>Transport &amp; Telecommunications</b>	4	44.80	12.3	3	241.50	11.5	5	568.80	22.91
Roads & Transport	1	15.00	4.1	2	195.50	9.3	5	488.80	19.69
Ports & Shipping	2	6.80	1.9	-	-	0.0	-1	0.00	0.00
Railways	1	23.00	6.3	1	46.00	2.2	1	80.00	3.22
Multi Sector	-	-	-	1	40.00	1.9	-1	-40.00	-1.61
Private Sector	-	-	-	1	2.50	0.1	3	26.50	1.07
<b>Total</b>	26	365.33	100.	53	2094.8	100.	36	2482.2	100.0
			0		6	0		1	0

Source: ADB

**Table 19**

**Comparison between GOB Plan and ADB Lending Priorities**

Sectors	ADB Priority (percent)	GOB Priority <sup>a</sup> (percent)	
	1988-97 (Actual)	1990/91-1994/95 (Actual)	1997-2002 (Planned)
Agriculture	29.6	19.7	23.6
Energy	14.6	17.7	13.3
Social Infrastructure	25.0	22.7	35.0
Transport and Communications	21.7	19.7	16.9

Industry, Finance, others <sup>b</sup>	9.2	20.2	11.2
Total	100.0	100.0	100.0

Note: a. Percentage of ADP Allocation.

b. 'Others' constituted about 18.4 percent of total realized expenditure during the Fourth Plan. The Category of 'others' does not figure in either ADB or GOB projections for 1997-2002.

Source: Estimated from Table 17 and Fifth Five Year Plan

**Table 20**

**Poverty Impact of Road: Results of a Field Survey**

	(Daily Wage Rate without Food)					
	Wage Rate During the Survey		Wage Rate During Boro Harvest		Wage Rate During Boro Plantation	
	Roadside	Remote	Roadside	Remote	Roadside	Remote
Road Overlay and Improvement Project (Loan No. 1287 )						
<u>A. Daulatdia - Faridpur - Kamarkhali - Magura Section</u>						
	60	55	70	70	70	60
1. Vill: Uttar Chardaulatdia (Union: Daulatdia)	60	60	70	70	70	60
2. Vill: Khankhana Pur (Union: Khankhana Pur)	60	60	65	50	60	50
3. Vill: Bhabani Pur (Union: Basanta Pur)	70	70	60	60	70	60
4. Vill: Shibrampur (Union: Mat Char)	70	65	80	70	70	70
5. Vill: Shibrampur (Union: Mat Char)	80	70	60	60	60	60
6. Vill: Komor Pur (Union: Raghunanda Pur)	90	80	100	70	70	65
7. Vill: Komor Pur (Union: Raghunanda Pur)	70	70	80	70	70	60
8. Vill: Kabir Pur (Union: Vashan Char)	70	70	80	70	70	60
9. Vill: Kanai Pur (Union: Kanai Pur)	80	70	75	70	70	60
10. Vill: Mazh Kandi (Union: Rai Pur)	60	60	70	50	60	50
11. Vill: Madhukhali (Union: Madhukhali Sadar)	60	50	50	50	50	50
12. Vill: Madhukhali (Union: Madhukhali Sadar)	60	45	60	40	60	50
10. Vill: Kamar Khali (Union: Kamar Khali)						
11. Vill: Mazhai Mandar Tala (Union: Nakol)						
12. Vill: Khanpara (Union: Magura Sadar)						
<u>B. Dhaka - Daudkandi Section</u>						
13. Vill: Kendra (Union No. 4 Tilip Union)	60	50	60	50	50	50
14. Vill: Bhatarchar (Union: Bhatara)	35	40	40	40	45	40
15. Vill: Alipura (Union: Alipura)	N/A	40	50	45	60	50
	(flood affected)					
16. Vill: Eliotganj (Union: Eliotganj)	)	70	65	60	65	60
	70					
<u>C. Daud Kandi - Comilla - Feni Section</u>						
17. Vill: Gobindapur (Union: Purba Chandina)		40	60	60	60	60
18. Vill: Bagur (Union: Chandina)	40	45	40	50	40	0
19. Vill: Manikpur (Union: Uzirpur)	40	50	80	65	75	70
20. Vill: Sripur (Union: No. 7 Chaudagram)	70	60	65	50	70	50
21. Vill: Ullapara (Union: Batisa)	65	60	60	60	60	60
22. Vill: Dikra (Union: Alkara)	60	40	70	50	70	50
	50					
All Sample Villages		60	68	60	65	59
	66					

Source: Field survey was carried out during 17-22 August 1998.

**Table 21****Impact of Micro-Credit on Village Level Wage Rates**

(Figures in parentheses represent standard deviations)

	PKSF Villages ( N = 36 )	Non - PKSF Villages ( N = 11 )
Wage at the time of survey	54.7 ( 23.7 )	47.3 ( 16.2 )
Wage during normal period	54.7 ( 19.5 )	48.2 ( 15.2 )
Highest wage during last 1 year	83.5 ( 25.8 )	76.8 ( 17.9 )

Source: Calculated from Census Data collected by BIDS Survey of PKSF villages .

**Table 22****Poverty Impact of Integrated Area Rural Development Project**

(percent of member households)

	Krishak Samabaya Samity		Bittohin Samabaya Samity		Mahila Bittohin Samabaya Samity	
	Program	Control	Program	Control	Program	Control
<u>Income</u>						
0 – 1000	12.5	10.0	10.0	30.0	20.0	35.0
1001 - 2500	17.5	40.0	75.0	50.0	45.0	55.0
2501 - 5000	27.5	25.0	15.0	20.0	35.0	10.0
5001+	42.5	25.0	-	-	-	-
<u>Expenditure</u>						
0 – 1000	2.5	5.0	15.0	30.0	25.0	50.0
1001 - 2500	25.0	50.0	60.0	50.0	55.0	40.0
2501 - 5000	27.5	35.0	25.0	20.0	20.0	10.0
5001+	45.0	10.0	-	-	-	-
<u>Assets (Durable)</u>						
0 – 500	20.0	55.0	52.0	80.0	63.0	90.0
501 – 1500	17.5	20.0	48.0	20.0	26.5	10.0
1501 - 5000	42.5	15.0	-	-	10.5	-
5001+	20.0	10.0	-	-	-	-
<u>Assets (Animal)</u>						
0 – 500	12.5	20.0z	19.0	30.0	42.0	60.0
501 – 1500	2.5	15.0	24.0	40.0	26.5	40.0
1501 - 5000	27.5	25.0	28.5	30.0	21.0	-
5001+	57.5	40.0	28.5	-	10.5	-
<u>Poverty</u>						
Percent of households living in income poverty:						
extreme poor	22.5	32.9	53.0	58.7	45.8	66.5
moderate poor	14.2	23.2	35.7	26.2	27.8	25.9
Total poor	36.7	56.1	88.7	84.9	73.6	92.4
Percent of households living in Consumption -Poverty:						
extreme poor	16.8	33.7	49.4	58.7	56.5	72.9
moderate poor	17.4	29.9	31.7	26.2	28.4	19.5
Total poor	34.2	63.6	81.1	84.9	84.9	92.4

Note: Poverty estimates are done by the author. Extreme and moderate rural poverty lines (per household per month) correspond to taka 1860 and 3112, respectively in 1994 prices.

Source: Compiled from the 1994 (July) Field Survey; See, PPAR for Northwest Rural Development Project, Loan No. 615-BAN (SF).

**Table 23****Cross-Over Time from Poverty under “Distribution-Neutral” Growth Scenario in Bangladesh**

Year	Per Capita Growth Rate Scenario (percent per annum)	Latest Income-Gap index (percent)	Cross-Over Time (Years)
1995/96	2	27.2	16.1
	3		10.7
	4		8.1
	5		6.5
	Current rate (3.4)		9.5

Source: Fighting Poverty: Emerging Perspectives. South Asia Poverty Monitor '98.

**Table 24****Post Evaluation Rating of ADB Projects in Bangladesh**

Sector / Sub-sector	Generally Successful		Partly Successful		Unsuccessful			No Rating		All
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
<b>Agriculture and Natural Resources</b>										
Fisheries	1	50.0	0	0.0	1	50.0	0	0.0	2	100.0
Irrigation and Rural Development	4	36.4	7	63.6	0	0.0	0	0.0	11	100.0
Livestock	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
Forestry	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
Agricultural Support Services	2	50.0	2	50.0	0	0.0	0	0.0	4	100.0
Fertilizer Production	2	100.0	0	0.0	0	0.0	0	0.0	2	100.0
<b>Sector Total</b>	10	47.6	10	47.6	1	4.8	0	0.0	21	100.0
<b>Energy</b>										
Electric Power	0	0.0	3	100.0	0	0.0	0	0.0	3	100.0
Natural Gas	3	100.0	0	0.0	0	0.0	0	0.0	3	100.0
<b>Sector Total</b>	3	50.0	3	50.0	0	0.0	0	0.0	6	100.0
<b>Industry and Non-fuel Minerals</b>										
Industry (Non-Agriculture)	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
Non- Fuel Minerals	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
<b>Sector Total</b>	1	50.0	1	50.0	0	0.0	0	0.0	2	100.0
<b>Transport and Communications</b>										
Roads and Road Transport	1	50.0	0	0.0	1	50.0	0	0.0	2	100.0
Ports and Shipping	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0
Railways	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0

<b>Sector Total</b>	2	50.0	1	25.0	1	25.0	0	0.0	4	100.0
<b>Social Infrastructure</b>										
Water Supply and Sanitation	0	0.0	1	100.0	0	0.0	0	0.0	1	100.0
Education	0	0.0	3	100.0	0	0.0	0	0.0	3	100.0
Health and Population	0	0.0	2	100.0	0	0.0	0	0.0	2	100.0
<b>Sector Total</b>	0	0.0	6	100.0	0	0.0	0	0.0	6	100.0
<b>Finance Sector</b>										
Development Finance Institution	0	0.0	3	60.0	2	40.0	0	0.0	5	100.0
<b>Sector Total</b>	0	0.0	3	60.0	2	40.0	0	0.0	5	100.0
<b>Total</b>	16	36.4	24	54.5	4	9.1	0	0.0	44	100.0

Source: ADB

**Table 25**

**Summary of Post-Evaluation Results**

	Number of Projects	Generally Successful (percent)	Partly Successful (percent)	Unsuccessful (percent)
Bank-wide	521	57.2	31.3	11.1
Group A	225	47.6	36.9	15.1
Countries				
South Asia	160	49.4	36.9	13.8
Bangladesh	44	36.4	54.3	9.1

Source: ADB, Country Operational Strategy Study, Bangladesh '99

## REFERENCES

### *Non-ADB Sources*

- Ahmed, Raisuddin and Mahabub Hossain, Developmental Impact of Rural Infrastructure in Bangladesh, Research Report No. 83, International Food Policy Research Institute, Washington, D.C., 1990.
- Anand, Sudhir and Martin Ravallion, "Human Development in Poor Countries: on the Role of Private Incomes and Public Services", Journal of Economic Perspectives, Vol. 7, No. 1, 1993, pp. 133-150.
- Bangladesh Bureau of Statistics (BBS), Household Expenditure Survey 1995/96 (Main Report), Dhaka, 1998.
- Chowdhury, A.H.M.N. and Marcelia C. Garcia, Rural Institutional Finance in Bangladesh and Nepal: Review and Agenda for Reforms, EDRC Occasional Papers No. 3, Asian Development Bank, Manila, 1996.
- Chowdhury, Omar H., and Shahidur R. Khandker, "Do Targeted Programs Improve the Nutritional Status of the Poor?" in M. A. Latif et al, Credit programs for the Poor: Household and Intrahousehold Impacts and Program Sustainability, Vol. 2, 1996.
- Government of Bangladesh (GOB), The Fifth Five Year Plan (FFYP) 1997-2002, Planning Commission, Dhaka, 1998.
- Haq, Mahub Ul, Human Development in South Asia, University Press Ltd., Islamabad, 1997.
- Hossain, Mahabub, "Socioeconomic Characteristics of the Poor", in: Hossain Zillur Rahman and Mahabub Hossain (eds.) Rethinking Rural Poverty: Bangladesh as a Case Study, Sage Publications: New Delhi/Thousand Oaks, 1995, pp.157-169.
- Hossain, Mahabub, "Income, Employment and Poverty", in: Hossain Zillur Rahman, Mahabub Hossain and Binayak Sen (eds.) 1987-1994: Dynamics of Rural Poverty in Bangladesh, BIDS, Dhaka, 1996, pp. 5-50 (Mimeo).
- Hossain, Mahabub, Agricultural Development Strategy: Key Findings from the Report of Agricultural Commission, Seminar given at BIDS, 5 January 1999.
- Hossain, Mahabub, The Nature and Impact of Green Revolution in Bangladesh, IFPRI Research Report, IFPRI, Washington, D.C., 1988.
- Kothari, Rajni, Growing Amnesia. An Essay on Poverty and the Human Consciousness, Viking, 1993.

- Latif M.A., Shahidur R. Khandker, and Zahed H. Khan (eds.), Credit Programs for the Poor: Household and Intra-household Impacts and Program Sustainability, Vol. II, BIDS, Dhaka, 1996.
- Lipton, Michael, "Market, Redistributive and Proto-Reform: Can Liberalization Halp the Poor?" Asian Development Review, Vol.13, No.1, 1995, PP. 1-35.
- Lipton, Michael and Arjan De Haan, Poverty in Emerging Asia, Asian Development Bank, Manila, 1997 (Mimeo).
- Mahmud, Wahiduddin, and Binayak Sen, Determinants of Drop-out and Non-Enrollment at Primary and Secondary Levels (Summary Tables), Findings Presented at a Seminar Jointly Organized by ADB and BBS, 30 April 1998, Dhaka (Mimeo).
- Osmani, Siddiqur, "Limits to the Alleviation of Poverty through Non-Farm Credits", *The Bangladesh Development Studies*, Vol. 18, No. 4, 1989.
- Pitt, Mark and Shahidur R. Khandker, "Impact of credit Programs for the Poor on Household Behaviour in Bangladesh" in M. A. Latif et al, Credit programs for the Poor: Household and Intra-household Impacts and Program Sustainability, Vol. 2, 1996.
- Rangarajan, L.N.(ed.), Kautilya. The Arthashastra, Penguin Classics, 1992.
- Ravallion, Martin, Poverty Comparisons. A Guide to Concepts and Methods, World Bank, 1994.
- Ravallion, Martin and Binayak Sen, "When Method Matters: Monitoring Poverty in Bangladesh", Economic Development and Cultural Change, Vol. 44, No. 4, July 1996, pp. 761-792.
- Sen, Binayak, "Politics of Poverty Alleviation" in Rehman Sobhan (Ed.), Crisis in Governance. A Review of Bangladesh's Development 1997, Centre for Policy Dialogue and University Press Ltd., Dhaka, June 1998, pp. 159-182.
- Sen, Binayak, "Poverty and Policy" in Rehman Sobhan (Ed.), Growth or Stagnation? A Review of Bangladesh's Development 1996, Centre for Policy Dialogue and University Press Ltd., Dhaka, February 1997, pp. 115-160.
- Sen, Binayak, "Economic Effects of Rural Electrification" in A Socioeconomic Impact Evaluation of the Rural Electrification Program in Bangladesh, Chapter 6, Unnayan Shamannay, Dhaka, February 1996 (Mimeo).
- Sen, Binayak and Atiur Rahman, South Asia Poverty Monitor, BIDS / UNDP, Dhaka, 1998 (Mimeo)
- Sobhan, Rehman, From Two Economies to Two Societies: Honouring Bangladesh' s School Contract, Nazmul Karim Memorial Lecture, Centre for Policy Dialogue, 6 August 1998 (Mimeo).

Tendulker, Suresh et al, South Asia Poverty Monitor: The Indian Chapter, Report Prepared for UNDP, 1998.

World Bank, Bangladesh. From Counting the Poor to Making the Poor Count, Poverty Reduction and Economic Management Network, South Asia Region, World Bank, Washington, D.C., April 29, 1998.

*ADB Project Documents*

Project Performance Audit Reports (Various Projects)

Project Completion Reports (Various Projects)

Project Administration Committee Notes (Various Projects)