

RURAL DEVELOPMENT AND MIGRATION IN BANGLADESH

by

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Governments and private voluntary organizations are engaged in numerous activities intended to assist rural communities in developing countries. Rural development has significant implications for demographic as well as economic change. Indeed, one of the justifications for rural development is the desire to ease rural-urban economic imbalances, reduce rural out-migration. Research on the relationships between community and economic development and migration is essential to policy formulation in this arena.

This study endeavors to answer several questions about behavior and attitude with respect to migration and rural development. The conceptual model emphasizes relationships between participation in development programs, forms of development, and migration.

Residence histories were collected between 1985 and 1986 from 280 respondents living in four villages in Bangladesh, using structured interviews. Data include past residences, household composition, occupation and income, participation in development programs and a host of contextual variables describing origin and destination communities. Data are analyzed using descriptive, graphic and inferential statistics. Conclusions are further examined with qualitative information gathered through participant observation in a variety of program and non-program villages.

Among the findings, individual development, primarily through education and job training, is associated with a greater probability of temporary and long-term migration to urban areas. Some forms of community development, including economic growth, intensification of production, and diversification of activities appear to suppress out-migration from villages. On the other hand, development in the form of inter-community integration appears to encourage migration.

Economic development strategies have shifted over time between urban and rural locations, and between person and place emphases. The implications for migration are significant. Organizations wishing to encourage retention of rural populations, or wishing to encourage population mobility, should consider the balance of place-oriented and person-oriented strategies.

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I. INTRODUCTION

A. Problems Confronting Development Planning

Throughout the 1970's and 1980's rural areas of nearly all developing countries experienced very high rates of population growth. Increasing rural population density and finite new land for settlement contribute to the need for a diversified employment base and a mobile work force which can adapt quickly to new opportunities. Urbanization in developing countries is being driven ever faster by the inability of people to cope with insufficient rural resources. A case in point which will be analyzed throughout this study, is rural Bangladesh. With sustained high rates of fertility, a land base which offers no new frontiers and sluggish growth in manufacturing and service industries, rural Bangladesh presents nearly all of the challenges imaginable for development programs.

In order to increase rural opportunities and reduce push-factor migration to urban areas, there have been numerous efforts on the part of national governments and private organizations to better meet the current needs of rural and urban populations and plan for the future. Responses range from urban programs, such as squatter settlement upgrading and public sector employment programs, to rural integrated development. The urban based, capital intensive development strategies throughout the world have long been attacked for meeting the needs of the rural poor.

The policy shift towards rural, integrated development that occurred during the 1970's is still under analysis. While development agencies refine strategies for rural development, a central fact for many countries, including

Bangladesh, are continuing and frequently increasing levels of poverty.

B. Scope of This Study

This study is a microdemographic analysis of the impacts of rural development programs on village and household development, and subsequent implications for rural migration in Bangladesh. The complexity of both integrated rural development programs and the migration process preclude simple answers to how development affects migration. Specific policies, programs and projects may have significantly different and at times conflicting influences on people's migration behavior. Integrated development packages are likely to encourage the migration of some sub-populations while discouraging that of others. Selectivity applies, first, to the ways programs affect individual and community socio-economic change, and second to migration itself.

The context of this research is rural Bangladesh between the 1930's and 1980's. During this period Bangladesh has been through an administrative partition with India and a war of independence from Pakistan. There have been numerous devastating floods, famines and violent cyclonic storms. In spite of these calamities, the population continues to grow at an annual rate exceeding 2%.

Between 1951 and 1981 the population approximately doubled from 41.9 million to 87.1 million (BBS, 1985B:71). At 1981 growth rates the population would double again in less than thirty years. Population density in 1981 was 1,617 persons per square mile. Over half of the households earning their living from agriculture owned little or no land. In short, the environmental context of this research is one of extreme rural poverty resulting from natural and man made disasters

and a more continual process of high population density and rapid growth.

The Bengali culture is a second contextual factor which greatly influences the nature of population and development relationships. Language, religion and social integration have important implications for how development programs are applied and where they can go astray. The cultural context also influences the ways in which research is carried out and how the results should be interpreted.

A conceptual model is applied throughout this study which links development programs to migration through participation in individual and place-oriented programs. A pivotal issue in determining the relationship of program intervention migration is the impact that participation has on local adaptation.

Most forms of development intervention reach only a fraction of a community's population. The majority of people are either structurally or politically excluded from direct participation and either benefit indirectly or not at all from programs. The relative effects of intervention, when mediated by participation, on individual and place adaptive development are expected to be significant factors in determining migration into and out of communities.

C. Methodology

A household survey provides the basis for much of the data analyzed in this dissertation. Interviews were collected in four villages in northern Bangladesh which have significant participation in development programs of the Bangladesh Rural Advancement Committee. The Bangladesh Rural Advancement Committee, better known as BRAC, has been heavily involved in rural development since 1971. Their

programs have evolved over time and have gained international prominence for innovation and effectiveness.

Only villages which were considered to be representative of their surrounding regions were selected. Respondents were selected randomly from within the four villages and were interviewed using structured, retrospective residential history analysis. The interviews investigate household and village conditions before and after each change of residence over the respondent's life course. Comparable data were collected for non-migrants by raising the same questions at the time of important life course transitions. Additional qualitative and quantitative data were collected from secondary sources, participatory observation and focus groups.

Two steps are essential in order to relate development programs and migration. The first step is to show the quality and magnitude of impacts that development programs have on the lives of the participants and on the workings of their communities. Do programs work? Who participates and who benefits? Are there latent, unanticipated effects? The second essential step is to relate the changes in people's lives, their individual, household and community development, to changes in migration. What is the relationship between socio-economic and spatial mobility?

At the individual and household-levels, spatial mobility is often a part of socio-economic mobility. Limited employment opportunities are often cited as major incentives for out-migration (Todaro, 1969; Bogue, 1977). From another perspective, limited spatial mobility may be a deterrent to upward socio-economic mobility. For example, international border restrictions reduce spatial opportunities and often constrain people to lower wage occupations (Taylor, 1984; Lucas, 1985). Spatial and socio-

economic mobility interact without prescribed causal directions. The decision to concentrate in this study on the impacts of development on migration is not intended to imply that this is necessarily the more significant direction of causality.

D. Rural Development Policy

This dissertation endeavors to fill two important needs in our understanding of migration and development. Several path making studies have, with varying degrees of success, related village changes such as electrification and irrigation to out-migration (Bilsborrow and Delargy, 1985; Bilsborrow, et al., 1984). The studies provide interesting and straight-forward statistical models of specific development activities and migration.

What appears to be lacking from most studies of this nature is a sense of the individual within a social context.

Migration in a market economy nearly always results from individual decisions. Under extreme circumstances, such as the 1971 independence war in Bangladesh, migration may appear to be involuntary. Even then, the majority of people choose not to enter the stream of refugees crossing the Indian border. When migration results from economic change, the percentage of people who move is often lower and the selective characteristics of the migrants are more pronounced. By tracking the lives of individuals, their households and communities, this study reflects a sense of purpose on the part of the people who participated. In addition to "explaining" why people move, perhaps we can add to our "understanding" of migration decisions within a social and cultural context.

Second, there is a lack of rural-based migration analysis in Bangladesh. Studies in similar countries are of course helpful, but policy makers in Bangladesh are interested in country-based research. The directors of BRAC, CARE, CARITAS and the population division of US-AID all expressed interest in knowing how their rural development programs are affecting the pace of village development and migration into and out of the program areas.

Local extension agents are also interested in a general assessment of the impacts of migration on their programs. Their questions include whether migrants are contributing to accumulation of bad debts in credit programs and whether families of migrants benefitted significantly from remittances. The importance of this type of research for policy-makers interested in promoting rural development has been an important motivation for this research.

E. Guide to Dissertation Chapters

The literature review in chapter II raises many of the theoretical issues of migration and development. The chapter is organized along a series of statements relating development intervention, participation, economic development and spatial mobility. These statements are elaborated as a conceptual model in chapter III. The literature and conceptual model are used in turn to formulate a series of hypotheses which are more specific and more amenable to quantitative and qualitative analysis.

Chapter IV spells out the methodology used in this research. This research included more than twelve months dedicated to primary data collection. As such, the methodology for interview design, sample selection, and implementation will be dealt with quite specifically. Questions about internal and external validity of the

sample, problems of biased answers and cultural impediments to data collection will be discussed here. After explaining how the data are assembled, the discussion switches analytical methodology. A number of challenges exist for the analysis of residential histories, and for that matter any analysis of retrospective data. These challenges, and strategies for surmounting them, conclude the chapter.

Chapter V introduces the national, local and institutional contexts within which this research was conducted. Limited sample size and geographic scale put this style of research at risk of limited applicability to other places within the sample country, let alone other countries. The intent of this chapter is to clarify the research context and how this research might or might not be relevant to other locations and cultures. The definitions of basic concepts, such as development, as well as their structural relationships are presented within the context of rural Bangladesh.

Chapters VI through VIII present quantitative and qualitative data analysis. Each chapter addresses a basic structural relationship. Two chapters are organized to explain the intermediate relationships: participation with individual development, and participation with community adaptation. Chapter VIII relates changes in the intermediate variables to migration. Each chapter begins with a restatement of the relevant hypotheses followed by descriptive and inferential analyses.

The dissertation concludes in chapter IX with a summary of research findings and discussion of implications for development policy. There are many influences on the decision of how and where to support economic development. This dissertation looks at a fairly specific set of questions in a context which is, like all contexts, somewhat

unique. A broad set of questions regarding the political-economic factors affecting the supply of development finance funds is not addressed at all. Nevertheless, the relationships uncovered by this research are consistent with studies conducted in other locations, suggesting broader applicability.

Further research into the ways in which development intervention affect development per se and migration in cross-cultural context is advocated. A second extension to this research, which investigates the ways in which migration affects development at both the individual and community-level, is also recommended.

II. LITERATURE REVIEW

A. Introduction

Our understanding of development is conditioned very much by the context and scale of our inquiry. Development of a community has rather different theoretical and empirical characteristics from development of nations. Migration occurs on several levels as well, with the focus of research turned at times on individuals deciding where to live and at times on the aggregate movements of hypothetical beings, such as net migrants on a global map. The interactions of development and migration are difficult to separate from other real world events, such as political, environmental upheaval. Yet, when social, economic and demographic "conditions" are analyzed simultaneously, patterns of development affecting migration can be distinguished. These conditions may combine in such a way as to make out-migration seem inevitable. Connell describes such conditions eloquently:

"Population growth in the village has raised man/land ratios, increasing the power (political and market) enjoyed by landowners, and reducing that of landless laborers and deficit farmers. Growing integration into the urban market, by increasing both the need for cash and the drain townwards of investible surpluses, has enriched the money lenders, made rural reinvestment harder, and intensified both inequality and poverty. In such a village, push and pull operate together, but on different social classes. Deficit farmers and landless laborers - though not the very poorest who cannot afford the delays and who may well be bondslaves - are pushed out... The better-off farmers...encourage one or more sons, often in a "chain," to be pulled out, to enjoy the higher urban-rural income differentials associated with education or to acquire the cash and/or knowledge needed to improve farm technology (1976:197-198).

This review begins with definitions of key concepts. The purpose of this exercise is not to argue for a uniformly ideal set of definitions, as this does not currently exist.

The specific definitions employed in this research have been selected because they fit well with policy issues of migration and development. Given a different set of questions, somewhat different definitions might be useful.

The second section, on participation in rural development, finds that the answer also depends on how one defines participation. There are, in many programs, disparities between intended and actual beneficiaries. The third section thus discusses the impacts of development programs on individual development.¹ The distinctions between individuals, households, families and communities will be drawn more precisely in the elaboration of the conceptual model.

The chapter concludes with several perspectives on the relationships between individual and community development and migration. Micro or individual perspectives and macro geo-political perspectives are compared. Each section has a fairly large body of existing literature, much of which cannot be included here. Several more complete literature reviews will be cited as they refer to particular topic areas.

1. The term individual will be used frequently throughout the dissertation. It is intended to represent both individual and household units. Other significant social units, such as family, faction and neighborhood will be referred to by name.

B. Definitions of Development

In "Economic Growth and Economic Development: Counterparts or Competitors?", Robert Flammang reviews nine definitions of economic growth and development (Flammang, 1979). Flammang characterizes growth as a process of expansion or increase. Much as plants and animals grow, an economy can also increase in size. The most common national indicators for growth are gross national product, gross domestic product and employment. Estimating GNP in an agrarian, subsistence economy is not without methodological difficulties, but in theory such an aggregation exists. At the community-level, common measures of growth are job creation, higher real incomes and quantity of goods produced. Flammang does not address the concept of individual economic growth, but clearly issues such as household caloric intake, quality of shelter, income and security are central.

Allometric growth serves as a bridge between simple growth and development. The allometric model is drawn from complex biological systems which experience unequal growth of their parts. For instance, after birth human arms grow relatively faster than heads. Similarly, a growing regional economy may experience predictable shifts in labor force composition which reflect relative efficiencies of scale for particular population sizes. Agriculture may require relatively fewer additional workers than manufacturing in order to meet the needs of the population. Construction industries may grow and change methods of working when higher density requires multifloor, multifamily structures.

Flammang refers to development as structural change of the biological or economic being. Structural changes at the national-level are reflected in the emergence of new industries, such as pharmaceuticals, the sectoral shift of labor from agriculture to manufacturing, changes in the

balance of trade, and redistribution in ownership of industries. Local examples of development include establishment of new industries, changes in the skills requirements for the labor force, and changes in the balance of local and external ownership of industry and business. At the individual-level development might include learning new skills, gaining access to new forms of work and moving from a position of labor to one of ownership. On all levels growth and development may be simultaneous, competitive or alternating processes (Flammang, 1979).

Development in the broader social, economic, political and legal context has many more definitions. John Friedmann seeks a definition of national development by contrasting underdeveloped, "U-" countries and developed, "D-" countries. He summarizes five goals typically sought in U-countries.

1. "an increase in the autonomy of national society"
2. "an increase in the levels of living of the population"
3. "an increase in social integration"
4. "an increase in modernization"
5. "an increase in spatial integration" (1973:23-4)

Like nations, individuals seek greater autonomy, a better standard of living, integration into communities and peer groups, modernity and spatial integration. Other attributes given to "development" include equity, stabilization and most recently environmental quality.

Todaro combines aspects of capitalist growth theory and international-structuralist theories of political-economics to craft a similarly integrated definition of development (1977). Three essentials in defining development, according to Todaro, are increasing material well being for all, maintaining and increasing individual and national "self-

esteem", and expanding freedom and choice (Todaro, 1977: 72). The first tenant of development, also referred to as "growth with equity", is decidedly economic. The failure of many developing countries to enter Rostow's hypothesized stage of self-sustaining growth led Todaro and others to question the simplicity of capitalist growth models (Rostow, 1958) (Rostow, 1961). Most evident in the failure of the capitalist growth model were patterns of sustained and increasing poverty, even when national savings, investment and growth were achieved.

Individual and national self-esteem are more difficult to quantify, but are interesting criteria for understanding development at various levels. In rural communities, as in nations, self-esteem is threatened by excessive dependence on external support. Like esteem, Todaro's third criteria, that of freedom of choice, is interesting but difficult to measure. In a multi-cultural world, concepts of freedom and choice can differ dramatically, as will people's willingness to balance freedom of choice, for freedom from deprivation.

Like Myrdal, Todaro subscribes to the argument that these planks of development are mutually reinforcing, forming a cycle of cumulative causation (Todaro, 1977:75).

Participation is frequently included among criteria which define development, yet participation often remains undefined. At least three discernable levels of participation exist. First, people may participate as those affected by change. Nearly all changes in a society will be manifested in adjustments made by people. For example, changes in tax legislation increase the disposable income of some while decreasing it for others. Participation in emergency relief programs may be limited to standing in line and taking what is offered. Second, participation may be defined as change in actual time and effort in an activity.

When new jobs become available, the participants are those

who fill them. Those who do not actually contribute work or other forms of effort are not participants at this level. Third, and more demanding is the view that participation is a conscious process of directing change through social and political action. People participate through voting, membership in guidance committees, and contributions of time and effort towards establishing goals.

These differences of definition raise the question of who participates in development and how their lives are changed. Lisa Peattie, in Thinking About Development, emphasizes the impacts of development as the defining criteria.

"I believe these changes in people and in their social environment are more than the consequences or peripheral aspects of the economic development process - they are the stuff of which economic development is made, or the process itself on the smallest scale." (Peattie, 1981:6)

While this discussion of economic growth and development started at the macroeconomic-level, the microeconomic or household-level of analysis offers insight into the applicability of various definitions. At the household-level we can distinguish between forms of growth which increase opportunities and participation versus forms of growth which actually reduce choice. We can see over time how the processes of structural change affect people in different economic circumstances. Most importantly, at the household-level we can associate participation in the process of growth and development with policy-relevant attributes of people, such as education, occupation and wealth.

The intent of this study is to describe and explain individual patterns of migration and development. It is therefore appropriate that the operational definition of development be placed in the context of household social and

economic change. Peattie's conceptualization of development is advantageous in its emphasis on household well-being. The individual's expressed preference provides a second form of data which can be compared with more objective measures.

Aggregation of individual attitudes and behavior is employed in establishing indicators of community development.

Evaluation of development solely at the household-level can be misleading. Individuals may experience major changes, such as graduation from secondary school or a change of occupation, while the community as a whole remains much the same. Some data collected at the household-level can be aggregated into meaningful, higher level regional measures. From the macroeconomic perspective, development is more than the sum of individual changes. The inter-relationships of economic changes can have synergistic effects, such as economies of scale, which may not be manifested at the level of a household.

Assuming that community or regional indices accurately reflect the well-being of households is to commit an ecological fallacy. Economies often grow while leaving significant portions of the population behind (Vic and Wilding, 1976; Peattie, 1968; Coombs, 1980). In the case of Bangladesh there is usually considerable economic heterogeneity, even within small neighborhoods.

C. Definitions of Migration

Migration stands out among the fundamental topics of demography both in the number of ways it is manifested and defined. Two crucial dimensions of migration are space and time. In order to separate migration from other spatial movement, operational definitions invariably set lower limits. The most frequently imposed lower limits are geo-political boundaries. Moves within prescribed

boundaries are not migration while moves across boundaries are. These boundaries are often chosen as proxies for spatial distance. However, very long distance moves may fall within established boundaries. Short distance moves may involve crossing national boundaries.

The second crucial dimension is time. Here again some lower limit is generally assigned in order to separate migration from other moves. As with space, temporal borders are somewhat arbitrary. The notion of permanent migration proves to be very elusive. Except in the case of historical demography, permanent migration, when the migrant "never" returns to the place of origin, is difficult to establish. Thus, in "real-time" a move becomes some form of migration after the specified lower time limit has lapsed. Labels are affixed to movement not extending over sufficiently long periods of time. These labels include seasonal migration, circulation and commuting. Regardless of how one compartmentalizes what really is a gray area, the time interval over which migration occurs is an important variable for migration and development research.

Several other defining criteria for migration have been employed in other studies, though there is little consensus among them. They include whether a move was intended to be permanent, the activities of the mover at the destination, the reasons for the move, the disruption in normal activity and the voluntary nature of the move.² If there is a consensus among demographers about migration, it is that the definition must suit the goals of the research (Peterson,

2. Peterson distinguishes between "innovating" migration where the migrant is searching for new opportunities, and "conservative" migration where the migrant moves in response to a change in conditions, such as a flood (1958). Similar distinctions are made by R.H. Chaudhury (1979) and Findley (1979).

1958). When a wide range of relationships are to be studied, the conservative practice is to measure migration in as much detail as possible.

D. Participation in Rural Development Programs

In Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation, Cohen and Uphoff, begin their discussion with the historic ambiguity over what constitutes participation. "What, who and how" are presented as the three fundamental questions of participation (1977). This section shall be organized accordingly.

1. What participation?

The Cohen-Uphoff model separates participation into decision-making, implementation, benefits and evaluation.³ The process resembles rational planning with support for public input. The steps, illustrated in Figure 2.1, are ordered as a planner might order a project which has a defined beginning and end. Participation can occur in the design, implementation and evaluation of development projects. Feedback arrows suggest that there are opportunities to rethink and redesign any part of the planning process.

3. Uphoff is one of the pioneers in the implementation of participatory-action research, which is obviously one example of participation in evaluation (Uphoff, 1982).

The latter point, learning to expand, appears to be especially important in Bangladesh's large scale development efforts. Programs like the Comilla Project had notable success while they remained in the pilot stage. When these programs expanded to the rest of the nation, as the Integrated Rural Development Program (IRDP), they were far less effective (Khan, A.R., 1984:463). The loss of control of programs which are expanding rapidly has been attributed to the overemphasis on rapid disbursement of program inputs (Ahmad, 1983:57), excessive rigidity in how people can participate (Cohen and Uphoff, 1977:304), a failure to adjust to local conditions (Khan, A.R., 1984:463), and the entrance of large numbers of poorly motivated employees (Jenkins, 1983).

2. Who participates?

Most of the programs under consideration in this migration and development study are targeted and require participation of at least one household member. Program benefits occasionally extend to bystanders, but by in large benefits are not wide spread. As such the question of who participates is a first step towards isolating the beneficiaries. Of course not all participants benefit. Some participation is very slight and the benefits negligible. Participation may also be significant, but result in no measurable benefits.

Development agencies have a variety of choices as to the domain of their intervention. Community based programs involve a cross-section of people based on their place of residence. The sectoral domain refers to the breadth of programs across social and economic activities. Sector-specific programs may cut across many communities, but engage only persons in particular occupations or industries, such as irrigation programs and manufacturing labor

unionization. Most development programs in developing countries have a set of targets relating to these two dimensions (Khan, A.R., 1984:468). Targeted programs may only involve a subset of a local population, such as working women in urban squatter settlements.

Programs which are targeted have implicit and explicit methods of exclusion based upon demographic and economic attributes of their participants. Implicitly, households that do not own land cannot participate fully in agriculture extension programs. Explicit guidelines seek out target groups, and act to exclude persons who otherwise might wish to participate. Explicitly, households falling above some level of income may not be permitted to receive assistance.

To the extent that programs motivate and regulate participation successfully, the question of who participates is more readily researched through the program guidelines and simple program statistics.

Two issues are particularly difficult to analyze through statistics kept by development agencies. First, many programs take on unwanted participants. Abuse, often by persons who are least qualified to participate, can misdirect a large part of a program (Chen, 1979). Agency representatives are often aware of the misdirection of resources and falsify documents in order to disguise corruption (Chen, 1979; Jenkins, 1983). Whenever corruption is pervasive, effective research is difficult.

The second issue of participation is that of identifying why qualified persons are not involved in development programs. In the four villages surveyed approximately one third of the households reported some participation in BRAC. Another one third were probably above the upper income limit that BRAC sets for economic status. The remaining third met BRAC's income and land ownership criteria, but did not participate. Their absence

may be attributed to oversight, exclusion, refusal or a number of other causes. Each reason for non-participation has different implications for program implementation.

a. Social Factors Obstructing Participation

Imam, et al, identifies three aspects of Bangladesh village social structure which influence who participates in the process of development, discontinuity, dependency and disadvantage (Imam, 1984:B3-8). Discontinuity refers to the fragmentation of villages into factions. Factions frequently organize around a wealthy member of the community who exchanges financial credit for political support. Factions compete over land claims, fishing rights and virtually any other money making opportunities which are not clearly assigned. These disputes frequently turn violent. Economic development organizations can also fall into competing factions in rural Bangladesh. When an organization becomes associated with one particular faction, others who would like to participate are constrained by their need to remain loyal to their patronage group.

The second aspect of village social organization discussed by Imam is dependency. The majority of people in rural Bangladesh do not have access to formal credit markets. When work is not available, even for one day, many families are forced to borrow small amounts to meet current consumption needs. They are dependent upon traditional sources of loans, such as relatives and local MOHAJAN (money lenders). Their dependency does not allow them to participate in new groups, especially when the membership is seen as a threat by those on whom they depend.

Disadvantage is accumulated through the processes above but also entails a certain amount of momentum. Households that are poor not only have tremendous challenges meeting current needs, but are socially and economically

disadvantaged with respect to investing in the future. Children are taken out of school if they can earn even the smallest income working in the fields or as domestics. Land must be put up in mortgage in order to purchase food. Damaged housing must be patched with local materials which will deteriorate rapidly. Families in the disadvantage group are often too poor to participate in the "savings" clubs, group work projects and meetings that are required for participation in development projects. Disadvantaged individuals are also likely to fall into the group of temporary and migrant farm laborers. The frequency and irregularity of their moves make it very difficult for them to join in community-based organizations.

Closely related to these three conditions, discontinuity, dependency and disadvantage, is the issue of trust. In discussing the distrust that American migrant workers feel towards strangers, Myrtle Reul underscores a problem that is plainly evident in rural Bangladesh. "Regardless of their race or ethnic background migrants have known too few situations where words alone could be trusted. They are surrounded by constant experiences that take in almost a carnival "con man" atmosphere." (Reul, 1974:566)

Not only are villagers wary of the motives of employers and factional leaders, but they are also wary of the motives of development and relief case-workers. Corruption within government and private development organizations in Bangladesh is well documented (Jenkins, 1983). Expatriate consultants, many of whom cannot speak the local language, add to the carnival atmosphere through their brief visits to model development projects. Robert Chambers has labelled this "development tourism" (1981:2).

b. Changing Participant Awareness

The use of participation to motivate or "conscienticize" a target population frequently involves applying Freire's analysis of oppression (Freire, 1970). Freire identifies four stages of awareness which indicate the capacity of an individual to effectively participate in development (Werner and Bower, 1982:26.12-26.14). Individuals with a "magical" awareness are likely to attribute many of their problems as well as windfalls as an act of divine powers. They are less likely to act to solve problems if they believe them to be beyond human control. "Naive" awareness is a superficial interpretation of modernity. Freire suggests that these individuals are likely to imitate the outward appearance of higher income classes, dressing in their clothes and supporting the existing power structure. A "critical" awareness represents a fundamental break with uncritical acceptance of traditional social and political structures. At this level participation in the research and decision-making is likely to be the most informed. At another extreme is "fanatical" awareness. Critical thinking is absent as the group is dogmatically tied to some alternative doctrine. Participation in programs which attempt to work with those in power is impossible. Person-oriented development projects often encourage critical awareness.

3. How people participate? Intervention and Participation

The range of development strategies which are employed in rural development is broad. Each strategy has implications for what, who, and how of participation.

Nesman provides a useful list of past approaches to rural development: (1981:2-3)

Trickle down	Training school
Agricultural short course	Experiment station
Demonstration farm	Infrastructure
Rural cooperative	Agrarian reform

Appropriate technology
Mass communication
Agricultural commune

Extension education
Community development
Revolution

Cohen and Uphoff highlight four areas of how people participate. The "basis" of participation refers to the "impetus" for projects, whether internal or external, and the "incentives" for participation. Taking appropriate technology from Nesman's list, we can consider the implications of impetus and incentive. Is new technology developed by farmers or is it handed down by research organizations? Do farmers accept the technology quickly, or are incentives such as capital subsidies required? Can farmers afford new technologies when they are not subsidized?

The "form" or organization of participation is Cohen and Uphoff's second "how". Organization will be given considerable emphasis in the analytical chapters of this dissertation. Again, each of the intervention strategies listed above imply very different organizations. Mass communication in most cases is associated with diffuse presentation and little or no local area group formation.⁴ Agricultural communes, on the other hand, assume a great deal of interaction among the participants.

The third how of participation is "extent". Two simple measures suggested by Cohen and Uphoff are the time allocated by participants and the range of activities. Time may be prescribed from central offices, as in agricultural training and visits to demonstration farms. Time allocation may also be flexible as in the case of participation in community organization. When time allocation is flexible,

4. "Radio schools", wherein people gather to listen to a class presented by radio, are an exception. The one-way nature of broadcasting is generally not conducive to group interaction.

the use of amount of time that individuals volunteer is a common measure of their participation. An all too common problem faced by development organizers is the decreasing willingness of intended beneficiaries to allocate time to the project meetings. Early enthusiasm for a project can fade quickly if benefits are not assured. In a study of participation in government rural development programs in Bangladesh, M. Hazrat Ali found,

"It was found that, in general, there was a relationship between length of association with organizations and the degree of attendance. Both irregular attendance and abstaining from attending meetings increase with the longer period of association."

"The above facts might lead us to infer two things:
a) The enthusiasm of the members to attend the organization meetings decreases with the longer period of association because their objectives remain unfulfilled and frustration develops.
b) The poorer section of the members find their association with the organizations less beneficial for them. Even when they attend meetings, their participation in discussions and decision-making is also minimum in comparison with richer section of the members." (1980:30)

The range of activities refers in part to the former question of "what" participation, which has already been discussed. In addition, the commitment of local resources represents another measure of the extent of participation. Many development programs require local commitments other than time. These resources may be natural and human, such including money, space and local expertise.

The fourth and last "how" of participation presented by Cohen and Uphoff is "effectiveness". Effectiveness in completing a project is contingent upon several attributes of individuals or groups and the ways in which attributes combine or conflict. Highly technical forms of development, such as complex infrastructure projects, simply cannot proceed without the participation of professionals, while

program requiring manual labor cannot proceed easily without the participation of the local work force. Programs to "empower" participant often have a long-term goal of accomplishing tasks for which local human resources are currently ineffective (Blair, 1985:1242).

4. What, who and how in this study

Participation in this study will be defined on three levels, based upon the perspective from below rather than Cohen and Uphoff's perspective from above. The three principle levels of participation are consumption, production and allocation. Consumption is comparable in many respects to enjoying the benefits of development. To participate at this level one need only use a newly installed water system or eat relief supplies after a flood.

The second level, production, implies a greater involvement in the work required to promote development. Such work includes manual labor, the provision of land or money in an effort to create new infrastructure, institutions and so on.

The third level of participation is allocation. In many respects allocation is a compilation of what Cohen and Uphoff define as decision-making and evaluation. This level includes the process of identifying and assigning local and external resources towards felt needs.

The important actors in the development process are difficult to identify using interview data. Residents often incorrectly identify or simply do not identify programs and participants which in fact exist or existed in the past. Some ignorance of the details of development programs is understandable. For instance, one would not expect village participants to know about the various international funding agencies supporting their local program.⁵ However, when a

5. The role of foreign donors is often down-played in the field. Case workers felt that the villagers would be

tangible benefit or a development case-worker is readily visible, respondent's denial of either is not easily dismissed. Even fundamental terminology in English, such as the concept of existence, does not translate perfectly into the culture and language of Bangladesh.

5. Summary

Part of the disagreement over the proper role of participation in development stems from the ambiguity of what we consider to be participation. While many writers sidestep the question entirely, there are at least three levels of participation which can be discerned from the literature. The form of development intervention as well as the characteristics of the target population play a role in determining both the type and magnitude of involvement. Consumption-oriented or passive participation is most evident when programs are relief-oriented. Production- or work-oriented participation is prevalent in programs which require labor directed towards goals which are self-evident or centrally determined. Major physical infrastructure programs, such as Public Law 480 Food for Peace Program, often fall into this category. The highest level of participation is allocation, requiring that the participants actively organize and make decisions affecting the larger community. For each situation there will be varying magnitudes and combinations of the three types. Participation in decision-making may be limited to casting a

more inclined to want "handouts" if they knew that the sources of operating funds were from wealthier developed countries. It is also argued that villagers will take greater pride in community projects, such as well drilling, if they believe that they are paying the full price for it. These questions of conduct and information relate back to Imam. et. al and their discussion of dependency.

vote in a elections. Participation in production may require extensive cooperation between community members.

The guidelines for who may participate in rural development programs are both implicit and explicit. Programs for the landless presumably do not encourage the participation of large land owners. However, in many less developed countries the question of who actually participates and on what level is not answered by review of administrative guidelines. Programs intended for the poor are often the political and factional platform for the rich. Food intended for people who are hungry is diverted to the warehouses of shop owners and urban middle class markets.

A crucial question of participation is why those who are qualified according to development institution guidelines are not involved. A range of social, economic and political factors affect whether or not people participate. Four important issues, discontinuity, dependence, disadvantage and trust, are reviewed. It is indeed an irony that the poorest members of a community are often too poor to join in programs for rural development. Migrants are also vulnerable to exclusion from programs which assume residential stability.

E. Individual Development

The concept of individual development is not new, neither is it uniformly defined. "Physical development", "personal development", "career development", "educational development" are all related to aspects of individual development. The attributes of individual development which are most relevant here are encompassed in measures of life course transitions and socio-economic mobility.

1. The Life Course

The life course, alternatively called the life cycle, is a pattern of individual growth and passage through somewhat blurred phases of activities and responsibilities.

The life course is determined biologically and culturally.

The course prescribes social norms for behavior based upon individual demographic characteristics, especially age and gender, and social characteristics such as parentage, nationality and religion. Major transitions in the life course include childhood, school, movement into an independent household, marriage, parenthood, retirement and so on. Both the continuity of cultural norms and deviation from these norms within societies may be fruitfully studied within the life course context.

The abruptness with which the life course enters new phases can be startling. One of the most remarkable transitions in rural Bangladesh is that for girls who enter puberty. As children they play in the fields wearing nothing but a pair of short pants and literally overnight are expected to dress in a Burka covering their faces and are restricted from leaving the home. A short while later they are likely to enter an arranged marriage.

With respect both to participation in development programs and migration, the life course should be interpreted both as an underlying context. The life course is, of course, highly related to key analytical variables. Major transitions in the life course, such as entrance in school, are often affected by public policy. Policies to decrease fertility in less developed countries often attempt to increase the age at which women enter marriage (Jayasuriya, 1982:1-22).

2. Socio-economic Mobility

Economic mobility consists of movement between wealth and poverty, full employment and unemployment. Social mobility includes integration and isolation within a community, changes in social standing among peers and so on (Brown and Sanders, 1981). Socio-economic mobility has been studied from many perspectives. Willem van Schendel's excellent book, Peasant Mobility: The odds of life in rural Bangladesh, provides a detailed account of rising and falling tides of economic well-being in the historical context of rural Bangladesh. Drawing upon peasant studies in the Soviet Union conducted by Shanin in, The Awkward Class, Schendel looks at four village clusters in Bangladesh. Schendel begins his book with these two thoughts about two popular images of peasantry in Bangladesh that are commonly espoused.

"The first [view] presents us with a picture of Bangladesh peasants as the fourth largest peasant society in the world - an enormous, hardly differentiated population living in the deepest poverty."

[And]

"According to the [this] second view, sharp and rigorous class divisions cut through the peasantry. A class of rich peasant, exploiting landless day-laborers and sharecroppers, is buying up land, rationalizing agricultural production, and consolidating its position as a class of rural capitalists." (Schendel, 1981:IX)

Despite the differences of these two images of rural socio-economic organization in Bangladesh, they share an static picture of individual socio-economic status. Schendel takes a third view of mobility as a dynamic process, with individual's rising and falling in status over time and lineages rising and falling over generations. The more interesting question surrounds what factors contribute

to economic mobility. Shanin provides a framework for explaining mobility patterns based on centrifugal and centripetal forces.

Centrifugal forces are those which act to differentiate households or classes in a community. Centripetal forces have the opposite effect, decreasing disparities (Shanin, 1972:241). The unit which rises and falls is the household which is affected by internal pressures, such as aging, growth and division, and external forces, such as land reform. Communities have a vested interest in permitting some degree of polarization and at the same time some amount of levelling of resources.

Oded Stark, J. Edward Taylor and others at the former Harvard Migration and Development Program have elaborated some of the micro-economic implications of household relative-income or relative-deprivation. They conclude that households are intensely aware of their economic status relative to that of their neighbor's. Rather than measuring absolute well-being in predicting human behavior, we should be more concerned with relative well-being (Stark, 1983; Stark and Taylor, 1986). In the context of Shanin's model of constant shifts in peasant mobility, the norm of families to keeping up with their neighbors is a centripetal force.

Most of the literature on economic mobility in Bangladesh emphasizes Shanin's centrifugal forces. Examples of socio-economic polarization abound. Shanin's concept of "cumulation of economic advantages and disadvantages" is clearly related to Gunnar Myrdal's theories of circular and cumulative causation and Richardson's macro-economic analysis of polarization reversal (Myrdal, 1956; Richardson, 1980). Technological changes, such as those introduced in the Green Revolution, can have dramatic impacts on the strength of centrifugal forces.

Perhaps the most written-about force of cumulative causation in Bangladesh is embodied in the literature on household lending and borrowing. Poverty in Bangladesh entails a day-to-day struggle to find adequate food. A minority of the population can eat three nutritious meals a day throughout the year. Seasonal underemployment forces many families to borrow at very high interest rates to meet food deficits. Once entered, the cycle of desperation borrowing for consumption needs is extremely difficult to escape. Lending families accumulate land at a price well below its market value from borrowers who are unable to repay their loans.

3. Integrating the Life Course and Socio-economic Mobility

Shanin poses the household biological cycle as both a weak centripetal and a weak centrifugal force (Schendel, 1981:10-11). The biological cycle of a household is comparable to the life course of an individual, only more complicated. Modal household organizations in most cultures will include young married couples without children, two parent families with children and older couples with "empty nests". The aging of the household's patriarch is in fact biological and is often used as the indicator of a household's maturity. Other household organizational changes occur which have biological counterparts, though they are social in character.

Households in Bangladesh are frequently extended, with members from three generations, married sons living with parents and non-relatives members. Just as there exist modalities in the structure of households, so too are there modalities in the dynamics of household change. Households tend to rise in numbers through marriage and natural increase, decline through out-marriage of daughters, and

split into smaller more nucleated units for a variety of social and economic reasons.

Changes in household composition are both cause and consequence of changes in economic status. Large numbers of children imply high dependency rates and low per capita income (Leff, 1969). After some time children, particularly males, become net producers (Cain, 1977). At the other extreme, elderly members of the household present a different set of needs which the productive household members must provide. Economic status can affect household composition in several ways.

In Bangladesh, high incomes permit and even encourage a greater number of dependents. Families with higher incomes are often expected to take care of less fortunate relatives and non-relatives (Schendel, 1981; Thorp, 1978). Low income households face a number of shortages which encourage early out-marriage of daughters, sending children to work in other households, seasonal work in other villages and dividing properties. These adaptive strategies greatly complicate Shanin's fairly simple model, especially as they lead to formation of new household boundaries which make earlier measures of well-being somewhat incomparable.

Table 2.1 illustrates life course and development program relationships. From a public policy perspective, life course transitions can drastically alter the assistance needs of individuals and households. Good schools are important to parents with children ages five to fifteen, and in the long run to the children themselves. Upon completion of education, or for those completing their non-working phase of childhood, activities move into finding work and building a family. Employment training programs are most likely to benefit younger adults who are seeking out first time jobs and who are not burdened with large family

responsibilities. Programs of in-kind assistance are of particular interest to elderly.

Table 2.1 Life Course Development Participation

STAGE IN LIFE COURSE	PROGRAM MIX			
	Education	Employment	Credit	Housing & Relief
Youth	+			
Single Adult	+	+		
Marriage		+		+
Child-bearing		+	+	+
Middle age		+	+	+
Retirement				+

Gender is also critical in relating the life course to development participation, especially in Islamic societies.

A smaller percentage of girls than boys attend school (BBS, 1985A:166,466). The labor force activity rate for females is less than 8% (BBS, 1985A:162). Women nearly always migrate at the time of marriage (Begum and Chowdhury, 1985:124-9). Women shoulder most of the responsibilities for child care and housework (BBS, 1985A:165). Women are far more likely than men to spend their older years either as widows or divorcees. In spite of these differences, there is considerable continuity between programs for men and women in Bangladesh. As will be discussed in the later analytical sections, there is some evidence of change in the traditional differences between male and female roles in the study villages.

4. Summary

The concept of individual development has several names. These names include mobility, integration, advancement and maturation. Metaphors have been borrowed from several disciplines. The biological metaphor of growth in complexity and specialization illustrates useful aspects of the evolution of individual roles in a community. The life course and socio-economic mobility provide useful foci for this study. The life course is a pattern of growth and passage through fairly distinct phases of activities and responsibilities. Socio-economic mobility is a pattern of movement between extremes of wealth and poverty, employment and unemployment, and so on. From the perspective of rural Bangladesh, however, the most common definitions of development are simply higher income and better work. An interesting and somewhat unexpected emphasis on the role of usurious credit markets in constraining individual potential arises in the literature in Bangladesh development (Ahmad, 1983).

The life course perspective of individual development assists in the analysis of continuity and divergence from the "normal" processes of maturation and transition. In Bangladesh, as in most societies there are strong modalities in the timing of education, marriage, entering the work force and so on. Measurement of an individual's economic status must remain cognizant of the life course stage at which the individual has arrived. To some extent the analysis of entire households helps to control for the influence of a particular member's stage.

F. Adaptation

Many human activities are organized in adaptation to the local environment. Cold climates motivate the

production of insulated clothing and insulated housing. Food shortages motivate increased agricultural activity. High population densities increase the need for specialization and trade with other regions. Intense competition for scarce resources can lead to fragmentation of organized societies and war.

The relevance of development intervention and adaptation for migration is clear. Where intervention programs enhance adaptation of a population to its environment the likelihood of out-migration might be expected to decline. When intervention disrupts the linkages between people and their environment, the opposite might be expected.

The process of human-environmental adaptation is considered in a variety of intellectual disciplines, including environmental economics, sociological human ecology and ecological anthropology (Geertz, 1963) (Micklin, et al., 1984) (Harris, 1979). The volume of literature on human-environmental adaptation is large. In order to focus on the most relevant portion of that literature, a brief digression into two basic forms of development intervention is required.

1. Person and Place Investment in Development

One way to classify development projects is "person-oriented" versus "place-oriented". Person-oriented programs emphasize building human capital through education and job training or through the provision of means of production which are movable, such as carpentry tools or pedicabs. When participants in such a program leave their community, they often take the benefits of the investment with them.

In order to increase the impact of limited external resources, funding is often targeted to specific segments of a population. For instance, pre-school educational

resources are often targeted to children from poor families in order to provide them with a "head-start".⁶ Job training is targeted to people who are unemployed or underemployed with the intention of having significant impacts on overall productivity of a labor force. Skills and movable capital acquired in one location are often useful and better rewarded in other communities. Even when project goals include development of a particular community, implementation results in participants having more migratory options.

Place-oriented projects are principally designed to increase opportunities and improve living conditions in a particular location. They include irrigation systems, formal credit institutions, health clinics, local organizing, and so on. These programs are of less use to people who migrate out of the location, though they can benefit others who move in. Place-oriented programs can also have significant impacts on individuals not directly engaged in the program and on other locations through spread and backwash effects.⁷

The line between person and place orientation can be fuzzy, especially in the case of health and education programs. Construction of a primary school at first appears to be a fixed asset which unambiguously falls into the place

6. In Bangladesh, Save the Children - U.S. has introduced Play Schools in several rural areas in order to involve children in educational games from an early age.

7. The terms spread and backwash were coined by Gunnar Myrdal (1957) in his discussions of circular and cumulative causation in development. Spread effects are the extension of benefits beyond a target area or outside of a target population. Backwash effects are negative consequences of a program on areas or populations outside of the target. For instance, the "brain drain" is a backwash effect on non-participant areas of spatially concentrated investments in high technology industries.

category. Schools are inaccessible to persons who leave the village. Yet, for migrants the adequacy of schools in the place of destination is an important consideration. On the other hand, the education imparted in schools builds human capital in students, and unambiguously falls into the person category. Because of the somewhat mixed function of schools, the sample in Bangladesh was taken in four villages, all of which have primary schools, but not secondary schools. School attendance is considered to be participation in person-oriented programs.

The 1983 World Development Report makes a similar distinction between development programs and projects. The distinction is drawn between management strategies for physical development and person-oriented development. The intent of the WDR analysis is to differentiate skills required for each class of program. The authors argue that management of physical development requires a combination of technical and planning skills, whereas person-oriented development requires skills in organizing, understanding local needs and political savvy (1983:88-96).

The distinction between person and place orientations articulated in this research differs in some ways from the World Bank definition. For instance, person-oriented development according to the World Bank may include any number of projects which are fixed to a locality. An effort whose objective is to organize a farmer's cooperative will not require physical development yet remains attached to the location where it is formed. Physical development and place-oriented development are also similar yet distinct. Physical development is most often fixed in one place, though transportation equipment and light capital are not.

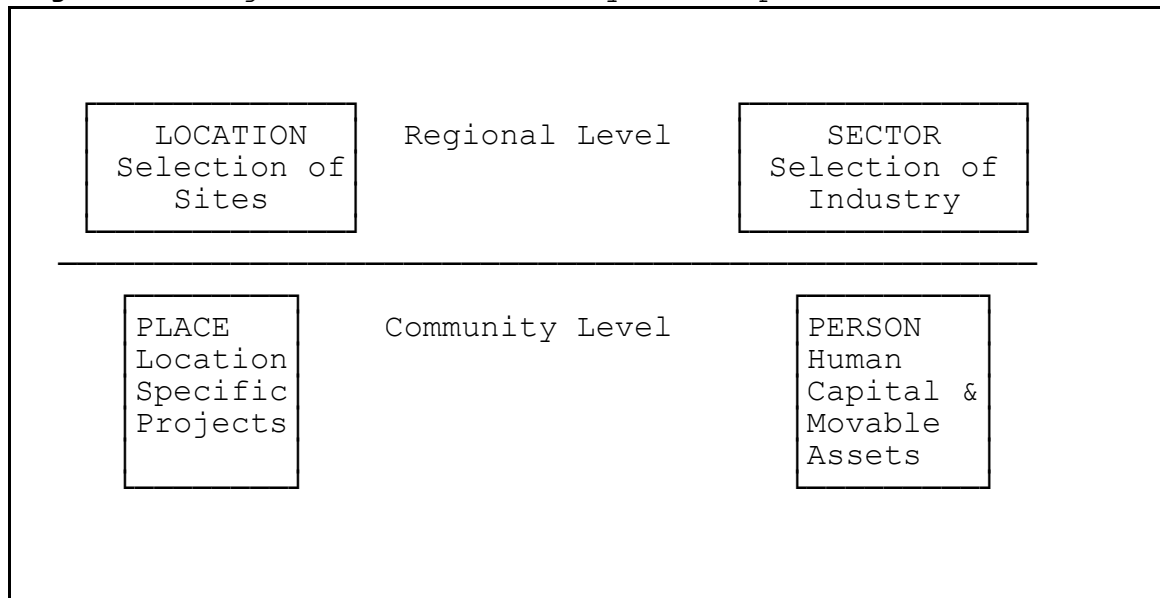
2. Sector and Location Investment in Regional Development

A related distinction at the regional-level is location versus sector orientation, illustrated in Figure 2.2. Location has a very different meaning in this case. The decision is in what locations one should invest rather than the form which the investment should take. Macroeconomic decisions encompass the relative merits of investment in rural versus urban areas, declining versus growing regions and so on.

Once a location has been selected, the decision over place- and person-oriented intervention remains. Sector-oriented development targets resources to particular industries, or, to a lesser extent, occupations. For instance, development agencies may choose to support export-oriented apparel manufacturing. The spatial patterns of the industry are of less concern than the economic sector it occupies. The place-sector dichotomy is most appropriate in discussions of development at regional and national levels.

As the spatial domain of the decision unit decreases, the choice over specific location diminishes. The decision over where to locate a development project within a small village is still a matter of local controversy, but will not be a principle concern of this study.

Figure 2.2Regional and Community Development



3. Sociological Human Ecology

The basic tenets of sociological human ecology were summarized by Duncan and Schnore in 1959 who used the acronym P.O.E.T., standing for population, organization, environment and technology, to describe human-ecological systems through which societies adapt and grow (Duncan and Schnore, 1959). Hawley states the "central problem...is understanding how a population organizes itself in adapting to a constantly changing yet restricting environment" (Berry and Kasarda, 1977:12).

Development intervention can act directly on any one of these systems and in turn affect the others. For instance, modification of irrigation technology enables Bangladesh villages to produce crops on a year-round basis. This in turn permits higher population densities, greater concentration of power in organizational structures, and changes the natural environment through the introduction of

new plants. Intervention in one system can also cause latent, unintended consequences in others.

The emphasis in sociological human ecology is on aggregates. Migration and development are studied as changes in regional migration and production rates. The association of developmental intervention and migration is often described using time series analysis of these aggregate rates (Frisbie, 1984:127). Less attention is given to micro-level decision-making processes of individuals.

4. Anthropological Cultural Ecology

Anthropological cultural ecology is also devoted to the study of human-environmental adaptation. Like the sociological ecologists, there is an emphasis on the role of technology in both adapting to and altering environmental constraints. A distinction, however, exists in the consideration of culture. Cultural ecologists put considerable effort into understanding and describing perceptions, norms and behaviors of the referent population.

A second challenge is the definition of boundaries between the system under study and the environment (Kaplan and Manners, 1972:81). The system is expected to interact and change the environment, which in turn acts to constrain the system. The system may be so highly integrated with the environment that no clear boundary between the two can be drawn.

An example of this problem is the interaction between flood control measures in Bangladesh and the larger watershed destruction in Nepal and India. Annual floods in Bangladesh have been increasing in severity as the water-retaining forests of Nepal and India are lost. The amount of water which reaches Bangladesh might be viewed as the environmental constraint. Local measures, the technological

system response to control flooding, such as embankments and drainage ditches, can effectively prevent floods in one field, but only by pushing the water into other upstream and downstream fields. Thus a solution for one field causes new problems in other fields. At what point is the system, which is designed to control flooding, separate from the environment, which regulates the amount that needs to be controlled? The answer depends much upon the arbitrary political boundaries selected by the analyst. Devons and Gluckman conclude that boundaries must be determined by the analyst and often must be redrawn (Kaplan and Manners, 1972:83).

5. Intervention and Adaptation

Place-oriented development intervention may be expected to enhance local work and consumption opportunities, thus fostering adaptation. Place-oriented programs which create or improve local infrastructure often increase the employment potential of an area. The installation of deep well irrigation, electrical and communication systems generally require external financial and technical support.

Construction and operation of infrastructure create employment which includes relatively low skilled positions to be occupied by long-term residents. Very often there is a surge in employment during the construction phase, followed by significantly lower permanent positions for operations.

Another form of adaptation is the integration of villages to larger regional economic, political and social systems. Adaptation in this sense is not an individual process, but the collective outcome of actions taken by members of a community. For instance, many villages serve as agricultural marketing centers attracting wholesale intermediaries. These market centers are a pivot between

more remote rural production areas and large urban markets.

The pivotal position of these villages is also evidenced by frequent commuting to larger urban areas. The spread of paved and unpaved roads has dramatically reduced travel time and increase rural - urban integration in Bangladesh.

G. Migration

While much of the analysis that follows is based upon micro data on individual and community migration and development, three levels of analysis are widely noted in studies on internal migration. Both the sources of information and the uses of analyses differ considerably between the three approaches. Table 2.2 lists examples of demographic and economic units of analysis. Research at the individual-level compares socio-economic changes in personal attributes such as education and occupation, called vertical mobility, with geographic or residential changes, called horizontal mobility, in a longitudinal framework.

Table 2.2Units of Analysis

	Migration	Development
Macro Level	Regional Distribution	Regional Economy
Community Level	In- Out- Migration	Local Area Development
Micro Level	Horizontal Mobility	Vertical Mobility

The analysis of development and migration at the community-level requires more intensive, historical information. Regional analysis is most often based upon the

analysis of regional economic patterns and net migration rates. At the regional-level residual methods for estimating migration are generally employed (Bogue, 1977). Residual methods for estimation of migration are less accurate for smaller geographic areas, especially when the rates are disaggregated by demographic and social characteristic of the supposed net-migrant population (Bogue, 1977).

1. Life Course Models of Migration

Much of the emphasis in migration and development literature has been on factors associated with the places of origin and destination. Less attention has been given to migrant characteristics, and still less to non-migrant characteristics, with some notable exceptions (Uhlenberg, 1973). Migrants and non-migrants are either assumed to be a homogeneous group, as in simple wage-differential migration models, or a few variables, such as education, are included as measures of selectivity (Schendel, 1981; Sly, 1972). Research on migrant selectivity has been largely descriptive, with little systematic effort to explain the complex interactions of personal characteristics and location specific opportunities.

The life course approach towards migration and residential history analysis emphasizes people over place. Variables such as age, birth cohort, marital status, occupation, and educational status are central. Origin-push and destination-pull factors are considered in relation to the migrant's life course stage.

Migration often coincides with life course transitions. The pursuit of higher education is regularly associated with passage from primary school, which is offered in many rural settings, to secondary school, which is available only in towns and cities. The transition associated with entry

into the work force is also correlated with migration, particularly for rural residents who possess urban skills such as literacy. Marriage in Bangladesh nearly always involves migration of women and often of both spouses. Divorce and husband's death often result in migration of women back to their birth place.

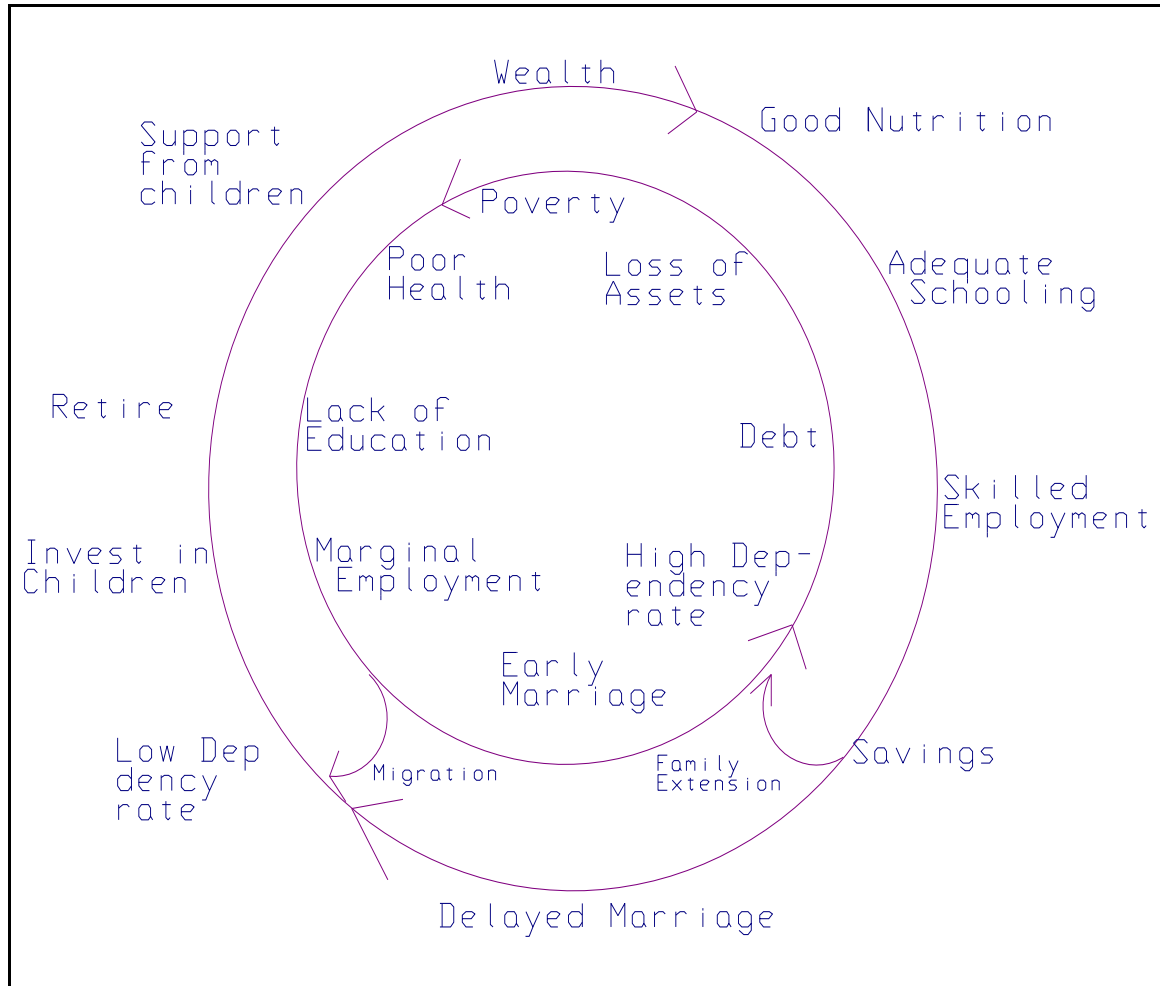
The advantage of the life course model is that it supplies a common temporal metaphor for capturing not only geographical movement, but also social and economic transitions through which the migrants pass. Examples of research using the life course framework include Goldschieder's Population, Modernization and Social Structure (1971) and Frey's "Lifecourse migration of Metropolitan Whites and Blacks" (1984). Assessing life course alone is not sufficient to explain migration, but assists in explaining timing and motives for migration.

The potential functions of migration in the process of cumulative causation may be illustrated at the individual-level. A history of disadvantage for individuals, like communities, is not likely lead automatically to socioeconomic equilibrium. Individuals born into poverty are likely to be malnourished, poorly educated, employed in unskilled labor markets, earn low wages, and pass these same disadvantages on to their children. Wealth is maintained across generations in a similar manner. Children have adequate nutrition, health care and education. High wages and returns on wealth permit savings and additional investment. Access to information increases mobility and efficient choices of destination.

Figure 2.3 can only capture a few salient features of a greatly simplified life course pattern. Some patterns are common to many cultures, such as the timing of education, marriage, work and retirement. Other aspects of the illustration, such as the prominent role of going into debt

in the cycle of impoverization, reflect issues especially relevant to rural Bangladesh.

Figure 2.3 Cumulative Causation in Individual Mobility



There are, of course, avenues through which cycles of poverty are broken and migration is certainly one avenue. Faced with few prospects in an impoverished community, some individuals gamble that an investment in migration will pay better than investments in local work. One of the consequences of migrating may be delayed marriage and reduced fertility (Carlson, 1985). The opposite case of downward mobility is also potentially related to migration.

A phenomena evident in many developing countries is growth of well-off families through extension. Relatives will gladly move in while they search for work, and the host family is obligated to feed and house their visitors. The added burden of supporting unemployed relatives places a serious strain on household savings.

One immediate advantage of the life course approach in Bangladesh is that a very large percentage of female migration in Bangladesh, for marriage and divorce, is encompassed. Economic models have been particularly inappropriate with respect to female, non-economic migration. Thadani and Todaro have placed female migration into the expected income model, but with somewhat tenuous results (Thadani and Todaro, 1978). In countries such as Bangladesh, where only a small percentage of women are engaged in out-of-home economic activities, the life course perspective is more likely to help account for timing and motivation of migration.

An important qualification to the analysis of marriage as a reason for migration is the uncertain relationship marriage has with programs for economic development. Marriage markets are often culturally prescribed and lead to fairly random patterns of spatial movement. In Bangladesh, village exogamy is not required, but it is quite common. However, there may be little pattern overall to marriage migration, and development programs may have little bearing upon these patterns. Several interesting questions do emerge though. Do programs which educate unmarried women alter the size of their marriage markets? In what ways does a woman's participation in education and in gainful employment alter the timing or even the inevitability of her marriage?

Moves for attending school, another common pattern in rural areas, also fit within the life course framework.

Most developing countries do not have the financial and human capital resources to place secondary schools, much less universities, within easy reach of rural areas. When an appropriate age is reached, and when a rural family has urban networks or financial resources, the combination of factors produces a greater likelihood that an individual will migrate for educational purposes. A combination of social, economic and life course factors affects migration.

Any one condition in isolation might produce very different outcomes.

Paiva and Bahrin conceptualize migration as an act of human resource development, use or investment (Paiva, et al, 1984:3-5). Migration for the purpose of pursuing an education is an act of human capital development. The move is a necessary part of the process. Migration for the purpose of employment is an effort on the part of the migrant to better use personal resources. Human capital investment overlaps both with development and use, and is the process of migrating as a least cost alternative to improving one's quality of life.

The life course stage and gender of individuals are fundamental in explaining distinctions in role-expectations in Bangladesh, as in all societies. The life course is not a theory as such and is too broad to derive hypotheses about why people move. Never the less, the structure of the life course is indispensable in explanations of migration. Analysis of migration without due consideration is likely to suffer from spurious relationships and miss important ones.

2. Macro-demographic Models of Migration

Both economic and non-economic models of migration have been advanced for macro- and microdemographic analysis. Three essentially macro-demographic models will now be discussed. The first, emphasizing location push- and pull-

factors stimulating migration, appears primarily in sociological literature. Labor equilibrium and cumulative causation, the second and third models to be discussed, are most evident in economic literature. These three models provide a useful basis for future discussion of the community-level determinants of migration, especially with respect to rural development programs.

3. Push/Pull Models of Migration

Everett Lee, in "A Theory of Migration", outlines a general model for analyzing migration emphasizing the impacts of location factors (Lee, 1966:47-57). This model has an intuitive appeal, encouraging us to consider four important migration factors: 1) the negative features in the place of origin, called push factors, in relation to 2) the positive features in the place of destination, called pull factors, 3) barriers to migration, and 4) individual characteristics of the potential migrant.

Although Lee presents this model as a theory of migration, it appears to lack several features normally associated with theories in the social sciences. The push and pull description of place features which affect migration is widely employed in designing more specific models of migration. However, Lee never specifies what these factors are. Without greater specification, his model fails to produce testable hypotheses. That migrants find some features of their place of origin displeasing in relationship to their place of destination is a truism. Lacking any criteria for comparing and combining the push and pull factors, we are left with a laundry list of possible relationships.

The proverb, "one man's food is another man's poison" summarizes another shortcoming of Lee's model. A power-pump tubewell is a plus factor for farmers who can use its water

to increase their crop production. The same tubewell is a minus for those employed in competing manual systems of irrigation. In fairness, the model is not strictly based on the qualities of locations. Lee recognizes that individuals have attributes which make them more or less likely to move.

Unfortunately, the inclusion of migrant attributes is entirely too general to resolve the search for causal mechanisms. Questions of migrant selectivity are particularly difficult to address with push-pull models.

A specific aspect of selectivity deserves special note.

Individual and socio-economic mobility are addressed only implicitly in Lee's model. The migrants are moving to places with more "plus" factors and away from places with "minus" factors, but little account is made of how their choice of time and place of migration relates to their individual attributes and stage of development. The push-pull model is essentially static, with little account of interactions between migration and changes in the migrants and places over time (Petersen, 1958:258). Given the generality of Lee's model, development intervention programs have little guidance beyond creating and enhancing plus factors and reducing and eliminating minus factors, however specified.

4. Macroeconomic Models of Migration

Labor equilibrium models typically posit that labor, like capital, flows to places and industries where it will be most profitable. Profitability in labor includes higher productivity, wages and job security. When the supply of labor exceeds local demand, the surplus labor is expected to migrate in search of other employment. From the perspective of local development, out-migration acts as a safety valve, relieving the pressure of unemployment. As a consequence, out-migration will add to the well-being of those remaining

in the village (Davis, 1977:161-66). Larger regions benefit as a whole as productivity of labor increases when workers relocate to employment which better exploits their talents (Neuberger, 1977:472-474; Adnan, 1979:87-118).

Neuberger notes that regional optima for population distribution need not be equivalent to individual optima for migration. Individuals may improve their personal situation by moving while contributing negatively to the region overall (Neuberger, 1977:472-474). Over time the ebb and flow of migrants is expected to move disparate local economies toward equilibrium. Wage rates for comparable productivity should tend towards equality between areas after adjustment for the cost of living.

a. Models Emphasizing Rural - Urban Wage Differentials

It is difficult to ascribe an origin to the early models of wage-differential migration. Ravenstein alludes to them in his most noted article on the Laws of Migration (Ravenstein, 1885). W. Arthur Lewis articulated the model in "Economic Development with Unlimited Supplies of Labor" (1958). The basic model suggests that migrants compare wages in their current location and an alternative location. They move where wages are higher. They are assumed to enter the place of destination's labor force immediately.

There are several refinements to this basic model. In "A Model of Labor Migration and Urban Unemployment in Less Developed Countries" Todaro articulates a two stage model of migration (Todaro, 1969:138-148). A simplified version of the Todaro Model is presented in Table 2.3. The first stage consists of moving to a new location and entering into a temporary occupation in which wages may be below that of the place of origin. The second stage consists of seeking and obtaining better paid, formal sector employment in the place of destination. In Todaro's model migration is directed

toward utility maximization. The potential migrant selects a move based upon estimation of long-term income. The long-term perspective helps explain migration into places with high levels of unemployment, a clear problem with short-term income maximization models.

Table 2.3 Simplified Todaro Model of Income Migration

$$\text{Net Return on Migration} = Y_{\text{urban}} - Y_{\text{rural}}$$

$$Y_{\text{urban}} = W_{\text{urban}} * P_{\text{urban}}$$

where: Y - Discounted long Term Income

W - Wage

P - Probability of finding employment

Other modifications to one- and two-stage models of wage-differential migration include incorporating the local cost of living, discounting the flow of income and expenditures (Todaro, 1976), models of dual economies (Gordon, 1972), consideration of long-term technological change (Boserup, 1981) and the use of social support networks to smooth consumption (Taylor, 1984).

These analytic details are less problematic, however than the absence of reliable data. The model is described as one which reflects individual decision-making, yet most empirical work lacks comparable detail. In lieu of accurate micro-demographic data, several macro-demographic data sources are typically employed. Most commonly, average wage urban rates are used to indicate long-term income and urban unemployment rates are used to indicate the probability of finding work. Rural wages are estimated from per capita rural production. Despite, or perhaps because of the

absence of proper data, wage differential models have shown strong predictive power.

Wage differential models present several measurement problems. The measurement of income in developing countries is vulnerable to bias, especially in rural areas. Individual incomes fluctuate dramatically from season to season and very often do not take the form of cash wages. Much, if not most of a farmer's income is in-kind, both from personal production and through barter. Second, income differential models often assume homogeneity of worker skills. It is relatively uncommon that the expected income for urban areas is calculated according to education and occupational skills of the sample. Third, little account is taken of individual access to productive assets in rural areas, such as land-holdings, tools and transportation equipment, much less intangible assets such as business cliental and family networks.

Fourth, formal sector unemployment rates, which at best have a significant covariance with the true probability of finding work, do not take into account the informal labor markets and their relative wages. Empirically there is some question as to the speed with which migrants can even enter the informal labor force (Ledent, Jaques 1983:82-4). The probability of finding work is tied to the specific skills of the migrant and the industry mix of the urban area, suggesting interaction effects not included in most wage-differential models. Fifth, the models generally have no means for incorporating return and repeat migration. In sum, wage-differential models of migration are far from a panacea.

Bearing in mind the inadequacies of wage-differential models, described above, the policy implications are clear.

Policies which stimulate urban, formal sector wages or absorb the urban unemployed are likely to increase the

urban/rural differential and will attract more migrants. Harris and Todaro argue that such programs may succeed in reducing urban unemployment only if direct measures are taken to restrict the flow of migrants from rural areas. (Harris and Todaro, 1970:137-8) In the absence of direct controls on migration, generally the case in market-oriented developing countries, a government wishing to discourage rural-urban migration should concentrate on policies, programs and projects which decrease rural-urban wage differentials. In City Bias, Rural Neglect; The Dilemma of Urban Development Todaro argues for integrated rural development in order to increase rural wages and discourage "overurbanization" (Todaro, 1981).

A distinction should be made between rural development in general and programs specifically to increase rural wages. The mechanisms for increasing incomes are more complex than altering the compensation paid for a particular level and quality of production. Long-term, income-oriented development programs often work through changing skill levels of participants, through education and access to inputs and markets. Complex integrated development programs may not produce uniform outcomes, even with respect to wage-differentials. For example, programs which increase the gap in expected urban and rural income, such as urban-oriented education, are expected to encourage migration.

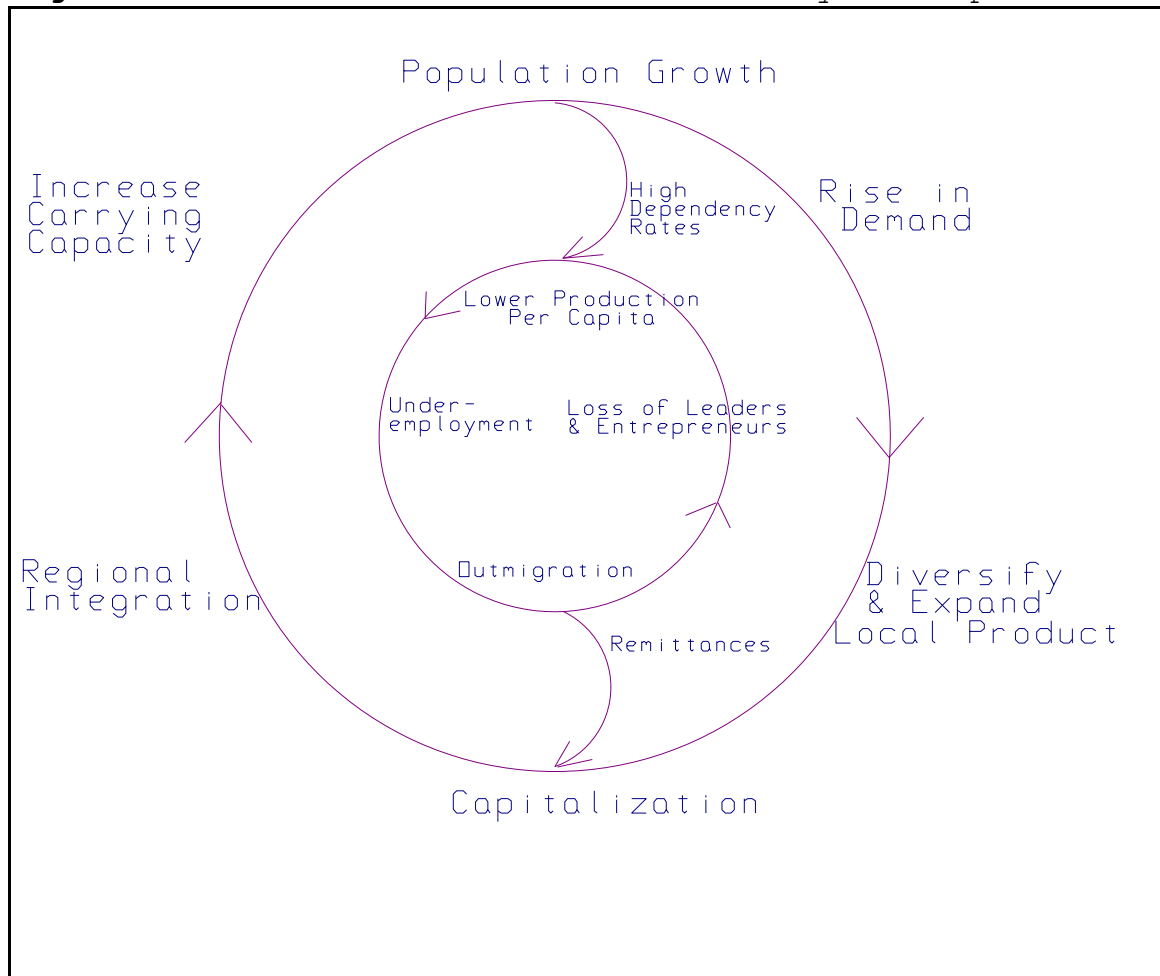
Wage differentials from a micro-demographic perspective have been examined by several authors. Donald Bogue, in "A Migrant's Eye View to the Costs and Benefits of Migration to a Metropolis" (1977) applies benefit/cost analysis to migrant decision-making processes. While few persons understand the quantitative procedure of discounting future income flows to a present value, most engage in qualitative estimations of the value of future actions, including migration.

The evaluation process often lacks continuity and is not necessarily well informed. Decisions are restricted to a limited number of options. The scope of alternative destinations is limited to the "mental map" of the decision maker which may be quite distinct from actual spatial and economic geography of the region (Brown and Sanders, 1981:151). Mental maps are formed in part by opportunistic information flows which reach rural areas. Most importantly macroeconomic indicators, such as unemployment rates and predominant wages in a potential destination are placed along side kinship ties, support networks, and specific employment contacts of the individual who makes the decision whether or not to move.

b. Cumulative Causation In Community Development

The process of cumulative causation has been discussed with respect to local development above. The process is particularly interesting when demographic factors are introduced. Figure 2.4, depicting cumulative causation in migration, illustrates the complex ways in which places move through processes of growth and decline, and also spin off population and capital which affect other places. The figure has two cumulative processes. On the outer loop is a simple pattern of population and economic growth. As population grows there are increasing demands for goods and services in turn leading to growth and diversification of the local economy. Increasing demands with limited space creates needs for greater integration with the regional and especially urban centers (Boserup, 1981; Brown and Sanders, 1981). With increased integration and gains in productivity come a higher carrying capacity and the potential for additional population growth.

Figure 2.4 Cumulative Causation in Community Development



The inner loop is a simple model of economic decline. Low or declining production per capita leads to underemployment of the work force, as the value of production falls below the costs. Unemployed and underemployed persons move out, though many of them may be the best educated and most entrepreneurial members of the community. The loss of local leaders and entrepreneurs adds to the problem of low per capita production, and so on. Like growth, decline can be cyclical and cumulative.

The two loops, cumulative growth and decline, are connected in numerous ways. Two such connections are of

particular interest to demographers. Population growth, in particular that from the large gains in natural increase in less developed countries, is accompanied by young age distributions and high dependency rates. Growth in populations stimulates higher consumption demands and lower reserves for investment. However, population stabilization in the context of a healthy economy is also associated with growth in consumer demands (National Academy of Science, 1971). The direction of the relationship between population growth and consumption hinges on the state of the economy under consideration.

During the 1970's and early 1980's there was a lively debate in the literature about the economic consequences of population growth (Leff, 1969; Bilsborrow, et al., 1984; Caldwell, 1976). In particular, the question of how dependency rates affect savings and investment versus consumption. There are no definitive answers, though certainly there is ample evidence of the economic strain that large numbers of children place on their parents.

Out-migration from areas in economic decline, on the other hand, has several potential repercussions for local area development. In wage-differential models the relationship was quite simple. Out-migration decreased labor supply and raised productivity, eventually leading to wage equilibrium between place of origin and place of destination. In cumulative models the flow of labor out may have negative consequences, such as the loss of local leaders, but also positive consequences such as an increased flow of remittances from the place destination back to the place of origin. (Chaudhury, 1979:223-224)

Another bridge between migration and development is the cyclical impact of return, repeat and chain migration. Migration has its own cumulative effect. Individuals who have migrated in the past are among the most likely to

migrate again in the future (Rowland, 1979:19; Goldstein, 1954; DaVanzo and Morrison, 1982). Knowledge of other places and familiarity with the process of travel itself better equip individuals with the tools for future moves. Return migration is an important conduit of experience for future potential migrants. The example of returnees may serve to motivate or discourage would be movers.

Repeat migrants and commuters compensate for local resource constraints. For example, itinerant traders are constantly moving about in order to exploit spatial price differentials. The trader is both a conduit for lower priced commodities and information about other regions.

Chain migration is said to occur when a group of migrants is followed later by others along a similar migration path. Successful migrants often pull family, friends and associates with them (Jellinek, 1977:244-256). While early stages of migration are often dominated by young adults in search of employment, eventually their dependents or the entire household may move. Chain migration can become so routinized as to form beaten paths between villages and specific cities or even neighborhoods within cities.

The policy implication of the cumulative models of migration and development are quite distinct from those of wage differential models. The process of migration needs to be studied with respect to selectivity. Out-migration may act as a safety valve, releasing non-productive workers to places where they can be better employed. It may also be a process which drains areas of their most productive, albeit under-compensated, members.

Both economic and non-economic development programs may have contradictory or even negative consequences with respect to population distribution objectives. Integrated rural development programs frequently include water resource

development. The water supply is generally centralized and often under the control of a few relatively well-off farmers. Not only does the water supply enable these farmers to expand their own acreage, but can adversely effect traditional water sources in the immediate region. In Bangladesh, shallow wells dry up as the water table is depleted by deep wells. Low lift pumps reduce water supplies formerly used by numerous manual lift operations. Under such conditions one might expect wealthier farmers to move to urban areas to enjoy their new consumption potential, and small farmers to move in search of employment as their land dries up. There are many scenarios, like the case of irrigation, where production and distributional effects of integrated development have complex inter-class and inter-generational outcomes.

5. Summary

The processes of individual development and adaptation have distinct implications for migration into and out-of rural communities. The general set of relationships between community/location specific adaptation and rural internal migration is adapted from Everett Lee's discussion of the push and pull factors influencing migration. Several of the relationships are very straight-forward. Increasing the potential for employment and income, at least in the short run, reduces out-migration. Improving housing, public amenities and infrastructure may also be expected to retain the rural population.

One major exception is the improvement of communication and transportation systems. Since poor transportation networks prevent easy access to urban areas, improvements may actually stimulate circulation, repeat migration and long-term moves. In contrast to other infrastructure improvements, the greater affect of these changes may be

felt in the reduction of the barriers which Lee and others suggest will discourage migration. Thus, overall community development is expected to reduce out-migration in the short run. In the long run, the impacts of education and major changes in wealth may in fact encourage out-migration.

Individual- or person-oriented development is expected to work primarily through changes in individual's ability to earn a living and participate in community organization. Individuals who increase their human capital and inventory of portable assets are expected to be more mobile. They are expected to move more on all levels, including temporary and repeat migration. However, the importance of the life course stage of the individual cannot be over-emphasized. Life course events other than migration interact strongly with migration and must be accounted for in the analysis.

An additional consideration in the interactions of community and individual development has been raised. Presumably most development programs, especially integrated development programs, do not set out to create jobs for whom no persons are qualified. Even less logical is the goal of training persons for jobs which do not exist, though this is certainly a common result of inflexible educational systems.

Many integrated development programs intend to alter both the supply of and the demand for labor. Like the seven blind men who examined different parts of an elephant, supply side programs may be what some people experience, while the demand side may be experienced by a completely different group. In this case one might expect changes in a community's population characteristics without necessarily creating strong trends in net migration.

H. Conclusions

Most studies of migration in less developed countries have concentrated on economic cause. These studies are

split between macro-demographic models of population distribution and micro-demographic models of migration decision-making. Macro-demographic models center on large regional differences in income, unemployment and amenities.

Very often migration itself is estimated as a residual of births, deaths and population growth. Macro-demographic studies of migration and development have tended to reinforce the basic notion that areas with higher incomes, lower unemployment and greater amenities attract migrants.

To the extent that development policies, programs and projects are effective in influencing these crucial factors, there is every reason to believe that in a rough way they will encourage migration into target areas. Two very clear gaps in the literature on macro-demographic effects of development on migration are the small amount of attention paid to areas with net out-migration and the lack of attention to non-migrants.

Micro-demographic models provide a second avenue for the analysis of development's impacts on migration. Specific information on migrants allows issues such as selectivity by gender, age, education, and occupation to be studied. Studies on decision-making, information flows, social networks, and migration auspices require information on the migrants and their relationships with others.

The concept of individual development lies outside the domain of macro-economic modeling, and is better analyzed through micro-demographic techniques. The individual has a number of options for acquiring a higher social and economic position, and several of these include temporary or permanent migration. Finally, individual preferences and values provide valuable information in the quest to understand the causes of migration. Knowledge of why people move arises both from our understanding of behavioral

covariates and on the cultural norms of the population we study.

Micro-demographic research has concentrated on migration destinations, migrants themselves and why they moved. Much less attention has been given to areas of origin, non-migrants and the forces that work to hold people in place. This lack of emphasis on areas of origin and potential origin is surprising given the tremendous investments being made in developing countries in rural development and the indication of a large percentage of national leaders that they wish to slow rural-urban migration.

III. CONCEPTUAL MODEL

A. Introduction

This conceptual model is intended to provide an abstracted view of ways in which participation in development programs affects community adaptation and individual development, and how adaptation and development affect migration. Migration and development occur on multiple levels, as discussed above. This model works with the least common denominator, in this case individual behavior.

First, several definitions will be provided for key concepts such as development and migration. The second section presents a path model which guides much of the analytical work in this research. The chapter concludes with hypotheses derived from the migration and development model. These hypotheses will be evaluated through qualitative and quantitative analyses.

B. Operational Definitions

1. Development Intervention

Development intervention is any policy, program or project at least partially supported with resources from outside of the community, which is intended to contribute to individual or community development.

Examples of development intervention include educational programs, income-generating projects, formal credit institutions and emergency relief operations. There is a large grey area in Bangladesh as to where relief ends and development assistance begins. Every effort is made in the analysis to distinguish specific forms of intervention and their consequences.

There are, of course, intervention schemes which do not work and others which have unintended effects. The most important un-analyzed interventions might be those of the private sector. The construction of an apparels mill in any small city or village is certain to have far-reaching implications for the community. While these private sector investments are measured in this analysis, there is not enough detail to measure their impacts.

2. Participation

Participation is measured in terms of the quantity and quality of respondent inputs into development programs.

Participation will be analyzed, to the extent possible, from the perspective of the beneficiaries. The three levels of participation, 1) consumption, 2) production, and 3) allocation, will be employed to the extent possible. For instance, participation in relief programs will be considered consumption while participation in group organization will be considered allocation. In many instances an activity will incorporate two or all three levels. Virtually all work is compensated, and as such involves subsequent consumption. When multiple levels of participation exist, the highest level will generally be identified. These levels tell us neither the extent of participation nor the level of benefit. As was noted earlier, the benefits for participation in many programs are very small.

3. Individual Development

Individual development is represented in terms of economic mobility within the life course framework.

Upward economic mobility is a primary goal both for respondents and development agencies. Individual development includes changes in diet, housing, land tenure, occupation, consumption of durable goods and perception of well being. Perceptions of development are closely related to growth in consumption and security of well-being. Changes in individual status are often negative, such as loss of land, and are referred to generally as individual decline.

4. Community Development

Community development is defined as changes in intensification, diversification and integration of the local economy.

Longitudinal data are available for the four survey villages. The analysis of community development concentrates on the similarities and differences over time for the villages. Indicators include area of land under irrigation for intensification, change in industrial mix for diversification and contacts with other areas for markets and work sites for integration. Communities other than the four survey sites will also be described in these developmental terms, but change for those communities over time was not measurable for a significant number of places.

5. Migration

Migration is any change of residence for the respondent, including temporary moves for more than two weeks and repeated moves between two residences, with the exception of purely recreational travel.

Findlay, in a study of migration research methodologies, finds a variety of definitions of migration (1982). This definition is very inclusive. For some

analyses the definition is further restricted, such as contrasting moves outside of the subdistrict of origin with those that occur within the subdistrict. In a highly mobile society, the level of inclusiveness must be restricted or the study will be overwhelmed by a mass of detail. In rural Bangladesh the requirements of larger distance, major boundary crossings, or longer stays, leaves a very small percentage of respondents who will fulfill the migration criteria. The conceptual model which follows takes on added meaning when even very short distance moves, including commuting patterns, are studied in light of patterns of development.

C. Analytic Model

Two relationships are fundamental to the analysis of development programs and migration. The first step is to show the quality and magnitude of impacts that development programs have on the lives of the participants. Do programs work? Who participates and who benefits? Are there unintended consequences? The second essential step is to relate the changes in people's lives, their individual and community development, to migration. What is the relationship between socio-economic and spatial mobility?

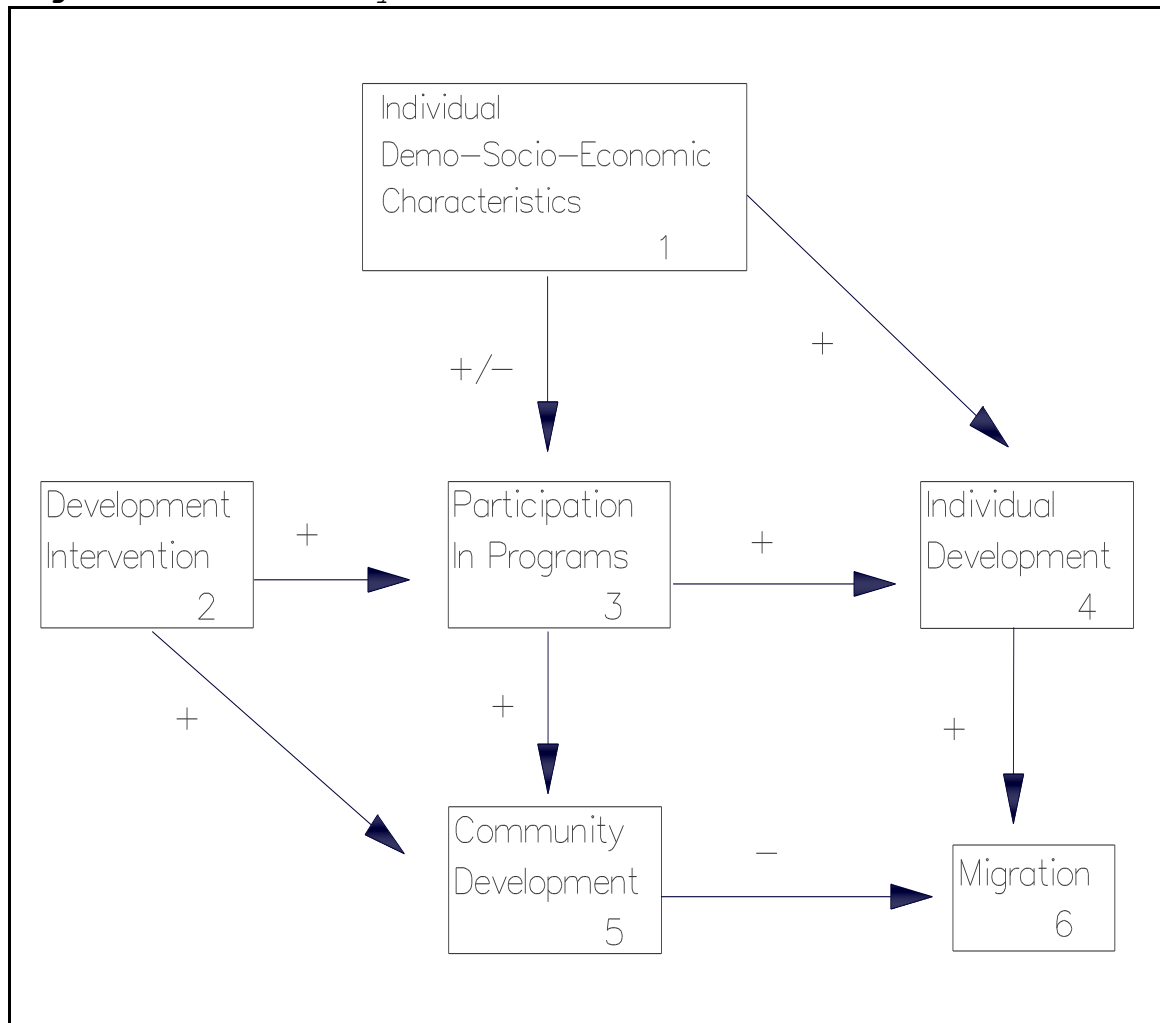
In order to quantify the relationship between development programs and migration, a number of spurious as well as intervening factors must also be understood and controlled for. An advantage of the residential history approach is that a rich variety of data are available describing the respondent from childhood to present. Contextual data on early educational experience, family structure, family occupational traditions, etc., are employed.

Large-scale development programs may alter patterns of spatial mobility for all persons living in the

implementation area, including non-participants. The programs considered in this study are generally not on that scale. In order to measure the impacts of these small-scale development programs, the model, illustrated in Figure 3.1, includes participants as well as a control group of non-participants. Participation is the essential connection between intervention programs and socio-economic change.

The next step is to introduce spatial mobility. Spatial mobility, as defined, is measured both in terms of distance, parity, and length of stay in a location. Participation in development programs is expected to have indirect effects on migration through individual and community change. Direct effects of participation on migration also exist. For instance, participation may require migration or non-migration. Some programs require mobility or are only available to non-mobile, long-term residents. Direct relationships work differently from the indirect mechanisms and are considered separately.

Figure 3.1 Full Analytic Model



Finally, an outer layer of individual demographic, social and economic characteristics is added to the basic structural model. Individual characteristics act as controls and help to distinguish spurious effects from causal relationships. For example, in most societies the causes of migration are weighted differently for males and females. This is certainly the case in predominantly Muslim countries like Bangladesh, where women are rarely employed outside of the home. Failure to control for gender in this

analysis would produce un-interpretable results. Individual characteristics are expected to have direct effects on future participation in development programs and future forms of individual development. Indirect effects on migration and community development work through changes in individual development and the participation-community development interactions.

The individual occupies the upper right triangle in the conceptual diagram, while the community occupies the lower left triangle. The center of the diagram is the intersection of individual and community development, or participation in programs. Participation can take many forms, from individuals accepting food assistance during a famine to active participation in construction of public infrastructure. The results may benefit both individual and community, or may not. The qualities and quantities of participation, then, influence whether individuals will move in the future through their impact on individual and community development.

D. Hypotheses

The hypotheses will be stated as they refer to particular paths in the conceptual model presented in Figure 3.1. The full model includes "+" and "-" signs which indicate anticipated positive and negative associations. The specific hypotheses fall into two groups according to the means by which they will be tested. One group of hypotheses is testable through quantitative, statistical analysis. A second group of hypotheses has characteristics which are not suitable for statistical analysis or were not testable with available data. These will be considered qualitatively. Internal and external validity will be discussed in the analysis.

Participation in development programs is a function of development intervention and individual characteristics.

Assumption:

1. Development intervention is considered to exist in a village only if it is acknowledged by at least one of the respondents.

This assumption is essentially logical in the case of the programs under examination in Bangladesh. An obvious objection is that programs are frequently offered within commuting distance, blurring the question of locality. For instance, most famine relief assistance is distributed in local political centers, especially Union and Upazilla offices. Similarly, most banks are represented at the Upazilla-level. Commuting to these centers in order to receive assistance is a form of participation which is not strictly local, but is certainly an important source of assistance. This form of participation is included as local, primarily because relief and loans are generally "consumed" or "invested" in the village. A more important issue is that of knowing whether or not a program existed at some time and place in the past. Here we must rely on respondents to accurately recall these programs and whether or not they participated.

Hypotheses:

1. Individuals who are impoverished and functionally landless are more likely to participate in non-governmental and relief programs.
2. Individuals who are middle and upper income and who own some land are more likely to participate in formal credit markets and government development programs.
3. Individuals who owned fixed assets in the community, such as land, are more likely to participate in place-oriented programs.
4. Individuals who are below working age or are engaged in person-oriented occupations, such as farm labor, trade

and transportation, are more likely to participate in person-oriented programs.

All of the hypotheses add up to a picture of selectivity in participation in rural development programs.

This is not to say that a rural development program chooses its participants when it chooses strategies. Rather, there has been a tendency for certain programs to address differentially the needs of different segments of rural society. The current trend is to place the mantle of "integrated development" on whatever programs are advocated, but programs integrated at the regional-level may have relatively narrow sectoral impacts on specific locations.

Individual development is a function of participation in development programs and prior individual characteristics.

For a number of key variables there are objective criteria by which we can analyze individual well-being. These variables are generally recognized, but often difficult to measure. In the context of respondent histories we can only gauge the accuracy of reports by their internal consistency but not with respect to external information. It simply doesn't exist.

Hypotheses:

1. Individuals who are better educated are more likely to continue ascending on the economic scale. (The educated prosper.)
2. Individuals who are wealthier are more likely to continue ascending on the economic scale. (The rich prosper.)
3. Participation in development programs has positive effects on individual development.
4. Participation in relief programs has little effect on individual development, but contributes to survival.
5. Person-oriented programs have greater impacts on individual development than do place-oriented programs.

Local development is a function of development intervention and participation in the development programs.

Community development has been described as a process of circular and cumulative relationships which influence intensification, diversification and integration. The only practical method for applying residential histories to issues of community development is through the use of individuals as representatives of communities to report on development activities. Much of the data which will be presented is derived from interviews. For the four sample areas reasonably accurate local histories have been assembled. For historical residences outside of the survey villages, only respondent data analyzed.

Hypotheses

1. Many of the benefits of person-oriented development are diffused out of the villages.
2. Place-oriented development programs increase employment opportunities, albeit unevenly across segments of the population.
3. Participation in place-oriented programs contributes to community integration.
4. The development of transportation infrastructure increases integration of villages with each other and with urban centers.

Migration is a function of individual and community development.

Assumptions:

1. The reasons why people move have not changed over time, though these causes are subject to periodic variations.
2. Age is a reasonable indicator of life course stage. Calendar year is a reasonable indicator of periodic effects.

The assumption that there have been no major shifts in the set of potential causes of migration over time allows for a larger sample size by pooling time series data. Participation in agricultural credit programs is assumed to have a similar bearing on migration now as it did forty years ago. Period effects such as a flood will at times be placed into one group. The relationship of flooding to migration is assumed to be substantially the same now as it was forty years ago. The 1971 war of independence stands out in the analysis and will be given special attention.

The second assumption, that age is a reasonable indicator of life course stage is an extension of the first.

The residential history format used in this research provides an indication of life course transitions only approximately related to the age of the respondents. The relationship of age to life course transitions is assumed not to change significantly over time, or between birth cohorts. Again, an effort is made to substantiate these assumptions in the data analysis.

Hypotheses:

1. Most forms of individual development increase the likelihood of migration. These include attainment of education, skills and capital.
2. Intensification, diversification and integration of the local economy decrease the likelihood of out-migration.
3. Integration of the local economy with other areas, such as through improved transportation systems, will have the opposite effect, increasing commuting, temporary, repeat and long-term out-migration.
4. Gender and life course stage are important factors in predicting the timing of migration. They interact with both participation in development programs and with migration.

E. Summary

Measurement of the impacts of economic development programs on migration depends upon careful distinction between types of development and types of migration. Migration is distinguished by distance, direction, time and the activities of the migrant. Development can be distinguished with respect to the unit that is under investigation. Development programs have individual, person and geo-political, place-oriented strategies. The impacts of these types of programs are mediated by participation and have quite different effects on the likelihood of migration from an area. In general, place-oriented programs are expected to have negative effects on out-migration and person-oriented programs are expected to have positive effects, but there are important exceptions to these patterns.

IV. RESEARCH METHODOLOGY

Data for this study were collected between November, 1984 and April, 1986. There was virtually no existing information in Bangladesh suitable for a micro-demographic analysis of migration and development. Primary data collection was essential. This chapter begins with a discussion the sampling and data collection process. Examples of the difficulties that were encountered in identifying villages, neighborhoods and households will be included.

The choice of what questions to ask is affected both intellectually, as an operationalization of the conceptual model, and pragmatically, as a means of establishing a feeling of rapport or at least safety on the part of the respondents. The second section of the methodology chapter steps through the data needs for this analysis and a description of the primary data collection interview. The third section outlines analytic procedures employed. The discussion includes a critique of residential history analysis.

A. Sampling Methodology

The selection process may be described as a series of decisions which narrow the analytic domain from nation to individual respondent. Bangladesh, a relatively small nation, is structured in a complex hierarchy of political units. The nation is composed of four large divisions, each of which is divided into districts. Districts are further divided into sub districts, called Upazilla. Upazilla are further divided into Union-Parishad. Finally, Unions are divided into villages, the smallest political units. In

most cases higher political units completely circumscribe sub-units. In some instances villages extend across Union boundaries, but this was not the case in villages selected in this study. It was necessary to use judgmental processes to select districts, sub districts and villages. Within the village random selection was employed.

The selection process began at the district-level and then proceeded to the sub districts. At each stage locations were identified that were unexceptional with respect to geography, population and infrastructure. Southern coastal Bangladesh, for instance, had recently experienced a severe cyclone, which left thousands dead and stimulated heavy migration in both directions. The center of the country offered physical and cultural features which tend toward the national average.

The decision to work with BRAC further narrowed the choices. BRAC is working in a wide variety of places, but their Rural Credit and Training Program was not in operation in the southern half of Bangladesh during the survey period.

Outreach programs in the south were small. As the question is one of relationships between development and migration, it was more useful to look at areas where BRAC's development efforts have had a chance to make an impact. A more detailed description of BRAC activities in village development is presented in the chapter V.

1. District and Sub district Selection

The primary goals at this level of analysis were to establish demographic, economic and social distinctions between the 21 "old" districts of Bangladesh and to rule out districts which differed from the rest of the country in ways which would make them relatively unrepresentative sampling locations. To do this it was necessary to establish central tendencies for Bangladesh and gauge the

conformity of districts to the means. Variables considered on this level include population density, growth and urbanization, geographic features, industries and occupations and development activities. District-level data are integrated into the analysis chapters.

Despite the importance of locating a region with a history of BRAC intervention, data were assessed in order to expose irregularities visible on a macro scale. Aggregate data from publication of the Bangladesh Bureau of Statistics (BBS) were employed. Demographic variables included population density, urbanization, the sex ratio, and median age. Economic variables included the industrial and occupational mix and agricultural production. Social variables included educational distribution, religious mix and social infrastructure. Geographic variables included proximity to major urban centers, climate and flooding. Some district-level comparisons will be presented in the analysis chapters.

The BBS also publishes subdistrict data. Within most districts served by BRAC, many, but not all, subdistricts are served. The same data that were assembled at the district-level were also assembled for subdistricts which have BRAC programs. Again an effort was made to steer away from unusual circumstances.

Three out of four of the subdistricts that were eventually selected fit neatly into the norm for the country. One of the selected subdistricts, Banyachong in Hobiganj District, is geographically and culturally quite distinct from the mainstream. The particular reasons for its selection and the implications for comparability will be discussed in chapter V.

2. Selecting Villages

The next step was village selection for intensive analysis. Here again, the search procedure involved assembling data which serve both for selection as well as to illustrate patterns and trends in the subdistricts. Between subdistrict and village is another political unit called the Union. Each subdistrict contains an average of 9 Unions, and within a Union there is an average of 20 villages.

Though the union is traditionally an important center for local administration, the recent ascendancy of subdistricts and the paucity of administrative capacity in the unions ruled out analysis at that level.⁸ The Mouza is also a traditional unit for land regulation and taxation. In many cases mouza and villages are coterminous. The subdistrict offices maintain statistics primarily on villages, and in all cases we found villages to be easier to identify.

Selection of villages was based in a fashion similar to subdistrict selection. In order to isolate the impacts of BRAC intervention, particular emphasis was placed on identifying villages which were close to the subdistrict, district and national means on the criteria described earlier. In addition, it was necessary to consider specific features of the villages which might influence migration and development issues in ways easily confused with BRAC's work.

As before, in the process of identifying good sites, data on village characteristics were compiled. The variables include village population and literacy by gender, population growth, physical infrastructure, religious

8. I made repeated visits to one Union office in an effort to see their population registers. After several unsuccessful visits I became discouraged. Matters went from bad to worse when the Union Chairman notified a local member of the Special Branch of Police who located me in one of the potential study villages and made several threatening allegations.

composition, and principle crops. Included in the appendices is a sample coding guide for the village-level survey.

The BBS produces statistics by village for many, though not all villages in the country. In three cases data were collected in the subdistrict offices on village population, economic and agricultural data. In the fourth case the data were purchased for the entire subdistrict from the Bangladesh Bureau of Statistics in Dhaka. Additional information on the BRAC intervention was collected in BRAC assisted villages. Quantitative data were collected on BRAC's credit and training involvement, public facilities built by the government and so on.

Data were useful on a univariate basis in deciding which villages would represent the subdistricts within acceptable limits. In all four research sites an effort was made to select a survey village which was within one standard deviation of the subdistrict mean along all of the interval indicators. Villages which were outside of one standard deviation from the mean on one or more variables were avoided.

Here again, practicality played a deciding role. Some of the better villages invariably seem to be the most remote. Rather than spend all day walking to and from the villages, every attempt was made to locate an acceptable village within a 60 minute walk. The fourth and final village was the least accessible to us and required approximately fifty minutes' walking time to arrive and the same to return.

3. Selecting Households and Respondents

Once inside a Bengali village, one becomes aware of the ambiguity of household and village borders. Most people were very clear about their home village, though some of their land was likely to be outside of the village.

Villages range in size from a few dozen to several hundred households. The larger villages are normally divided informally into neighborhoods or PARA.

We conducted a baseline enumeration of all households in the BRAC villages selected for intensive study. Name, father's or husband's name, and gender were collected for all persons 15 and older. This phase was accomplished through a combination of house to house visits and local informants. The relations coding system is included in the coding manual for the Baseline and Migration and Development Questionnaires in the appendices.

Respondents were selected in a two phase process from the baseline survey. The first step was to select 70 households plus alternates. Then within selected households one respondent was selected. Both phases were accomplished simultaneously using random number tables. A quota was employed to ensure that equal numbers of men and women were interviewed. As it turned out, the random selection process came up with nearly equal numbers of males and females in all four villages.

The first round of selection was the household. A family of two was as likely to be selected as a family of 9. This in turn means that the members of small, nuclear families are over-represented in comparison to members of larger extended families. The distinction between three adjacent nuclear families and one extended family may be little more than that the former are cooking and eating separately.

When refusals were encountered, three times in the first village, we selected the next available alternate of the same sex from the random list. There may be some bias introduced by refusals. However, we found that pushing an unwilling respondent along was very likely to produce layer upon layer of lies and half-truths, thus working against the

objectives of the research. In subsequent villages the refusal rate was approximately the same, or 3% to 5%. The respondent selection process is summarized in Table 4.1.

Table 4.1 Summary of Location Selection Process

	Procedure	Data Employed	Dates
Region	Judgment	National Statistics	4/85
Subdistrict	Judgment	Upazilla Statistics	5/85
Village	Judgment	Village Statistics, Local informants	6-10/85 1/86
Household	Random	Screening Census	-same-
Respondent	Random	Screening Census	-same-

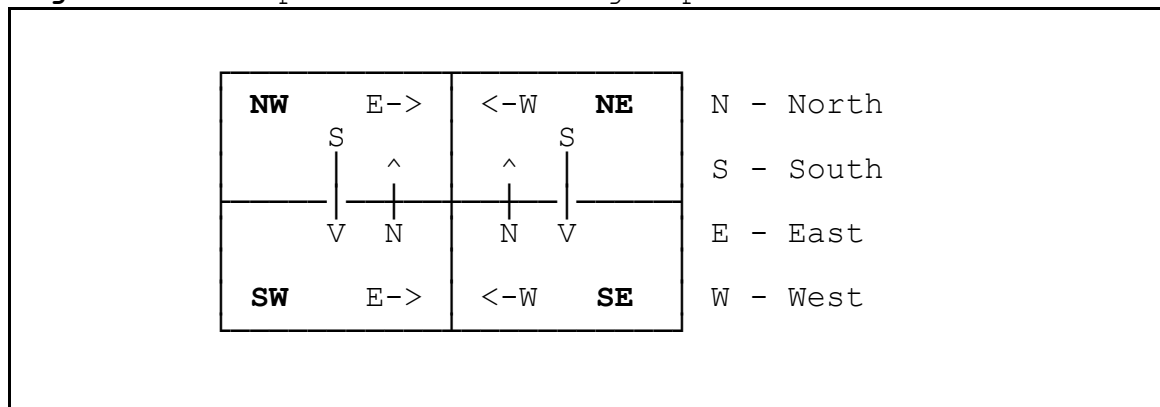
Lest the reader be convinced that all of these procedures were immediately adaptable to Bangladesh, two cases will now be presented of interesting issues that might not be encountered in more developed countries. The first describes our difficulties identifying the boundaries of a neighborhood within a large village. The second case is one of involuntary migration in flood affected villages.

4. Searching for Purbo Para

The second study village is named Mohish Bhangra. The village was too large for us to cover, and much of the village was not directly involved in BRAC activities. We conducted the baseline survey in the neighborhood or PARA where BRAC was most involved. When we started on the screening survey we were overwhelmed by the large size of the area, and the lack of any visible pattern to the roads.

Defining the PARA is an ambiguous process. People of each area tend to label the adjacent para in relation to their own location. For instance, those who live in the south eastern quadrant will call the south western quadrant Poschim or West Side. Those who live in the north western quadrant call the same area Dokhin or South Side. Figure 4.1 presents quadrants of the village. Directions aren't even that clear as roads twist and turn along flooded rice fields and drainage ditches.

Figure 4.1 Perspectives on Village Spatial Structure



After several walks around and through the village we selected landmarks, a difficult enough task in an environment absent of hills, rocks or any other obvious geographic features. Our decision of what constituted Purbo Para, or the eastern neighborhood, was at best a reflection of the sentiment of the majority of persons with whom we spoke.

5. Losing Ground

All of the research sites had some difficulty with flooding during the months of July through November. The third research location, Markuli Upazilla, was by far the most prone to flooding. In a typical monsoon more than 2/3

of the surface area was completely submerged, usually for months. During the high water months many of the villages become islands. Their banks are reinforced with bamboo in an effort to hold off erosion. The survey village, Hilalnagar, was in the process of retreat from the movement of the Meghna River. Over the course of the four weeks that we spent in interviewing in Hilalnagar two houses were quickly disassembled and moved as the river bank collapsed beneath them.

Hilalnagar, the third survey village, occupies a low ridge and is slowly growing westward with houses that are moved from the river's reach on the eastern edge to the less desirable western end. The gradual movement of the village resembles the game of leap frog. According to some residents the village has shifted more than 100 yards during their lifetimes. Currently the 100 yards leading up to the river's edge is occupied by more than 25 households. On the opposite bank the river is depositing land which may eventually form into a new village.

The gradual movement of the village out from under the feet of the residents raises curious questions about sampling. Does the residence that moves from one point in the village to another migrate? No change other than location has occurred. The same house is reconstructed in the new location and the household members resume their normal activities with only a short interruption. What about moves where the residence relocates outside of the village? What is the reference point for a village that moves over time? Movement of a household within the village was considered to be local migration. However, no adjustments were made to the identification of Hilalnagar as a village, even though it was gradually moving westward.

6. Control Groups

The depth and breadth of program impacts is shaped in part by how that program fits into the individual-community dichotomy of development. For instance, large-scale, place-oriented programs, such as deep tube wells and electrification, are likely to have widespread impacts, especially when participation is high. An adequate control sample in this case requires the selection of respondents from separate areas, possibly separate villages, not affected by the development program.

Small-scale, person-oriented programs are certainly less encumbered by this concern for neighborhood effects. Programs which assist a small group of participants to improve their literacy skills are less likely to have spill-over effects on their non-participating neighbors. Confronted with the considerable village entry barriers as well as time and cost constraints, I chose to concentrate interviewing in four villages all of which had participants in BRAC's rural development activities.

Two strategies will be employed in order to provide some control for the non-participant effects of BRAC intervention. First, much of the analysis of developments impacts on migration will be attached to programs other than BRAC which were not represented in all the four villages. Additionally, BRAC programs were initiated at different times and with different magnitudes in the four villages. Variation in the timing of intervention and the level of participation provide a basis for separating BRAC's impacts on the villages as well as direct participants.

SUMMARY OF SAMPLING METHODOLOGY

BRAC Target Population - Poor, landless rural people

Sample Frame ----- Respondents and household members in
four BRAC assisted villages
- Family members who at one time lived
with the respondent, but may not
presently

Study Population - Migration Issues - entire sample frame
- BRAC Programs - Comparable groups of participants and non-participants

Units of Analysis- Village, Household, Family and Individual

Selection ----- Multistage, Random Household Selection

Time Frame ----- Historical and cohort data from the 1920's to present

Sample size ----- 280 Households representing 2,851 household and family members
- split 140 females and 140 males
- split 4 villages @ 70 per village

B. Operationalization of Concepts

1. Geopolitical Levels of Analysis

The literature on determinants of migration indicates the debate over what an appropriate level of analysis should be. Analysts emphasize particular units such as individual decision-making (Bogue, 1977), household (Harbison, 1981; Stark and Taylor, 1986), or larger community and regional systems (Bilsborrow, 1987; Mabogunge, 1970).

In order to pursue different levels of analysis, data sets were assembled on district, subdistrict, community, household and individual-levels.

a. District data

District-level data, published by the Bangladesh Bureau of Statistics, are analyzed in this study with an emphasis on economic, geographic and demographic patterns. There are substantive questions that can be raised on, and sometimes only on, the district-level. Macro-level analyses of internal migration in Bangladesh require units at least on the scale of the 21 larger "old districts". Analysis of

economically motivated migration is generally applied at this level. The district data are primarily cross-sectional and emphasize government estimates of population change.

Additional migration data are reported from a 1984 study conducted by a United Nations Habitat Development Project which produced an exhaustive set of net migration tables for the "old districts". The study was based on simulation of district populations using the forward component method to estimate inter-district net migration (UNDP, 1984A) (UNDP, 1984B). However, residual analysis is less reliable as the unit of analysis grows smaller. The essential assumptions of uniformity of rates of fertility and mortality between sample areas is especially suspect when study areas are small.

b. Subdistrict data

Data published by the Bangladesh Bureau of Statistics are employed in the analysis of subdistricts. There are 490 subdistricts in Bangladesh, averaging 294 square kilometers in area (238 square kilometers of dry land). The average population for subdistricts is approximately 200,000. In terms of migration and development issue, the subdistricts are not as easily distinguished as the districts primarily due to their larger numbers. Only subdistricts in the study areas are analyzed in detail. Again the emphasis is on economic and demographic composition.

c. Village data

In 1984 the BBS estimates that there were 85,650 villages. Village-level data supplied by the BBS is incorporated in this study to a very limited extent. Much of the data was inconsistent with this study's findings or was simply not available. BBS data include demographic, social and economic variables. In addition data collected

by BRAC about villages was incorporated. Villages range in size from a few dozen to several hundred households. The larger villages are normally divided informally into neighborhoods or PARA.

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When refusals were encountered, three times in the first village, we selected the next available alternate of the same sex from the random list. There may be some bias introduced by refusals. However, we found that pushing an unwilling respondent along was very likely to produce layer

upon layer of lies and half-truths, thus working against the objectives of the research. In subsequent villages the refusal rate was approximately the same, or 3% to 5%. The respondent selection process is incorporated. BRAC data was found to be more accurate and provides information on social infrastructure, population and development program participation. A large portion of the household interviews was also devoted to collecting village-level information. This was essential as many previous places of residence could not be visited by research staff. Survey information on villages includes social infrastructure, agriculture, manufacturing, marketing and service activities, government programs and transportation.

d. Family, Household and Individual data

The lack of records of any sort, let alone migration data, ruled out analysis of existing data. The high levels of illiteracy and poverty in Bangladesh villages ruled out data gathering techniques such as written surveys, and there were no telephones in any of the villages. The quantitative and historical nature of much of the data ruled out anthropological methods such as participant observation, though these techniques were certainly applied whenever possible. The relatively short eighteen months available for collection of data ruled out the use of a panel study. The only method that appeared to be viable for the analysis of the impacts of development on migration was the long interview.

2. Basic Components of the Conceptual Model

The six components specified in the analytic model are a) Individual (Household) Characteristics, b) Development intervention, c) Participation, d) Individual Development, e) Community Development, and f) Migration. None of the

components is free of ambiguity. Specific measurement variables have a tremendous impact nature of the component and the relationships to the other components.

a. Individual and Household Characteristics

In this analysis individual characteristics are considered exogenous and causally linked to participation in development activities and individual development. No model of migration is likely to be of practical importance if it lacks consideration of the study population. For example, in Bangladesh the patterns of female migration are dramatically different from those of males. Given the large number of possible characteristics of individuals and households, the analyst's task is sorting out those of greatest significance. Those which are expected to be relevant to migration and development include demographic characteristics such as age, gender, and household structure; economic characteristics such as stock of household land and assets, and occupation; and social characteristics such as level of education, life course stage and status within the household.

Gender is de facto exogenous as a factor for which migration may be selective. The methodological challenge to the use of individual characteristics is most significant in the case of characteristics which are not de facto exogenous. A person's occupation can be used to explain commuting or migration patterns. Equally, a person's occupation may be explained in part by their past commuting and migration experiences. Where possible the analysis uses de facto exogenous variables. To the extent possible variables that are potentially affected by migration and development programs will be correlated with lagged dependent variables. Where circumstances do not permit

arguments of causality, analysis will be restricted to measures of association.

b. Development Intervention

Development programs can range in impact from high physical presence and universal acknowledgment to completely invisible. Programs must be acknowledged by clients if they are to be considered in this research. Two important dimensions of development intervention are program size and breadth of purpose. The size of a program may be estimated either by inputs to the program or program output. Typically program inputs such as number of employees are more easily measured but are not as closely associated with community development as program outputs. This research attempts to measure the size of development intervention as outputs. Program effectiveness is a measure of the extent to which the programs goals have been accomplished. For example, programs for rural credit are measured by the uses and the outcome of the loans. In some instances the absence of objective measures of program outputs forces consideration to simply whether the program existed and the individual participated.

The second aspect of intervention is the breadth of programs. The villages of Bangladesh are exposed to a variety of interventions which range in their level of integration. Some programs are very specific, such as a program for provision of hand-pump wells. Where the mission is specific, measurement of is straight-forward, eg. How many wells were dug?

Many of the programs under analysis were multifaceted, with sub-programs in education, relief, shelter, infrastructure, credit, community organization and more. Evaluation, where possible, measures the separable outputs

of programs. In other cases the outputs, such as organizing neighbors, are intermediate steps towards long-term goals.

c. Participation in Development Programs

Participation in development programs is at the center of the conceptual model. Participation is identified as an intermediate variable explained by individual characteristics and intervention, in turn explaining individual and community development. Because the individual and the community are different units of analysis, participation too must be considered on two levels. For individuals there is the dichotomous question, "did you (or a family or household member) participate?" and a series of references to the timing and quality of participation.

At the community-level participation can be measured in participation rates, distribution of participation in the community and participation of persons living outside of the community. For this research measures were taken both in the household survey and in interviews with representatives of development organizations.

Methodological problems exist at both the individual and the organizational levels. Individuals may exhibit strategic bias in reporting their participation. The competition between economic development programs and their tendency to exclude persons already affiliated with other programs may act to inhibit recognition of such affiliation in interviews. Strategic under-reporting would be especially likely when the current affiliation is unrewarding or if the respondent believes the interviewer may be planning a new program.

Organizational representatives, under the circumstances of competition might be motivated to over report participation. This most often occurs in the form of

reporting formal rosters of participants knowing full well that many have been inactive for long periods of time. The extent of strategic bias is difficult to estimate, but some checks were built into the interview through multiple measures and comparison of individual and organizational reports.

d. Individual Development

Individual development is posited to result from a combination of prior individual characteristics and participation in development programs. Conceptually, individual development is presented as a circular and cumulative process of social and economic mobility in the context of the human life-course. The measure of development is change in individual characteristics such as change in economic status, occupation, and consumption. Measures include reports of land-holdings, tangible assets, and diet. Respondents were also asked to assess their well being at each successive residence with respect to the prior residence.

Because "individual development" is measured using many of the same variables as "individual characteristics", the emphasis must be on changes over time. Status changes are frequent enough and though the tendency over time has been downward, there are cases of upward mobility.

e. Community Development

Community development is expected to result from external intervention and local participation in programs. Individuals reported the presence of a variety of social and economic development programs, including their participation. They are asked if they currently have or had irrigation, children attending school, access to credit and

so on. Respondents are also asked to describe programs in past residences in which they may not have been involved.

There are two principle justifications for using individual reports of development activities as a means of gauging program inputs and outputs. First, the respondent's awareness and assessment of programs is an important indicator of program impacts. In Bangladesh and most other developing countries a great many programs exist on paper, but are not implemented. A necessary, though not sufficient, condition for effectiveness of development intervention is presence in the villages. If no presence is noted by residents, there is good reason to question whether the program exists or is effective.

Assessment of the benefits of rural development programs are subject to several forms of misreporting. Failure to record program impacts may be a consequence of the researcher looking in the wrong places or asking the wrong questions. Among the important obstacles to measurement are the strategic uses of information on the part of respondents and a more fundamental disagreement between researcher and respondent over what actually defines a development activity.

The researcher is confronted with the dilemma of whether to use definitions which arise from the theoretical and practical needs of the research, or those which appear to be most common in the society under examination. When respondents fail to recognize what seems patently obvious to the interviewer, there is a strong temptation to redefine the question in leading ways. "Aren't you aware of the tube well which was built by CARE just across the field there?" The respondent may have thought many things about the tube well, but there are not many interesting responses to the question as it is phrased.

The type of program and the specific questions under study clearly have a role in determining the means by which evaluation proceeds. Even the best disseminated programs, such as basic education, reach less than half of Bangladesh's youth. When asked if a school is located within a village, respondents may interpret the question to be whether they have children attending that school. Those who cannot afford to send their children may choose to report that no school function [to their advantage] in the village even though physically one does exist.

The reinterpretation of seemingly unambiguous questions by the respondents suggests an underlying frustration with institutions which are not serving the respondent's needs. Table 4.2 shows dimensions of reality versus reporting of development intervention. Programs which do not exist should generally get a flat "no" from respondents. Programs which exist and benefit the respondents should get a flat "yes". The upper right element is the gray area of analysis. Examples of research dealing specifically with discrepancies between individual reporting of development activities and the physical presence of such activities were not found in the literature.

Table 4.2 Respondent Evaluation of Program Benefits

PROGRAM	RESPONDENT	
	BENEFITS	DOES NOT BENEFIT
EXISTS	YES	MIXED
DOES NOT EXIST	NO	NO

A second, and more pragmatic, justification for using individual accounts as a measure of development activity has

to do with the nature of residence histories. The respondents are asked to describe communities at a time and place where they may be the sample's only representative. No official records are available which permit us to know whether or not programs actually did exist in particular places in the past. Even when a significant number of respondents report on common places in common time frames, they often provide very different descriptions of development activities.

The inconsistent reports on development activities are, on the one hand, a liability, in that we really don't know whether the report is correct or incorrect. On the other hand, the inconsistency provides insight into the sources of program awareness and the differences between professional and village definitions of development.

Community development will be measured along three dimensions, intensification, diversification and integration. Increases in existing modes of production, such as introduction of irrigation, define intensification.

Diversification is measured through the introduction of new occupations and industries, such as small scale manufacturing. Integration is measured on two levels. Intra-village integration is manifested in organization within the village and the level of participation of its residents. The second level of integration is inter-village, or the level of exchange between the survey villages, surrounding villages, urban centers and even international markets. Physical markers of inter-village integration include transportation access, commuting patterns, commodity markets and remittance flows.

f. Migration

Migration is difficult to measure irrespective of methodology. The most difficult technical aspect of measuring migration is keeping up with the migrants. The following section describes in some detail how this task was approached and the limits this residential history analysis for explaining migration.

The following "lower limits" have been incorporated in defining migration.

1. Spatial Distance: Only moves within an extended household compound, or BARI, are not incorporated. Moves within the village and outside of the village are considered migration but are classified according to the most significant political boundary crossed.
2. Temporal Limits: A two week lower limit on time away from the origin was adopted. This allows us to register temporary and seasonal moves which are common among the migrant farmworkers. "Repeat migration" occurs when migrants make the same trips frequently, such as in the case of itinerant trade. Repeat migration is included in this study, but is classified somewhat differently than one-time moves.
3. Activities during or after the move: Only temporary moves for recreational purposes are excluded. Moves for work, education, marriage, war, familial, social and climatological disruption are included. The exclusion of social visits and what might loosely be described as recreational travel appeared to have little relationship to the economic development intervention. The actual extent of recreational travel is extremely low in rural Bangladesh. Families simply do not have money for travel.
4. Intentions and will of the migrant are not defining criteria. The so-called "involuntary migration" such as the refugee movement in 1971 is not excluded.

In an analysis of migration surveys, Findley highlights the breadth of interpretation given to the concept of migration (1982). Spatial minimums range from moves no-minimum to international boundaries. Temporal limits are equally varied. The decision to use inclusive criteria in this study results in an abundance of detail regarding

movement of the respondents. The information is often more detailed than is necessary for analytical purposes and requires higher-level spatial aggregation.

Physical distance of moves is not a reliable indicator of the social separation that occurs. Some areas of Bangladesh are much less accessible than others. Travel time between places has decreased dramatically with construction of highways. Longitudinal comparisons are thus difficult.

Political boundary crossings serve as a measure of the spatial distance crossed in a migration. A boundary crossing also represents distance from spatially fixed public and private support networks. Of course, family networks are not always spatially fixed. They may extend considerable distance and need not be related to predictable spatial patterns. In fact, families typically spread out in discrete jumps with centers of residence like islands separated by large voids where no family members live.

All moves are classified according to the largest change of political boundary. The hierarchy of boundary crossing/distance units to be included in the analysis is listed in Table 4.3, along with averages of the number of potential destinations within each category. One important caveat bears mentioning. When a residence is located near the border of a major political division, even a short move may involve crossing into a new division.

Table 4.3 Average Number of Geo-Political Sub-units

Geopolitical Unit	Average Number of Subunits
1. Home	- No move occurred
2. Village	- 175 Homes / Village
3. Union	- 20 Villages / Union
4. Subdistrict	- 9 Unions / Subdistrict
5. District	- 23 Subdistricts / District
6. Division	- 5 Districts / Division
7. Country	- 4 Divisions in Bangladesh
8. International	- India and the Middle East are prominent places of destination.

Another basic level of aggregation is the classification of the type of move into groups. Five types of moves have been defined for each observation of the respondent. The categories, presented in Table 4.4, are, for the most part, mutually exclusive. There are occasions where migrants have an onward move and then a temporary-return move to their first residence, such as women who returned to their father's homes during the 1971 war. In this case the move is classified simply as temporary. Repeat moves may also be return or onward when the migrant has lived in both origin and destination for extended periods of time. The "primary" residence is defined as the place where the respondent spends most of his/her time, regardless of any other factors. The "repeat" residence is the place where the respondent spends less than half of his/her time. Many of the finer details in the nature,

cause and consequence of migration will be brought out in the descriptive analysis.

Table 4.4Types of Moves

STAY	-Respondent did not move.
ONWARD	-Respondent moved to a new location.
RETURN	-Respondent moved to a previously occupied location.
TEMPORARY	-Respondent moved to a new location, but returned again to the origin location without any major changes in the household composition.
REPEAT	-Respondent moved repeatedly between two or more locations.

3. Components of the Household Interview

The interview was designed to measure the demographic, social and economic status of respondents, their households and their communities over the respondent's life course. The interview is divided into 12 sections, described in Table 4.5. A list in which the variables are described and classified as cross-sectional or longitudinal, and as interval, ordinal or categorical is included in the appendices with the interview and its English translation.

Table 4.5 Classification of Survey Questions

Demographic	Social	Economic
Age Gender Birth parity Marital status Migration	Education Household status Household structure	Assets Occupation Land tenure Debt
	Village transport Village facilities Village organization	Village Product Village Retail

Boldface- Indicates Village level data

a. Initial observations

The interviewer records time, place, housing characteristics, and interview environment. This initial assessment is an important component of the economic status rating made by the interviewer. (n=280)

b. Current household and family membership

Persons currently residing in the household as well as immediate family of the respondent are reported for birthplace, current residence, age, education, occupation and remittances. Analysis of these data indicate the migration patterns of persons who previously lived in the village, but have since left. Questions such as the effect of number of children and parity on education and migration can be studied. (n=2,851)

c. Open-ended historical recall

This section is exploratory, and comprised solely of open-ended questions. The respondent is asked if any of several eras were witness to historical events which

impacted the respondent or village. It must be remembered that most of the respondents are unfamiliar with calendars and cannot state the year when major historical events occurred. The data from this section are not suitable for quantitative analysis, but do contain numerous interesting remarks by respondents about the past.

d. Respondent Residential/Life History

Sections (d) through (j) are longitudinal. The respondent is asked each question for each change in residence. The residential history section lays out the location, time and duration of each residence along with stated reasons for moving. A significant number of the males had never migrated. For them it was still important to record some historical points. Failing to record historical data for non-migrants is a common lapse in migration research. (n=979)

Approximately one quarter of the respondents had never moved up to the time of the survey. Most of the non-movers were males. A majority of females and many of the males have moved one time only. As the number of moves increases beyond one, the proportion of movers who were male increased. Very few respondents reported more than four moves.

Table 4.6 Total Number of Moves by Gender

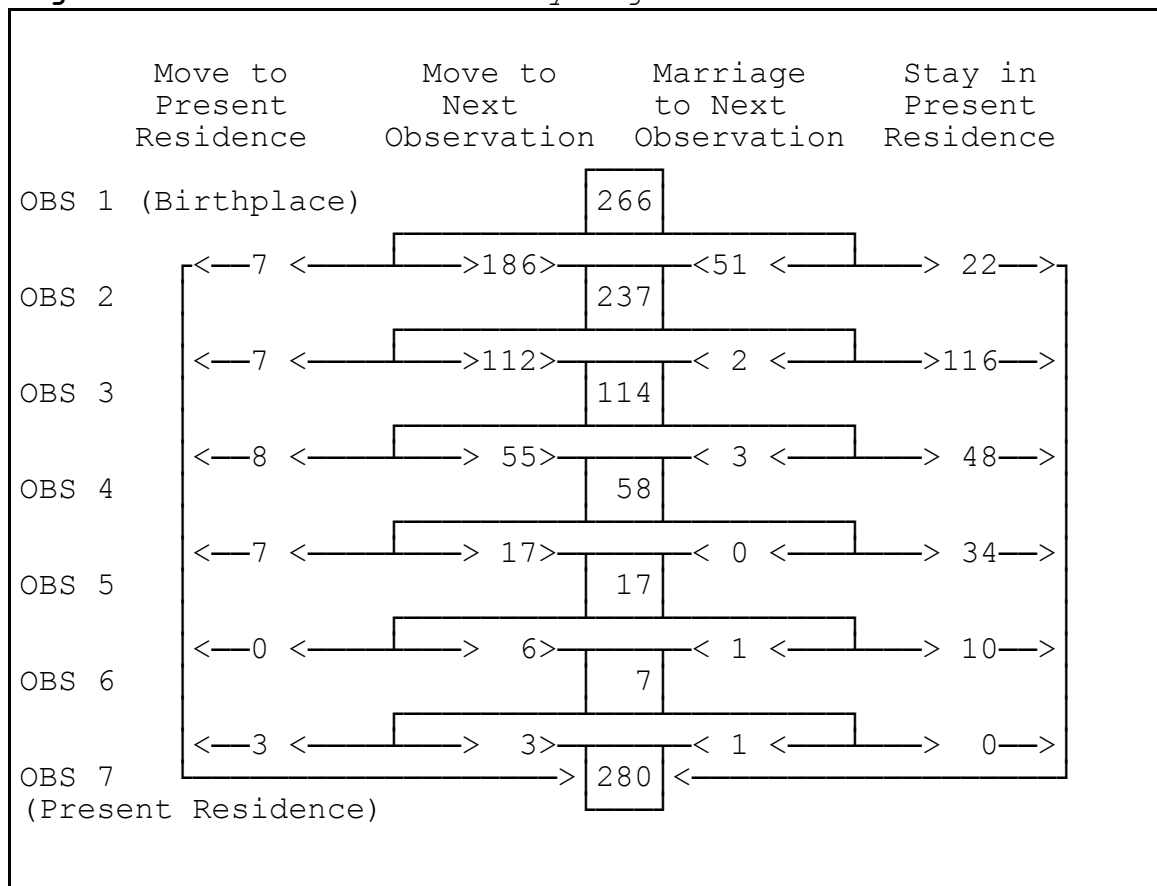
Frequency Column %		MALE	FEMALE	Total
MOVES	0	63 45.00	10 7.14	72 26.07
	1	18 12.86	74 52.86	92 32.86
	2	28 20.00	31 22.14	59 21.07
	3	16 11.43	16 11.43	32 11.43
	4	12 8.57	6 4.29	18 6.43
	5+	3 2.14	3 2.14	6 2.14
Total		140	140	280
Chi-Square		df 5	Chi-Square 74.92	Prob. 0.000

Temporary migration, lasting less than one year and involving a return to the home of origin was recorded as one move. Frequent, repeat migration, such as for trade is also counted as one move. In both cases separate analyses will be presented. Table 4.6 shows the sample of respondents arranged by their total number of moves.

The flow-chart in Figure 4.2, Residential History Migration Patterns, illustrates decision paths for respondent residential histories. Each "OBSERVATION", seven in all, represents an additional column of survey questions. The first observation was collected for nearly all of the

respondents at age fifteen or immediately prior to their first move. The second through sixth observations were collected for respondents for each new residence and for marriage when migration didn't occur. Nearly all women married and moved simultaneously. All of the respondents eventually reach OBSERVATION 7, which is a statement of their current situation. Fourteen of the youngest respondents are recorded only in OBSERVATION 7, as they had no prior migration and were very close to the minimum age for survey inclusion. The diagram differs fundamentally from a panel study with a common starting cohort. The persons interviewed are part of a reverse-cohort, with a common current residential location, but diverse starting times and places.

Figure 4.2 Residential History Migration Patterns



For example, of the 266 respondents who were recorded in OBSERVATION 1, 193 moved sometime thereafter. 186 of the movers went to a new residence for OBSERVATION 2 while 7 moved into their present residence in OBSERVATION 7. Of the 73 that did not move into the next recording 22 never moved and 51 were recorded for OBSERVATION 2 as married-not moving.

From this chart the total number of moves equals the sum of the boxes in the move column, or 411. The sum of the marriage without a move column is 58. Of the 58 respondents that were married without an accompanying move, only 5 were female. For many of the females their first move occurs at the time of marriage.

The proportion of each parity that moves to the next parity declines from 75% to approximately 33%. On the high end 193 of 266, or 73% of the respondents in OBSERVATION 1 move at some time in the future. Of 237 persons in OBSERVATION 2, 119 or 50% move again. The percentage of movers drops to approximately 33% for OBSERVATION 4 and remains at that level to the end. The number of persons responding to questions drops rather quickly as additional migration parities are reached, with only 7 respondents in OBSERVATION 6. This group of seven persons has moved the most, and 6 of these seven move again.

e. Household Social Features

The four questions in this section emphasize household composition, numbers of children and adults, leadership over time. This information is combined with information from current family and household composition to analyze the role of household composition in development participation and migration. (n=979)

f. Community Social Features

The questions in this section include community political rank; infrastructure such as water and electrical supply, and transportation; social infrastructure and services such as schools and health programs. The use of respondent reports of community facilities raises interesting questions about awareness and use of village infrastructure. (n=979)

g. Household Economic Features

This section has questions about household wealth and sources of income over time. Questions include household and land tenure, irrigation, and employment. These variable also factor heavily in the interviewer rating of household economic status. Land use and ownership are very complex in Bangladesh, with multiple tiers of owners, mortgagors, sharecroppers, renters and laborers. Each respondent was coded with up to three different quantities of land with specific tenure arrangements. These distinctions are highlighted in the analysis. (n=979)

h. Community Economic Features

In this section the industry mix as perceived by the respondents was recorded. Attention was given to agriculture, manufacturing, retail activities, as well as sources of credit. The unprompted responses on these questions were low. Even when respondents were themselves engaged in cottage industry occupations, many did not mention that such opportunities existed. This stems perhaps from the imposition of the Western model of primary, secondary and tertiary industrial sectors on rural Bangladesh. Structured prompting was incorporated to elicit more information. (n=979)

i. Household Debt

Debt deserves close attention in establishing participation in development programs and changes in household economic status. Each respondent was coded with specific loan information for up to three loans in each residence period. Salient information includes amount of loan, interest rate, term, collateral, lender and repayment.

The unit of observation is the loan. (n=468) Loans are also aggregated in order to analyze respondents as the unit of analysis. (n=979)

j. Economic Development Programs

The objective of this section is to measure the level of perceived intervention of BRAC and other development programs. Respondent perception of development programs is a particularly interesting methodological problem. Programs which did not benefit the respondents directly were often overlooked. Participation in development programs is also a key component of the conceptual model, linking intervention with individual and community development. (n=979)

k. BRAC Participation

This section investigates specific respondent involvement with BRAC for those who participated at all. The timing, sequence and magnitude of up to four activities per respondent is recorded. The activity with BRAC is the initial unit of analysis. These activities are aggregated where possible to the unit of respondent. (n=979)

l. Future Plans and Prospects

This section provides a closure for the interview. The issues raised are future migration intentions, reasons for moving or not wanting to move and future hopes, plans and difficulties anticipated by the respondent. Here again, the

issue of what people want for themselves and their families is very interesting. (n=280)

C. Analytic Methodology

The analysis incorporates secondary, macro-level data extracted from aggregate district and subdistrict tables as well as primary data collected at the village and household-level. Secondary data include national, district, subdistrict and village statistics compiled by the Bangladesh Bureau of Statistics. Primary data consist of village and organization observations, in addition to the 280 household interviews.

1. Secondary Data

Secondary data used in this study were obtained in the form of published tables. As such there are few opportunities for sophisticated analysis. The data were rarely cross tabulated, further limiting the potential for drawing inferential conclusions. The primary application of secondary data was in the selection of villages for detailed study.

In some circumstances the tables and maps are presented as supplements to primary data analysis. For instance, Rashid's analysis of regional migration patterns is reproduced in Chapter X as primary data were not sufficient to produce comparable maps. Coding of village-level data was informed by available aggregate data on villages, Unions and sub-districts. For example, residence locations were classified with respect to level of political organization.

2. Primary Data

Primary data take two principal forms. The core data were assembled through household interviews. Supporting data, such as village characteristics and focus group

transcriptions were collected in order to build a coherent framework of inter- and intra-village organization. While most of the data to be analyzed come from interviews, qualitative village and group information is essential for providing contextual background.

Residential histories collected through retrospective interviews produce data which can be analyzed using cross-sectional, multi-period and cohort techniques. While cross-sectional analysis is easily presented and understood, it is not as useful in explaining decisions and behavior over time. As such, all three methods are employed.⁹

Longitudinal analysis is accomplished in several manners.¹⁰ Analysis is presented in two-period and multi-period, before and after comparisons. Before and after comparisons take two forms. Some comparisons are made by aggregating information into calendar groups, such as comparing land distribution in the 1960's, 1970's and 1980's. The second form of comparison is ordinal-sequential, such as comparisons on land-holdings at the first place of residence and the second, third and fourth places of residence.

In panel studies all respondents start from a common origin and over time the sample shrinks due to different forms of attrition. In residential histories the final point is common to the respondents, but they enter the study at many different periods depending on their age. As the

9. The data were coded and keypunched using dBase, Paradox, Multiplan, Supercalc, Lotus and Quattro Pro. Most of the statistical analysis was performed using SAS-PC, with supplementary analysis and graphics prepared in Lotus, Quattro, Multiplan, SYSTAT, SPSS, ABStat, Harvard Presentation Graphics, Generic CAD, and ATLAS Graphics.

10. Historical information is based upon recall of the respondents, all of whom were living in the survey villages, but most of whom have lived in other places.

history approaches the present the sample size grows. The result is a much larger representation of respondents in their younger ages, through which everyone passed, and relatively few who have reached ages in excess of fifty.

Cohort and longitudinal analysis are similar in that both consider individual activities over time. One difficulty of separating period, age and cohort effects is illustrated in a simple equation.

Current Age = Current Year - Birth Year (Birth Cohort)

A person born in 1950, being member of the 1950 birth cohort, attained the age of 30 in 1980, or $30 = 1980 - 1950$. This obvious relationship then rules out the possibility of treating these three attributes independently in a statistical model. One term is always redundant.

Residential histories produce both reverse-cohort data and period data. As respondents age, they pass through a number of important life-course events, such as marriage, child bearing and migration. Age-event relationships are affected by historical trends and specific events. For example, average age at marriage has been creeping upward in Bangladesh over the past 50 years, and during the 1971 independence war many marriages were further postponed.

Respondent economic status is also subject to period and cohort influences. Economic tides of a country move people's economic status up or down regardless of age. Generally age and life course stage themselves have important implications for well-being. Still more likely is the interaction of period and cohort factors on economic status. For instance, a period of exaggerated costs for education will have a greater impact on parents with young children than on retirees. The children of that period are more likely to end school early.

Separating cohort from period effects presents a major challenge to analysis of panel and residential history data

(DaVanzo, 1982). Perhaps the most straight-forward method for assessing the relative and combined importance of period and cohort factors is through comparisons of age and date in migration probabilities.

The use of age as an indicator of life course stage assumes a certain homogeneity of respondents. Respondents are assumed to enter marriage, employment, retirement, and so on at about the same age. This homogeneity of behavior by age is also assumed to be inter-generational. Heterogeneity of variance over time can cause biases in parameter estimates. The second caveat is that younger respondents have truncated date and age horizons. They were not at risk of migration prior to their births, nor can we measure risk of moving at an age which they have yet to achieve.

The simultaneous use of individual- and community-level data presents important analytical challenges. Most migration research is either macro-demographic and uses no individual or household data, or micro-demographic and uses only individual and household data. During the time that data were collected for this study the debate about inclusion of community-level data reached a high point. Conceptual and methodological challenges abound. From a conceptual perspective, community-level data often only reflect the place of origin or place of destination, but not both (Findley, 1982) (Findley, 1983). Macro-level analysis is stunted with only one side of the migration picture. The cost of gathering accurate information on both locations is high, and respondent reports are subject to recall error.

Macro-demographic data can be applied to micro-demographic analysis by assigning community level data to individual respondents. Gardner's model which applies macro-level data to migration decision-making is a good example of this approach (1981). Findley points out the

distinction between actual and perceived community conditions (1983). In this study, both are considered, but with respect to previous residences, the only data available are in the form of recollections and perceptions. Bilsborrow suggests incorporating a more extensive set of community-level economic variables, primarily at the place of origin, in migration analysis (1981).

The use of macro-level, called area-level, factors is further extended by Bilsborrow, et al., in a multi-level analysis of migration out of villages in Ecuador (1987). The Ecuador study is applied to children of sample households within a restricted age range. This strategy is adopted here in Chapter IX for some analyses of migration. Multilevel analysis seems to be a very promising strategy for understanding community-level effects on migration. There is an obvious advantage for development policy-makers to having community-level data, such as community infrastructure. Unlike more commonly used individual-level data, community variables are more easily addressed in national development plans. Multilevel analysis works best with large samples including many villages. The four village sample in Bangladesh is not entirely suitable for multi-level analysis, as community factors do not co-vary sufficiently, producing the effect of multicollinearity and unstable regression estimates.

Micro-demographic data can also be used to inform macro-demographic analysis. In many cases, however, data are not collected and aggregated using acceptable sampling procedures. Non-representative samples are more interpretable in micro-demographic analysis, where the concern is principally with internal validity, than with macro-demographic models, where external validity is more often a priority.

3. Methods Applied to Conceptual Model

The sequence of analytic chapters follow the stages in the conceptual model. Chapter VI, Participation, considers the basic questions of who participates in person- and place-oriented development programs and how they participate. Selectivity in participation is crucial to subsequent understanding of the impact of intervention on individual and community development. Participation in programs is not random, but the consequence of program guidelines, individual attributes and the interaction of various existing programs. Summary tables of participant characteristics and measures of association between individual attributes and program intervention are employed. Logistic regression is used to test the significance of selectivity in participation.

Chapter VII, Individual Development, measures the impacts of individual attributes and program participation on individual and household economic and social change. Key measures of participation include: participation as consumption, production or allocation; level of borrowing where credit is an option; and the immediate benefits received from participation. Individual attributes are treated as factors influencing participation and outcome. In order to help control for potential problems of simultaneity, analysis is conducted within economic and demographic groups. This is accomplished using latent variable path analysis.

Chapter VIII, Community Development, considers changes in the condition and distribution of well-being of the four sample villages. This analysis is crucial to understanding patterns of individual development and migration. Determinants of community development under consideration are the impact of intervening programs and participation of residents. The limited number of villages in this analysis

precludes causal statistical analysis. Place-oriented intervention programs are designed to affect the community as a whole and are gauged through the collective experiences of interview respondents. Statistics on respondent awareness and assessment of community development intervention as well as participation are presented. Changes in community structure over time, including land distribution and credit markets, are presented.

Chapter IX, Migration, completes the four phase analysis. Migration is modeled to be the result of the interaction of individual and community development. Regional patterns of migration are presented from secondary data which illustrate the effects of population and economic change. Gender and age distribution in urban versus rural locations point to selectivity in migration. Survey data are then used to illustrate patterns of selectivity with respect to individual and community change. Migration, and the desire to migrate in the future, both are modeled using logistic regression. Individual, household and community-level data serve as predictors. In addition to the question of whether a move occurs, the issue of choice of destination is discussed.

D. Summary

Most of the data to be analyzed in subsequent chapters were collected during an eighteen-month visit to Bangladesh beginning in November, 1984. Virtually no existing data dealt with the issues of migration and development in Bangladesh, necessitating an intensive, primary data collection effort.

Social, economic and demographic data were collected at district, subdistrict, village and household-levels. The core of this study, however, are household-level data. Residential histories were collected for 280 randomly

selected respondents. Data were collected on past and present economic status of the respondents and their communities. Additional information was gathered using existing tabulated data, participant observation, group meetings and local voluntary informants.

The small size of the data set and the nature and distribution of the responses limit the number of statistical techniques that are applicable. The analyses to be presented below are largely descriptive and bivariate, with multivariable regression and logit analyses where feasible and productive. Qualitative analysis supplements the statistical findings.

V. NATIONAL, LOCAL AND INSTITUTIONAL CONTEXT

In order to set the stage for the presentation of research findings this chapter will present three aspects of the research context. Bangladesh will be discussed first. The second section of this chapter will discuss three approaches to rural relief and development. The large number of development programs evident in Bangladesh creates a tangle of potential developmental and migratory effects. In order to clarify exactly which types of intervention are relevant to this study, a more detailed description will be presented of programs operating in the survey villages. The third section describes the four villages selected for analysis. Points of continuity and diversity among the villages will be highlighted.

A. Bangladesh

Once considered one of the richest regions in the South Asian subcontinent, the former wealth of the Bengal has been stripped away by the dramatic rise in population and a succession of ineffective and exploitative leaders (Rashid, 1978). Two more recent landmark historical events change the territory's name and the national political organization, partition from India in 1947 and independence from West Pakistan in 1971.

The regions of the South Asian subcontinent have been formed and reformed through thousands of years of political conquest. The Mogul conquest between the late 1300's and early 1700's lead to the conversion of large numbers of south Asians to Islam, particularly in the northern regions of Pakistan, Kashmir and Bangladesh. The southern end of India was the least affected by Islamitization.

The Mogul conquest was eclipsed, in part, by the rise of the East India Trading Company and later the British Government. The British assembled dozens of princely states, some Hindu and some Muslim, under one government. British rule came to an end in 1947 when Indian and Pakistani leaders successfully negotiated independence. One legacy of political unification under the British with no comparable social unification was the simultaneous partition of Hindu dominated India from Islam dominated Pakistan.

Many regions remain separated by cultural, language and geographic discontinuities. The Bengal region, located in the north east is distinct from other parts of the subcontinent in many respects. The region is characterized by flat, deltaic plains, regular flooding and productive land. The great majority of the population is of mixed Dravidian and Aryan descent and has descended for hundreds of years within the region. Of all of the political conquests, the British were the most successful at bringing the Bengal region into India.¹¹

In 1947 the exit of the British and the partition of India from East and West Pakistan separated East Bengal's agricultural hinterland from West Bengal's industrial center, Calcutta. Bangladesh formed the eastern half of Islamic Pakistan.

This partition made little social nor economic sense. East and West Bengal shared both industrial efficiencies of scale and a common history and language. East Bengal, called East Pakistan, had little in common with West Pakistan other than identification with Islam. West

11. The local populations use several names for India, including Bharot and Hindustan. The latter name is especially telling of the religious dynamics which subsequently contributed to the national partition along religious borders.

Pakistan, contains part of the rich agricultural Punjab region and vast expanses of extremely dry terrain. East Pakistan had more people, much higher population densities and considerably less political power.

The celebration of independence from the British lasted only a short while as the leaders in the eastern half realized that political control of their country was not to be shared equally. When the last of their political rights were stripped in 1971 by West Pakistan, and their elected leader was imprisoned in West Pakistan, Bangladesh's leaders declared independence.

The war of 1971 and its aftermath brought the plight of the Bengali people to world attention. A series of poor harvests coupled with return of approximately ten million refugees from camps inside India resulted in widespread starvation. The advantages of national unity, found in shedding external rule, were compensated by a lack of economic diversification and excessive dependence on rice and jute production.

Since independence from Pakistan in 1971 the transfer of power between national leaders within Bangladesh has been marred by violence and instability. The first two prime ministers of Bangladesh who held office for a significant period of time, Mujibur Rahman and Zia ur Rahman, were assassinated. The third prime minister to hold office for a significant length of time, Abdus Sattar, was replaced in a bloodless coup. Chief Martial Law Administrator and self-appointed president, Md. Ershad held power during the time that field work was conducted. Despite this turbulent history, the relative difficulty of travel within Bangladesh has insulated many rural areas from the discontinuities experienced in Dhaka and Calcutta. For many villages the most dramatic historical events have been natural disasters such as floods and hurricanes.

One of the earliest English editions on the history of the Bengali region is The Romance of an Eastern Capital by F. B. Bradely-Birt provides interesting background (1906). The History since 1947, especially with respect to economic development programs, is well documented in Craig Baxter's Bangladesh: A New Nation in an Old Setting (1984), B. Johnson's Bangladesh (1982) and Charles Peter O'Donnel's Bangladesh: Biography of a Muslim Nation (1984). A more complete bibliography of historical references, with particular emphasis on the immediate post-independence period, has been assembled by Peter Bertocci, entitled Bangladesh History, Society and Culture: an Introductory Bibliography of Secondary Materials (1973).

Three aspects of the recent historical development process stand out. First, demographic change has had tremendous importance in Bangladesh's history. The rate of population growth in 1992 approximately 2.4% remains high despite the near capacity utilization of cultivatable land.

Population density is among the highest in the world, with more than 1,500 persons per square mile (BBS, 1985B:63). After controlling for the major historical events, such as wars and floods, there is a notable and growing trend in rural-urban migration. Urban areas are currently growing at twice the rate the rural areas, with most of the difference accounted for by migration. Urban administration and planning have not been able to keep up with quickly growing urban populations (Choguill, 1983, 1987).

A second important aspect of Bangladesh's historical development is the economy. Bangladesh's economy has for a long time been based on the production of a few crops, particularly rice and jute. Despite the fact that more than half of the employed workers are tied to production, processing and distribution of rice, Bangladesh relies on large quantities of imported food. Rapid growth in

employment and production has been limited to a few manufacturing industries, such as apparels.

The majority of new entrants into the labor force remain in agriculture, where virtually no new productive opportunities exist, or have entered less productive trade and service occupations. Trade and service occupations in rural areas include home-based shops, transportation and liaison assistance for development organizations. Much of the work done in these sectors is labor-intensive and provides very little income.

The third aspect of recent historical change that deserves attention is the growth and organization of rural development programs. The level of investment in rural development activities has risen considerably since the 1947 partition of India and Pakistan. Early efforts were based in large part on the experiences of developed Western countries. Policies favored the importation of capital goods which increased the productivity of labor in manufacturing and agriculture.

B. Institutions Promoting Rural Development

Since the 1971 independence war the level of investment in rural areas has grown significantly. While the level of international support has increased, there have also been major structural changes in the policies, programs and projects financed under the umbrella of rural development. With more than 80% of the population living in rural areas, governmental and non-governmental organizations have experimented with a multitude of rural development strategies, ranging from narrowly defined projects to fully integrated programs.

According to the Government of Bangladesh Third Five Year Plan (GOB-TFYP), concern has shifted to displaced workers and the rising tide of landlessness. Capital-

intensive projects have given way to small-scale basic needs and rural enterprise models. Under these strategies, policies encouraging labor-intensive production techniques and off-season and self-employment have been promoted (GOB-TFYP, 1985: 112, 216).

The shift of development programming from urban and capital-intensive strategies to rural basic needs and appropriate technologies has a number of goals.

- * Decrease population living in poverty.
- * Increase human, land and capital productivity and total production from rural agricultural and non-agricultural sectors.
- * Provide rural infrastructure necessary to promote economic growth.

The large number of programs and projects implemented in Bangladesh precludes presenting a comprehensive discussion of rural development activities. The following section outlines approaches to rural support and development promoted in study villages which were sufficiently large to have an impact on respondents. These programs will be described in relation to person or place orientation and the forms of local participation. Many of these activities have been integrated within a broader set of programs. Integrated rural development (IRD) has the advantage of offering a balanced mix of person and place orientation and includes all levels of participation. However, integrated programs frequently suffer from poor coordination between sponsoring agencies. As such, each rural development program will be discussed separately.

1. Basic Needs, Rationing and Relief

Meeting current consumption needs dominates all other aspects of assistance in rural Bangladesh. While food,

drinking water, health care, clothing and housing all fit within the category of consumption, food is perhaps the most important. In order to stabilize food supply and prices in the past, the governments of Pakistan and Bangladesh have engaged in price setting, rationing, and large scale infusion of international food aid. Intermittently throughout the history of East Pakistan and then Bangladesh food has been sold through two markets. The private sector has operated throughout as an effective means for transporting food to all parts of the country. Prices, however, have often been well in excess of low-income households. A second tier system of ration shops has been used to sell basic foods at reduced prices to eligible persons.

During the 1980's the price ceiling and rationing system came under fire for providing relatively well-off urban residents with inexpensive rice while discouraging farmers from investing in production. Rural consumers typically have not benefitted equally by the rationing system. Many of our survey respondents participated in the past in price control programs on rice, but their participation was sporadic.

Emergency food aid, called relief, has also played a significant role in maintaining rural households. However, most respondents received less than reliable support. Relief in the sample villages, on those occasions when it existed, required frequent trips to the sub-district center and long waits for what amounted to a few day's supply of rice or wheat. During periods of extreme distress the day's wait might be rewarded with less than a day's worth of food.

Another criticism that has been levied at rural aid programs is the pervasive atmosphere of corruption that accompanies relief efforts (Jenkins, 1983:61) During the data collection period the survey villages did not have any

major relief efforts, though there was always some relief activity.

Programs to assist with rural housing were not notable in any of the four survey villages. Shortly after the independence war of 1971, BRAC and other organizations provided building materials for self-help housing to select locations. Not long after the war, for a variety of reasons, the emphasis of relief efforts shifted away from shelter and even more towards food supply. Following natural disasters, critical needs for shelter are addressed through public and non-governmental programs, but during the normal course of events the rural poor are expected to obtain shelter without direct assistance. The remnants of donated roofing rusted tin were visible in Hilalnagar, fifteen years after the war.

Rationing and relief are the most recognized, if discredited, forms of government intervention in the four sample villages. Both can be considered place-specific but person-oriented. Participation in relief is unilaterally through consumption. The participants simply petition for food and wait.

2. Food-For-Work

During normal crop years there are lean periods when productive work in agriculture is not available. During these periods the government has promoted rural works programs using foreign donated food to compensate workers. The dual purpose of building rural infrastructure and stabilizing rural food supplies are thus integrated. All four of the survey villages have had food for work projects within the recent past. In two of four subdistricts food-for-work programs were active during the interview period. The other villages had physical signs all around of the effectiveness of the food-for-work strategy. Many of these

programs are also rife with corruption (Muqtada, 1989:5). Food-for-work programs are place specific and generally place-oriented. The benefits of these projects are fixed to their location. Participation is in the second level, that of working for the project and receiving compensation.

3. Health, Education and Vocational Training

Health, family planning and education programs straddle the boundaries where consumption assistance and development assistance meet. These programs meet current needs, yet are essential processes for further development. In Bangladesh rural health and family planning facilities are generally understaffed and under-equipped. There are no means of transportation in many locations other than walking, which rules out emergency care for a large part of the population.

Even reaching a health post is no guarantee that medicine or other supplies will be available for treatment. Preventative health care is manifested in occasional sweeps through the countryside of vaccination teams. Children are easily missed. Children that are reached are vaccinated with only approximate relationship to their age and often do not complete the recommended series.

As in most societies, expenditure for education in Bangladesh is targeted to people ages five through 24. In 1987 the Government of Bangladesh reports maintaining 42,992 primary schools, reaching 84% of the population between ages five and nine. Schools do not function equally well throughout the country. Very often teachers and students are absent.

There were 8,983 secondary schools in 1987 which reached approximately 24% of the children between ages 10 and 14. Education for persons age 15 to 24 reached fewer than 4% of the eligible population (BBS, 1989:251). Participation rates in primary and higher level education

are reported to have risen slowly over the past decade while participation in secondary schools has changed very little.

Primary and secondary education plays an important part in the relationship of person and place development.

Students who do complete primary and secondary educations are faced with a likely mismatch of skills to the existing work environment and are likely candidates for rural-urban migration. Vocational education which focusses on locally useable skills can have the opposite effect.

4. Organizing

Throughout the 1970's and 1980's rural development targeted to the needs of the poor have included a variety of approaches for organizing participants into associations. The government, working through the Bangladesh Rural Development Board (BRDB), and non-governmental organizations like BRAC, have required that participants contribute to the association and seek assistance through the same association. BRDB has organized thousands of Krishi Somobai Samity (KSS) or farmer cooperative associations throughout the country. Mohila Somobai Samity (MSS) or women's cooperative associations were later organized and also numbering the thousands. The associations were encouraged to organize agricultural production, such as irrigation systems, and were given seed and fertilizer subsidies as an incentive. Many of the BRDB associations came to be dominated by local elite (GOB-TFYP, 1985:213).

The motivation for NGO sponsored associations landless farmers was similar, but required a broader approach to income generation. Associations organized around cottage industries, irrigation services and leasing government land.

Organizing for rich and poor alike is, paradoxically, person-oriented, but place-specific. Participation is multi-leveled, but places allocation control of development

with the association members. The benefits of the organization rarely extend to persons if they leave the immediate area. BRAC's model for community organizing will be discussed in detail in the following section.

5. Micro-Enterprise Development

The micro-enterprise model for development came into being in the early 1980's. Like integrated development programs, the micro-enterprise approach generally fails unless the constituent activities are well coordinated. BRAC, for instance, requires years of organizing and education activities before releasing support for micro-enterprises.

An important theme of creating new enterprises is that individual potential is more likely to be realized when programs are oriented towards rewarding private sector initiative. Thus, rather than investing heavily in the costly physical infrastructure on the speculation that private sector growth will follow, money is invested directly into encouraging entrepreneurs to form new enterprises. If successful, the local economic activity that is generated will provide public sector revenues necessary for investments in public goods. In some cases, even the provision of power, water, communication and transportation can be transferred to entrepreneurs in the private sector.

By attaching educational requirements to credit for self-employment, the association between education and productivity is enforced. Organizations frequently require training to meet specific the skills needs of enterprises. Friends in Village Development, Bangladesh (FIVDB) have adapted a very effective Chinese method for duck breeding and rearing which is integrated with an aggressive program of adult literacy. Only after completion of the training

program are participants permitted to purchase breeding stock from the organization. BRAC has established similar programs for fisheries, vegetable production, poultry and small-scale manufacturing.

CARITAS, along with numerous development organizations, assists village organizations with the purchase of foot-powered sewing machines. These machines greatly increase the speed with which traditional clothing and handicrafts are produced. The sewing machines, like the duck rearing technology, have the double advantage of meeting current consumption needs and creating surplus for sale outside of the village.

C. Financing Income-Generating Activities

A popular method for promoting rural income-generating activities in Bangladesh is the provision of credit. During 25 years of Pakistani rule and nearly twenty years of independence, rural communities have experienced a variety of programs which are based upon the concept that a basic impediment to economic growth is the lack of affordable loans and equities.

Determining the market rate of interest in rural areas was complicated in the past by the lack of a regulated, private sector credit industry. Usurious rates charged by local money lenders exceeded and continue to exceed 100%. On the other extreme, Islamic law supports the principle that interest should not be charged on loans. Somewhere between the non-existent Islamic interest rate of 0% and money lender rates exceeding 100% is a rate at which lenders make a reasonable return and borrowers make a reasonable profit.

Bangladesh has experienced continuous, moderate rates of inflation. The annual market interest rate for loans, which incorporates modest inflation, appears to be between

15% and 25%. Loans made at rates below 15%, even with perfect repayment, are likely to recover too little to cover administrative and inflationary costs.

Government credit programs have often provided highly subsidized loans. Razia Amhad, in Financing the Rural Poor reviews several government credit programs.

Characteristically, government credit programs have emphasized disbursement rather than recovery. Funds were disbursed quickly, favoring wealthier borrowers. Loans made at below market rates of interest were not easily recovered, with borrowers preferring to continue the small interest payments or simply default. In several programs reviewed the original seed capital was depleted in a few years and the programs collapsed or were maintained through constant, high levels of subsidies. These programs disappear, but only after borrowers have become accustomed to unrealistically low rates for loans which they may not have to repay, ever.

During the study period the government continued to support credit through the Integrated Rural Development Program. The recent track record for IRDP has been characterized by sustained high costs with insufficient tangible benefits (Ahmad, 1983). The state run Krishi (Farmers) Bank also operates in all regions of the country.

Many of the respondents reported receiving loans through government programs, including IRDP and Krishi bank. Despite frequent criticisms of corruption among government representatives, the demand for government loans continues to exceed the supply.

Thus on one extreme are short-lived government programs which fail to maintain sufficient reserves and eventually collapse. On the other extreme are local money lenders who charge excessive rates of interest and leverage borrowers out of land and other possessions.

While government programs and local money lenders have been the predominant sources of credit in rural areas, non-governmental organizations offer innovative alternatives. The Grameen Bank and BRAC are perhaps the best known non-governmental organizations which provide small loans in Bangladesh. Their operations have been replicated in numerous other organizations, all of which appear to follow their design closely, hereafter called the group loan model.

Important features of the group loan model are, 1) loans are made through community based associations to individuals, 2) membership in the associations is restricted to people falling below a specific level of income or wealth, 3) eligibility for loans is also restricted to persons who have participated in training activities, 4) the uses of loans are often restricted to income-generating projects, 5) responsibility for loan repayment is shared by the entire group, a practice labeled "corporate responsibility". Many of the groups are required to build group-savings accounts as well. These accounts are maintained through regular dues as well as interest on loans and profits from income-generating activities.

Under "corporate responsibility" loan groups are responsible for the failure of even one member in repaying loans. There is tremendous unmet demand for non-usurious loans in rural Bangladesh. So great becomes the effort to get low interest loans, that the long-term components of development programs are treated by many group members as mere formalities or are simply pushed aside in the rush. For branch managers of lending institutions there are many rewards for disbursing credit and few for collecting repayments. The formation of savings groups helps to moderate the rush into borrowing through building group commitment to solvency.

This strategy has been applied in a number of different countries. In the United States, Ocean Spray and Avis Car Rentals are examples of larger businesses which incorporate worker ownership in order to stimulate corporate responsibility and long-term commitment. The group model of savings/credit based development assistance has been replicated in Nepal, Thailand, India and is being tested in the United States (Bogra Workshop, 1984; Padmanabhan, 1988).

D. Bangladesh Rural Advancement Committee

BRAC's efforts have evolved over time with a consciousness seldom found in development organizations. It is therefore appropriate to begin with a brief history of BRAC. Particular attention is paid to the Rural Credit and Training Program (RCTP). BRAC runs a number of programs, some of them represented by more field workers than RCTP. These programs are described to the extent that they are related to the central concern of development and migration. Examples of field activities are included.

1. History: A Process of Social Learning

BRAC has established an international reputation for integrating activism, planning from below and careful introspection. There is a extensive body of literature written by research staff in BRAC and by outside observers about BRAC (Chambers, 1983; BRAC, 1985a, 1985b; Chen, 1979, 1983; Coombs, 1980; Jenkins, 1983; Johnson and Clark, 1982; Korten, 1979; Uphoff, 1982).

BRAC first organized as a relief giving organization in February, 1972, shortly following the independence war. The target area for BRAC was a north eastern region which remained isolated due to a lack of transportation and communication access, a dispersed settlement pattern and a large percentage of Hindu's in the population. BRAC's

initial operations were concentrated on the provision of emergency food supplies, seeds, building materials and health services. BRAC's efforts were also designed to assist refugees who had escaped across the Indian border during the height of conflict with Pakistan. Families returned to their former places of residence finding no homes, animals, crops and in some cases no property.

After less than two years as a relief providing agency, BRAC's founders reassessed the impacts that their programs would have on long-term development. Most of the refugees who were going to return had completed the initial phases of establishing their land and had returned to the normal cycle of cultivating and harvesting. While the need for food and shelter assistance continues even now, the long-term interest of forming a self-sustaining village economy was being hampered by short-term dependence on external relief.¹²

The founders rewrote BRAC's basic mission and switched activities away from relief and toward long-term, sustainable development, including intensification, diversification and integration as described earlier. Early development efforts were designed to work with entire villages in the tradition of integrated development programs. Self-help projects, irrigation, health, literacy training, and so on, were formed. Organizations that formed often became dominated by residents least in need of

12. A good example of this is the powerful negative effect of food assistance on farm gate prices of locally grown food. When the cost of production exceeded the market price for rice, farmers were motivated to grow less than they could and to sell very little. Farmers having little profit margin are unlikely to risk attempting new, more input intensive, methods for production. Food subsidy programs are just one example of the latent consequences of relief efforts on local development.

assistance. Like government programs, the benefits of the programs were often controlled by the village elite occasionally accelerating the impoverization of the poor.

A second major reevaluation produced conclusive evidence that many of the benefits intended for the poor were being controlled by traditional village elite. The reassessment led to another reorganization, and BRAC changed its focus to working specifically with poor, landless villagers. BRAC determined that the formation of associations which excluded persons owning significant tracks of land or other forms of wealth would effectively target development activities to those most in need. The emphasis of programs shifted to activities appropriate to the needs of the poor, including organizing, leadership, literacy and vocational training, and credit for income-generating projects.

By targeting participants according to wealth, BRAC's work in village development became more explicitly political. In a 1983 description of their programs, BRAC representatives write, "The ultimate objective result of BRAC's programmes is to assist the landless community to organize so that they may reverse the long-standing exploitative relationships that dominate rural life in Bangladesh" (Jenkins, 1983).

Villages in Bangladesh are very often divided into factions. A reciprocal relationship forms between village elite as leaders and a group of supporters who are most often poor. Leaders count on the physical and political support of their faction while the supporters look to their leader for employment and loans. BRAC's entrance as an organizer of the poor placed it into the factional leadership role.

Korten and others have labelled the strategy of grass-roots institutional change as "participatory action

research" (Korten, 1977; Rahman, 1984). The strategy of participatory action research has roots both in social activism and participant observation research. The "participation" of respondents in most forms of research is limited providing data. The research has no direct implications for respondents. BRAC field workers collect data through interaction with members of village associations. Analysis of that data is immediate and actions are taken based on the analysis which include the people for and with whom the actions are directed.

Organization which go through as many reorganizations as BRAC might be discredited as unstable. BRAC readily admits to "failure" in the past. BRAC's strategy of learning from the people, continuous evaluation, recognition of mistakes made in the past, and redesign of programs has moved it into international prominence. BRAC has enjoyed measurable success in an environment which is generally not associated with success.

Over time the sequence of activities which BRAC introduces into villages has been refined. The discussion now turns to important levels on which BRAC promotes rural development. The first three, outreach, RCTP and Integrated Programs, are intended to be stages through which clusters of villages would pass. The fourth area, health, has been promoted separately over a much larger portion of the country.

2. Outreach

The initial phase of BRAC's work in village development is outreach. A small team of trained field workers is sent to a local commercial or governmental center, such as a subdistrict town, where temporary office and living arrangements are made. A central location for the branch office supports future activities will take place at this

location. The program officers live in the branch compound and walk, bicycle or paddle to villages.

As the name implies, outreach activities begin with introductory visits to villages and open meetings. BRAC program officers must begin with the difficult task of gaining the confidence of people living in the target villages. Entrance into the community is gained through interpersonal contacts and promises of assistance. A few local men and women who are well-known, skilled, yet poor, are hired as village representatives for BRAC. These representatives assist the BRAC staff in gathering baseline information on the villages and in organizing associations of the landless and poor. Most villages already have different forms of organizations. It is not unusual for one or more groups to come forward and request BRAC assistance.

The longer BRAC works in an area, the better known it becomes and the more requests are received.

The hallmark of BRAC's rural development strategy is "organizing". The literature on rural development programs is replete with references to the fundamental importance of this strategy as a prerequisite to other development efforts (Chen, 1983; Ali, 1980; Blair, 1985; Coombs, 1980). Much of what is accomplished in organizing the rural poor is easily overlooked by visitors to the villages who are not aware of the fragmented manner in which non-organized poor are expected to fend for their families. In order to have a physical manifestation of the organization, some associations elect to construct bamboo and thatch shelters for their regular meetings.

All of the outreach (and RCTP) workers are males, a policy that remains controversial. Meeting and organizing women's groups is hampered by this, as Islamic customs of modesty speak against the entrance of strange men into household compounds. Women often hide inside their houses

and refuse to converse.¹³ BRAC program officers all had tales of their initial meetings with women's groups. Some meetings were carried out with the BRAC personnel sitting on the opposite side of a wall from the women. Conversations were carried out with no visual contact. Interestingly, after a short while working with BRAC field officers, the women's groups demonstrate an almost revolutionary change in assertiveness. They not only meet in the open with BRAC representatives, but become active participants in the group planning process.

Programs begin small and emphasize the mobilization of local resources. Association members are expected to contribute a small amount of money each week in order to build a group savings fund. The fund is the only source of money for loans that outreach groups can use for approximately the first two years. The fund is used for a variety of very small loans within the group for the purchase of raw materials and occasionally for emergency assistance. Group members gain skills in maintaining financial records and investment analysis. In order to avoid "patron" status, BRAC does not make loans to associations until the members have shown long-term commitment and a willingness to pay back their debts with interest.

An assortment of services are provided to outreach associations, including locally organized and managed literacy and vocational training, more intensive vocational and leadership training in one of BRAC's training and research centers (TARC), and perhaps most importantly a

13. I often saw women running for hiding places when I passed near their homes. Some hide out of modesty, some out of fear of strange men, while others hide out of fear of their own husband's jealousy. Women have little legal recourse when they are hurt.

motivational program alternatively called "empowerment", "concientization" or "organization". BRAC restricts it's inputs to staff, however they do help the landless groups gain access to government and non-governmental resources, such as food-for-work programs and tubewells.

The adult basic education program emphasizes literacy, which is considered to be part of a larger process of empowerment. BRAC has adopted methods designed by Brazilian educator Paulo Freire, such as selection of words which are most relevant to the participants. Participants are encouraged to see themselves as subjects in control of their destinies rather than objects. BRAC, and many other NGO's, have developed visual aids for village classes. The literacy instructors, often called facilitators, are members of the village, not BRAC personnel. The facilitators receive specialized training at one of BRAC's training campuses.

By the end of the outreach phase BRAC association participants have generally sorted themselves out, with the most committed members remaining active. The group has assembled a substantial savings fund equaling approximately Taka/6240 or U.S.\$208.00.¹⁴ The per capita GDP of Bangladesh was estimated to be approximately U.S.\$130 in 1985, with the average for rural areas being less (BBS, 1989:191). Thus \$208.00 represents a significant sum of money for investment, especially for women's groups. More importantly, the group has become accustomed to the idea of working together on income-generating projects. They recognize the importance of organization and responsibility

14. This assumes that 30 members have donate Taka/2 per week for two years. $30 \times 2 \times 104 = 6240$. The exchange rate is assumed to be Taka/30=U.S. \$1.00, resulting in a dollar equivalent of \$208. Groups vary in size as well as capacity to maintain dues payments.

outside of the family. The sorting process tends to eliminate persons who do not accept this community perspective, though it may well sort out others for unrelated reasons, such as kinship rivalries. At this stage, BRAC steps up its own commitment of resources, moving the group into the rural credit and training phase of involvement.

3. Rural Credit and Training

Rural credit and training includes a continuation of outreach activities. BRAC field representatives often move to more permanent quarters, when necessary purchasing land and constructing permanent structures of cement. Village associations continue holding weekly meetings and paying dues. The groups are expected to elaborate a statement of their objectives, which takes the form of project plans. Training activities shift from more general issues of literacy and leadership to specific work related skills in agriculture, manufacturing and services.

The most visible aspect of the RCTP phase of intervention is a loan fund made available to the associations for income-generating projects. The fund is supported by numerous international contributions to BRAC. The fund is large enough not to be a limiting factor on the extension of small loans to the associations. Rather, project loans, called "scheme" loans in Bangladesh, are limited more by village-level problems which stifle the number of viable projects and technically acceptable loan applications. The size of these projects and the number of participants vary widely.

In this context, then BRAC's must not only organize loans, but also train borrowers in the mechanics of formalized credit institutions and often the technology required for carrying out a successful project, such as the

proper maintenance of fish production ponds. Support staff visit the villages for training sessions of general interest, such as poultry inoculation. For more advanced training association members travel to the training centers, often staying for several days. The combination of organization, savings, credit, management training and technical training have been replicated throughout Bangladesh, not only by BRAC but a sizeable number of foreign and domestic organizations.

The introduction of larger external loans forces the field office to assume considerable responsibility for financial management. In addition to the branch director and field representatives, RCTP offices employ a part time or full time accountant. A typical RCTP branch manages approximately 20 villages with one male and one female association per village. The association in turn range in size between ten and sixty members. Assuming an average of 30 members, with half the members having a loan, brings the total loans for a branch office to 600 (20 villages * 2 associations * 15 loans). The loans are made at different times and are in different stages of repayment or default. Thus the accountants job is quite complex. Records are kept on loans in two groupings, by village association and by scheme. The primary level of accounting is by village association. Balance sheets are prepared semi-annually in December and June which show the allocations of funds by association and by scheme.

A broad range of schemes are financed through RCTP offices. More common projects include agricultural inputs, including land mortgages and rents, newborn animals for rearing, raw materials for cottage industries and food processing, and inventory for trade. A few more ambitious projects have also been undertaken, including setting up a brick field (manufacturing) which employs dozens of people,

leasing a market area from the government, and purchasing transportation equipment. Loans are made by BRAC for income-generating projects which generate the funds for repayment. Many of the money making schemes are quite risky, especially for the individual borrowers. Cattle die, crops fail and village products go unsold. Even so, with many small projects going simultaneously under close supervision, BRAC is generally much more successful at achieving loan repayment than larger lending programs.

There are a number of non-income-generating uses of credit which association members have. Nearly all BRAC households undergo fiscal stress on a daily basis. Money is earned and spent almost immediately to meet consumption needs. In the midst of the routine scarcity are events which create additional fiscal stress. When a daughter reaches the age of marriage, the high cost of a dowry pushes families to borrowing heavily. When the house's thatch roof rots away families are faced with a choice of purchasing thatch which is good for a few years, or borrowing funds to purchase a tin roof which will last for more than a decade.

An ill member of the family rarely gets adequate health care, and even minimal care is beyond the means of the family.

Loans intended for productive uses are frequently diverted to speculation and consumption. One example of the creative financial moves that can occur is the informal secondary loan market. An association member takes a loan for purchasing trade inventory. The money is re-lent at much higher interest rates. The borrower's plan is to cash in on the gap between BRAC's interest rate of 15% to 25% and the local lending rates over 100%. When the high interest rate borrower cannot repay the loan, the intermediary is placed in the uncomfortable position of taking assets, such

as land or tools, in the same fashion as traditional money lenders. The exploited become the exploiters.

Another common ploy is to elaborate an income-generating project, and then use the loan to improve ones dwelling unit or engage in non-productive investments such as food hoarding. Diversion of loans to rice hoarding, purchasing rice when the price is low and storing it until the price rises, is generally profitable. Even so, there is little productive effort in the process and the contribution of speculative investment of this sort to development of the villages is questionable. Loan diversions to speculation and consumption raise troubling questions. BRAC responses range from ignoring misallocations, denying future loans to pressuring association members to bring violators into line.

RCTP associations continue building their savings account through weekly dues and a share of profits on loans made. The reserves are also loaned to group members. Some consumption needs are met through lending from the group savings, though financial emergencies dominate. Emergencies rarely present opportunities for certain loan repayment. When confronted with sudden illness of a child, loss of a home to flooding or women after divorce or death of their spouses, survival takes precedence over solvency. The village associations are confronted with so many emergencies of this nature that they can only draw on the fund a small percentage of the time.

4. Integrated Program Areas

During the survey period BRAC had three areas, Sulla, Jamalpur and Manikganj, in which RCTP activities have been superseded by integrated development programs. Sulla includes the third survey village, Hilalnagar. Sulla and Jamalpur did not pass through the Outreach -> RCTP ->

Integrated Program phases described so far. They formed parts of an earlier, pre-RCTP cohort.

For some village participants, the move towards program integration represents a loss. The level of funding from external resources slows to a trickle while the association's internal resources are brought into play. The integrated phase addresses a variety of needs, rather than the previous emphasis on credit for income-generating activities.

Other groups within the village may find that the integrated phase represents a better match with their needs.

Issues such as health, education and legal services are expanded. The cohesive groups often put up candidates for local political offices. In Manikganj, BRAC has constructed a small, worker controlled textile and apparel industry where poor men and women can find work. BRAC also makes a bigger effort to get people in the villages to know and use the services offered by the Government of Bangladesh and other relief and development agencies. In the end BRAC is interested in creating self reliant villages which are not dependent upon BRAC for sustenance. Eventually BRAC intends to withdraw from integrated program areas and start up new outreach operations in areas as yet without assistance. The Sulla program was already in the closing down phase during our 1985 visit.

The step-wise progression from organizing local resources and group cohesion, to external development finance, and then to large inter-community and intersectoral integration has both strengths and weaknesses. One of the important advantages for BRAC is that of establishing a parallel commitment towards community development in the villages. An immediate jump into lending activities without an initial outreach phase results in high loan defaults, intra-group fighting and dissipation of the loan fund

(Ahmad, 1983). The pressure for the poor to borrow just to meet daily consumption needs is tremendous. Yet consumption borrowing provides no means for repayment. The lengthy introduction into the villages of BRAC's objectives and definition of association objectives during the outreach phase provides an opportunity to build a consensus over what will be beneficial in the long run. Another advantage is the weeding process that occurs in the early phase. Opportunists wishing only to get loans at low interest rates are discouraged by the long waiting period. Many people who attend the first organizational meetings drop out within two months. The group that remains is comprised of persons who are willing to pursue the concept of organization even in the absence of immediate financial incentives.

The downside of this process is also considerable. During the initial outreach phase the amount of time, savings contributions and emotional strain force some very deserving persons out. Factions which already existed in the village may also take over a group and force persons to split off into another group or quit altogether. BRAC field workers are put in the uncomfortable position of assisting in and sanctioning loans for some group members, while not for others.

5. Rural Health Programs

In 1980 BRAC embarked on a large scale program addressing issues of infant morbidity and mortality and poor maternal health. The number one cause of Bangladesh's high infant mortality rate, approximately 11% throughout the 1980's, are intestinal diseases leading to dysentery and diarrhea. BRAC's program to educate parents in the home preparation of sugar-saline oral rehydration mix has employed more than 1,000 field workers and reached more than half of the country.

The oral therapy program (OTEP) expanded in 1985 to include immunization and a broader health education effort.

BRAC's concern for health has extended to many parts of Bangladesh which have not received economic development assistance. Some areas already under the Outreach, RCTP or Integrate programs have participated in the health messages delivered by OTEP, and in addition have received coordinated BRAC-United Nations assistance in constructing hand-pump wells and sanitary latrines. BRAC's health programs are far more extensive than Outreach, RCTP and Integrated programs, but will not be emphasized. Health programs will only be discussed as they occur in the survey villages.

6. People and Place Orientation

BRAC programs can also be categorized as people-oriented and place-oriented. BRAC's basic education, vocational education and health education programs strive to build human capital. A second variant of people-oriented programs provide means of production which are movable, such as carpentry tools or pedicabs (bicycle rickshaws). When the participants in such a program leave the village, they can take the benefits of the investment with them.

Place-oriented strategies, include BRAC-supported irrigation systems, village buildings and health clinics and so on. Location specific programs may also have significant impacts on individuals not directly engaged in the program.

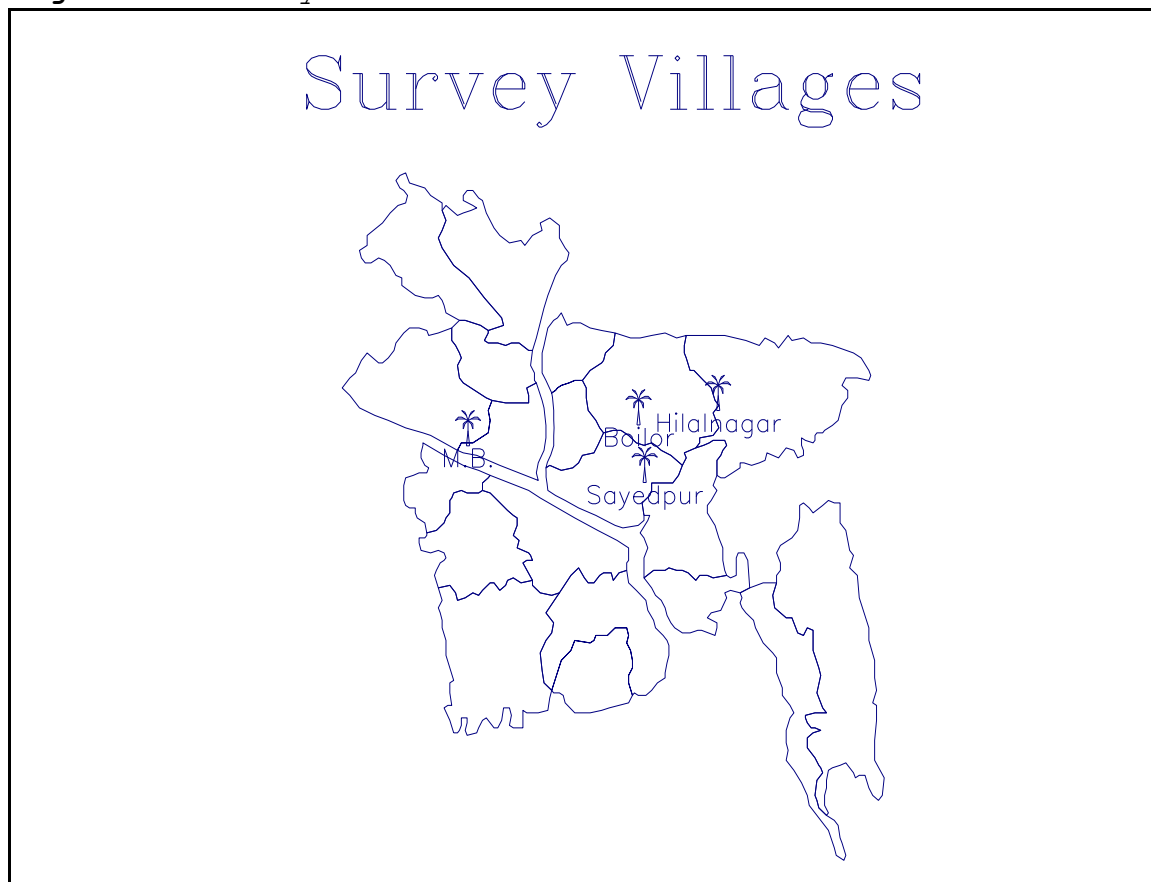
Some programs which provides fixed capital include training which later may be transferred by the recipient to other locations. Fortunately, where such overlapping occurs, integrated programs can often be decomposed into more distinct people and place components. The separation is crucial in explaining the mixed influences of rural development programs on migration.

E. The Study Villages¹⁵

Of BRAC's three development program stages, Outreach, Rural Credit and Training (RCTP), and Integrated Programs, the Outreach locations are relatively new and are not included in this study. Integrated program areas have been associated with BRAC since the early 1970's. Between the Outreach programs and Integrated areas are a great many RCTP locations. Three RCTP sites and one integrated site were chosen for intensive data collection. The process of site and respondent selection has been discussed in the chapter on research methodology. The following section summarizes some of the significant features of the four selected villages, shown in Figure 5.1, which were selected for interviewing. The sampling design called for equal numbers (35) of male and female respondents from each village. Tables 5.1 and 5.2 present summary data on 280 respondents and their households by village of residence.

15. The four study villages are Sayedpur, Monohordi; Mohish Bhanga, Boraigram; Hilalnagar, Banyachong; and Dokhin Udjan Boilor, Trishal.

Figure 5.1 Survey Locations



1. Sayedpur, Monohordi

The subdistrict of Monohordi, Narsingdi has one of BRAC's oldest and largest RCTP branches with extensive credit involvement in many villages. Monohordi's proximity to Dhaka, generally around two hours by bus, made it a convenient place to begin. Several trips between Dhaka and the Haterdia branch in Monohordi were made in the process of pretesting and refining the household interview, selecting the village and so on.

Monohordi provided an interesting example of spread and backwash effects of Dhaka's population and economic expansion. The principle road connecting Monohordi with

Dhaka is dotted with small and medium size apparel mills, some of which were operating and many more which were under construction.¹⁶ Apparels exports have provided employment opportunities for women on a scale that is unmatched in Bangladesh's history.

Monohordi Upazilla has six unions of which four have BRAC projects emanating from the original Haterdia Branch Office. The other two unions have begun receiving BRAC assistance from a branch only recently opened. Data were assembled from the Upazilla statistics office for village selection. There are significant differences between villages in population, literacy rates, density and so on. Additional information on the BRAC-assisted villages on group and scheme-wise projects, public facilities and so on was assembled. The data were used in deciding which villages would be selected to represent the subdistrict. Villages which were outside of one standard deviation from the mean on one or more variables were normally excluded. Here again, though, practicality played an important role. Some of the better villages were remote.

Monohordi Upazilla is comprised of 14 Unions and 224 villages. The average village population was approximately 1,100 in 1981. Population density is high even by Bangladesh standards for a primarily agricultural region, with more than 2,500 persons per square mile. Monohordi Upazilla is bordered by rivers, though only the Larhya is navigable most of the year. There are several smaller canals which penetrate the area. The rivers and canals combine with a high water table to produce a plentiful supply of irrigation. Agricultural production is

16. Rumors circulated that the apparels mills under construction might not go on-line due to the rapid growth of production in the country and impending trade restrictions from principle buyers like the United States.

concentrated in rice and jute. A significant number of farmers are producing vegetables for urban markets. Squash is grown and exported to the Middle East, though the farmers sell everything locally to intermediaries. Both the presence of irrigation and proximity to Dhaka are major factors explaining Monohordi's high population carrying capacity.

Sayedpur, the village selected for interviewing, was located a short walk from BRAC's branch office. The population of Sayedpur in 1981 was 649, slightly below the average of 697 for Ekduaria Union. Typical of most Bengali villages, Sayedpur lacks most forms of public infrastructure and services. A primary school is located on the edge of the village and is attended by children from several villages. Electrical lines pass near the village, but the majority of residents do not have electrical service in their homes. Still, the percentage of persons with electricity in their homes is higher than in the other survey villages. Water supply is through hand pump wells, bucket wells and ponds. There is no system for removal of waste and a minority of the residents use pit latrines.

Survey respondents, randomly selected, included a full cross-section of the village. Many of the respondents were functionally landless, while one respondent was the largest landholder in the village. The average level of education, 4 years, is twice the average of the other villages. Other demographic statistics are similar to other survey villages.

2. Mohish Bhangra, Boraigram

Boraigram, in Natore District, was selected as the second survey location. Boraigram also has intensive BRAC involvement. In 1985 the Boraigram Branch received the highest total loan disbursement of any RCTP branch. Located in Rajshahi Division on a major connecting highway,

Boraigram's people experience competing influences of urban areas, including Natore, Rajshahi, Dhaka and Pabna for rural-urban migration.

Several features of Boraigram are distinct from Monohordi and deserve comment. The villages in Monohordi were, for the most part, Muslim. No Hindus lived in Sayedpur. In contrast Boraigram Upazilla has significant Hindu and Christian populations. There is an active Catholic mission located near BRAC's branch office. As is often the case in Bangladesh, a branch office of CARITAS, an international non-governmental development organization, is located near to the Catholic Mission. During the 1971 independence war both Hindus and Christians were singled out by the Pakistani army for assassination and imprisonment. A large percentage of the minority population fled across the border into India during the war and returned months later to devastated homes and severe economic hardship.

This region is drier than most in the country and carrying capacity was lower in the past. The introduction of irrigation and higher yield technology appears to have stimulated rural-rural migration from the densely populated central and eastern portions of the country to the northwest over the past half century. This relationship is of particular interest to development planners who are designing and implementing irrigation programs in Bangladesh and elsewhere.

In Boraigram Upazilla the influence of inter-district migration is uneven. Some villages are dominated by first second and third generation in-migrants. In other villages there are few or no recent, long distance migrants. Thus the selection of a survey village has profound effects on the outcome of migration analysis. The village selected had few in-migrants.

After compiling and analyzing data on each of the villages in Boraigram, the Mohish Bhangha, humorously if inaccurately translated as "Broken Buffalo", was selected for intensive interviewing. Mohish Bhangha has approximately the same level of infrastructure as Sayedpur. Electrification in the region was given a major boost by the U.S. government and resembles electrical systems in the U.S. as a result. Even large wooden telephone poles were imported from the United States. The quality of electrical services was superior in many respects to that of Dhaka. In spite of this, most residents in Mohish Bhangha are not connected to the system.

The hot summer and cold, dry winter climate of the northwest are not ideal for multi-cropping. Water is generally a constraining factor. No major rivers pass through this area. The eastern edge of Boraigram has a train station, but there was no evidence that the people of Mohish Bhangha made use of it. A major highway passes through in route from Pabna to Rajshahi and is heavily used.

Mohish Bhangha has a population of 2,130, which is three times the population of Sayedpur. The large size and confused system of small paths and dirt roads leads to confusion over neighborhood boundaries. BRAC only worked in one portion of the village, and even there only with a minority of that area residents. Interviews were taken from the neighborhood (PARA) which was most heavily involved in BRAC activities. The principle activity in Mohish Bhangha is rice cultivations. Some of the residents work in small businesses and markets which hug up against the highway. Mohish Bhangha is the only village in this study with both Hindus and Muslims residents.

Mohish Bhangha has a primary school. Older students can walk to an high school located in a neighboring village without difficulty. Other than the primary school, there

are no other government structures. Other than electricity, utilities are also non-existent.

3. Hilalnagar, Banyachong

The third survey location, Markuli, is the only branch in this study which BRAC has elevated to integrated program level.¹⁷ In fact, the Sulla-Markuli area was the site of BRAC's first efforts and has never had a Rural Credit and Training program. RCTP's evolved after Markuli was well established, and as subsequent analysis reveals, it is difficult to motivate people to participate in RCTP activities when the organization has a track record as a relief agency. At the time of the October, 1985 survey, BRAC had been involved with the people of Markuli for more than 12 years. The length of BRAC's commitment and the varied nature of BRAC programs in the region presents a more complex set of factors for evaluation.

Markuli is a marketing sub-center located in Doulatpur Union, Banyachong Upazilla. The region's geography is one of the least accessible in the country. The land is dramatically flat and very close to water level. More than two thirds of the region floods during the normal monsoon period and remains under water almost half of the year. Villages poke up from muddy rivers and lakes like islands. Dry season farmers become fishermen or simply wait for the waters to recede. Following the monsoons, the only transportation access to the region is by boat. However, during the months preceding the monsoon season many of the smaller rivers are too shallow for navigation. Thus, during

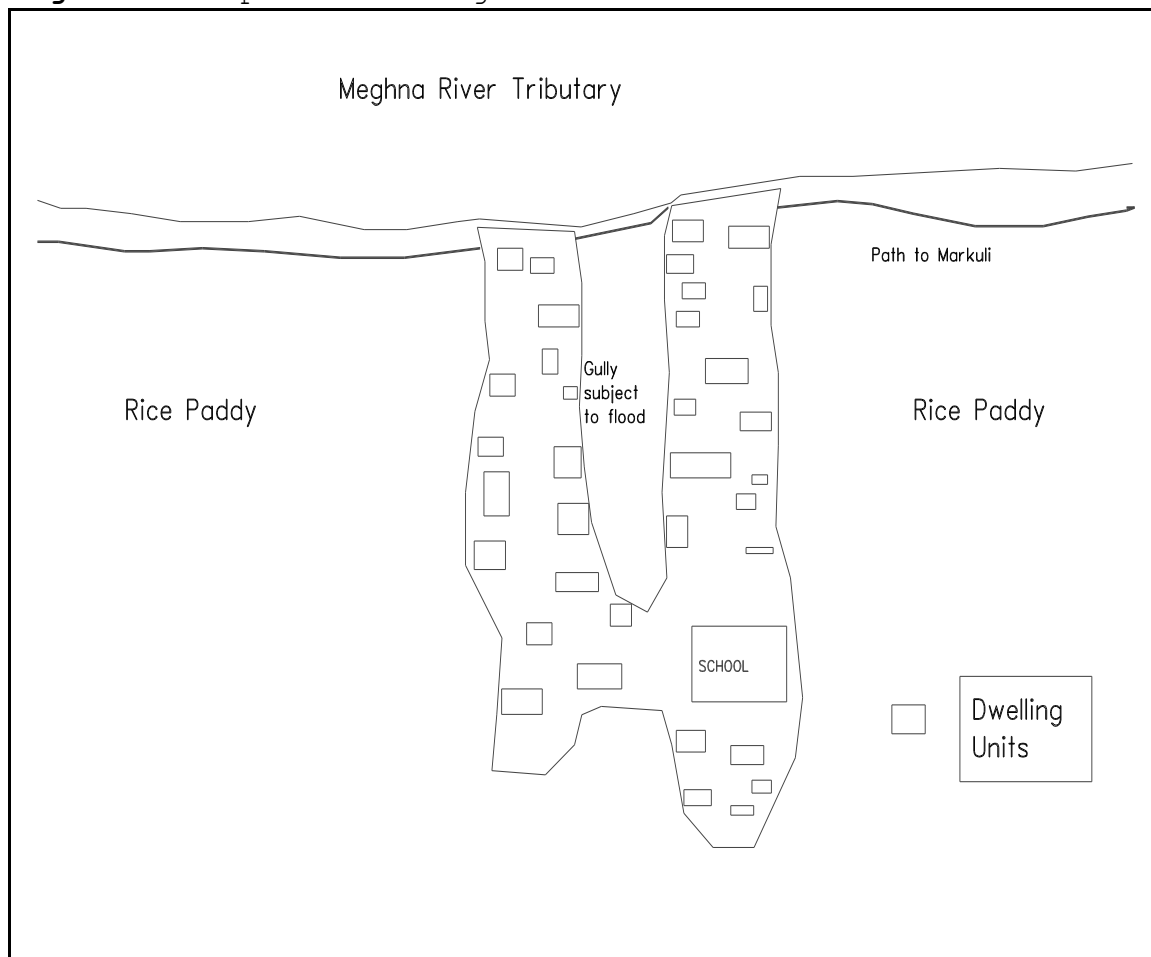
17. There are a variety of English language spellings for location names. The Bangladesh Bureau of Statistics has recoded Markuli as Mashakuli and Hilalnagar as Hilat Nagar. As all statistical records are maintained in English, misspelled names create problems in data tabulation.

these months transportation is limited to walking and paddling small boats. In other words, moving about is extremely difficult.

Because land is underwater such a long time, and because there are few links to other regions, the carrying capacity of the region is somewhat lower than most of the country. Population density for Banyachong Upazilla in 1981 was 1,244 persons per square mile, or 2 per acre of land normally above water level (BBS, 1985C:5-10). This is approximately 20% below the national average. The gap between lower and higher density regions of Bangladesh is likely to narrow as pressure on all regions place physical limits on population density.

Another important distinction between the Haor (flooding) region and most of Bangladesh is the high percentage of Hindus. In and around Markuli Hindus are a majority of the population. Villages can be either single religion or mixed. Religion played a significant role in dislodging Hindus from their homes during the 1971 war of independence.

Figure 5.2 Map of Hilalnagar



Hilalnagar, a small, riverside, Hindu community was selected as the third village for intensive interviewing. Hilalnagar's economy is based primarily on fishing and agricultural labor.¹⁸ Of the four survey villages, Hilalnagar was the poorest. Few of the residents owned

18. Agricultural labor refers to contract and daily work on land not owned by the worker. Contracted labor is paid a wage for hours or days worked, or less often using a piece rate. In contrast there are many systems of sharecropping where the contracted household earns a percentage of the crop.

land, even for their house plots. A sketch-map of Hilalnagar is presented in Figure 5.2. One edge of the village was gradually collapsing into the river. Over the course of a typical year several feet of the low bluff shoreline are lost. One respondent lost her home shortly after providing an interview. New land was emerging across the wide river from Hilalnagar. Just as quickly as the land emerged new families set up temporary homes and began farming. Hilalnagar had a primary school, though teachers were not always available. There were virtually no other services or infrastructure in the entire region much less in Hilalnagar.

Hilalnagar, like many of the villages in the Haor region, is spatially compact. The village is built on a man-made ridge. Houses are constructed of light materials, principally bamboo and thatch. Most of the houses share a common courtyard where children play, men repair farm tools, women cook and weave bamboo mats, etc.. There is little space between houses. Behind the houses on either side the land slopes down to rice paddy. During the rainy months much of this low lying land is flooded.

The residents of Hilalnagar differed from residents of the other three villages in several ways, many of which are related to Hinduism. Small temples were visible throughout the village, and small trees were decorated with religious offerings. Women, clad in white saris, danced and sang religious verse almost every evening in which our team was present. Many of these women were desperately poor widows for whom remarriage or any other escape from poverty did not appear to be an option. The rich, integral, communal religious experience in the midst of material poverty made a lasting impression on the entire research team.

4. Dokhin Udjan Boilor, Trishal

Boilor, Trishal was selected as the fourth and final research location. BRAC is relatively new to Boilor and thus may be expected to have fewer impacts on development than in Monohordi, Boraigram and Markuli. Boilor also provides a perspective being in Mymensingh District, within a one hour commute of the expanding district center, also named Mymensingh. Trishal Upazilla has two BRAC branch offices. The office in the Upazilla center was in the process of introducing external loans to their village association. The Boilor branch was active in this area for more than two years and thus was a better base of operations.

Boilor is a sprawling agglomeration of villages which share a common name. They include Uttor Udjan Boilor (North Upper Boilor), Dokhin Udjan Boilor (South Upper Boilor), Uttor Summuk Boilor (Northern Front Boilor) and so on. Population density in the subdistrict is high of average for the nation at 2,246 persons per square mile (BBS, 1985C:51). A major paved, two lane road connecting Dhaka with Mymensingh passes through Boilor. No major rivers pass through Boilor and the nearest train station is more than one hour's walk.

Regional agricultural production is like much of central Bangladesh. The major crop is rice. Very little else was being cultivated during our January visit. The January-February season is cool and dry. The lack of agricultural activity leads a significant proportion of the men to seek employment in other parts of Bangladesh. Much of the seasonal migration is oriented towards short-term non-agricultural work, such as building and road construction. Weekly markets function in different parts of Boilor and two permanent market centers offer commercial, medical and repair services. The paved road has attracted much of the recent commercial expansion. There are no major

manufacturing or service industries in the region, though there are numerous small shops.

BRAC's office is located along the paved road, making it one of the most accessible of the BRAC offices to major cities. All of the BRAC villages can be considered accessible to the main Dhaka-Mymensingh road. The average distance to the road is only 1 mile. Thirteen of the villages are accessible to cars, while jeeps can reach two more. All villages can be reached by bicycle rickshaw. About half of the villages have primary schools and most of them have a Koranic Schools, called MAKTAB and MADRASSA. Two villages have high schools and two other villages have health centers. Only one village has electricity. No village has a Hindu Shrine, while almost all have a mosque.

Dokhin Udjan Boilor (Southern Upper Boilor, hereafter DUB) was selected for interviewing. Many of the more convenient research locations either housed unusual government facilities or were the sites for alternative development programs, and were thus deemed inappropriate.¹⁹

DUB is bounded on the west by a muddy stream which acts as a barrier to walking, but is too small for boats. The eastern border is cut through by the Dhaka-Mymensingh road.

A small segment of DUB lies to the east of the road. The village has no center and is formed out of a web of ridges, many of which are broad enough to permit jeeps to enter. As with all of the survey villages there are no paved roads

19. Later I learned that some women in Dokhin Ujan Boilor are working with a Swedish development program, SARA. In fact the local interviewing assistant, Hasina, who I hired to assist in the interviews is a SARA representative. She probably kept that quiet until I had committed us to the village. Hasina is one of a select group of female development program entrepreneurs. She worked with BRAC, SARA, Poribarar Porikolpona (Family Planning) and any other programs that extended into northern Boilor.

which enter into the center. The community has a primary school and a Madrassa. The population is entirely Muslim, though there are Hindus living in neighboring villages.

Table 5.1 Respondent Characteristics

		Sayedpur	MB	Hilalnagar	Boilor	ALL
Gender	Female	50%	50%	50%	50%	50%
Religion	Muslim	100%	93%	0%	100%	73%
	Hindu	0%	7%	100%	0%	27%
Age	Mean years	36.5	33.3	34.7	32.8	34.3
Education	Secular	3.9	1.4	2.4	1.9	2.4
Mean years	Koranic	0.8	0.1	0.0	0.9	0.5
Marriage	Single	17%	14%	20%	14%	16%
	Married	76%	77%	66%	73%	73%
	Widowed/Divorced	7%	9%	14%	13%	11%
Literacy	Illiterate	39%	59%	51%	50%	50%
	Writes Name	11%	20%	17%	16%	16%
	Literate	50%	21%	31%	34%	34%
Occupation	Farmer	24%	34%	24%	24%	27%
	Fisherman	0%	0%	19%	0%	5%
	Manufacture/constn	1%	4%	0%	1%	2%
	Artisan	6%	7%	1%	3%	4%
	Trader	1%	1%	0%	4%	2%
	Service	9%	4%	1%	16%	8%
	Housework	44%	41%	40%	39%	41%
	Domestic Servant	1%	1%	7%	1%	3%
	Student	6%	0%	4%	3%	3%
	Other	7%	6%	3%	7%	6%
No. of Moves	Mean	1.5	1.3	2.0	1.0	1.5
Percent Never Moved		27%	29%	17%	31%	26%
Sample Size		70	70	70	70	280

5. Village Comparisons

The four villages selected for this study have many

Table 5.2 Household Characteristics

		Sayedpur	MB	Hilalnagar	Boilor	All
Household	Nuclear	69%	61%	53%	60%	61%
Mean						
	Household Members	4.9	5.4	5.8	5.0	5.3
	# of Children	2.1	2.1	2.1	1.9	2.1
	# of Structures	2.5	2.5	1.7	2.2	2.2
Housing						
	Good	4%	6%	3%	7%	5%
	Fair	53%	39%	21%	57%	43%
	Damaged	27%	36%	37%	34%	34%
	Dilapidated	16%	20%	39%	1%	19%
Water						
	Ponds/Rivers	0%	40%	19%	13%	18%
	Bucket Well	34%	40%	0%	74%	37%
	Hand Pump	79%	89%	100%	89%	89%
Electricity in Home						
		40%	21%	0%	1%	16%
Land-Mean						
	Owned	1.4	2.1	1.3	1.0	1.5
	Acres Worked	0.7	1.2	1.3	0.7	1.0
Assets						
	Cow	50%	57%	49%	43%	50%
	Bicycle	6%	16%	7%	16%	10%
	Animal Cart	0%	4%	19%	3%	7%
	Radio	23%	17%	9%	16%	16%
Status						
	Poverty	13%	23%	29%	6%	18%
	Marginal	36%	26%	47%	50%	40%
	Small Surplus	44%	46%	24%	26%	35%
	Large Surplus	7%	6%	0%	19%	8%
Participation						
	BADC	1%	0%	0%	0%	0%
	BRDB	4%	10%	7%	7%	7%
	CARITAS	0%	7%	0%	0%	2%
	FFW	0%	0%	0%	1%	0%
	Health Extension	8%	0%	0%	0%	2%
	Food Relief	N/A	9%	3%	3%	5%
	BRAC	27%	34%	47%	33%	35%
Sample Size						
		70	70	70	70	280

points in common, and some interesting differences. All are located in a band extending across northern Bangladesh. The topography of all four villages is consistently very flat. All of the villages were located near rivers of very different sizes, but only in Hilalnagar did the river play a significant economic role. The predominant mode of transportation in three villages was by road. In Hilalnagar there are no roads nor rail lines. Three of four villages had access to electricity, but in all cases use was limited. No villages had piped water, sanitation facilities nor even improved pit latrines.

All four villages have had some form of external economic development assistance for several years. All four have received extensive assistance from the BRAC. The first to be involved with BRAC was Hilalnagar shortly after the 1971 Independence War. The last to receive BRAC assistance was Boilor, which began in 1982. The form and level of assistance varies considerably from village to village. In all four villages a majority of the residents, and thus a majority of the respondents, received no direct and probably little indirect assistance from BRAC.

Participation in government programs was sporadic over time. The Bangladesh Rural Development Board has sponsored Farmer's and Women's Development Associations, but current active participation rates are less than 10% in all villages. Food for work (FFW) programs have been sponsored in all four villages, but had provided employment to only a few respondents during the survey period.

a. Economic Status

Average years of secular of education, indicated in Table 5.1, are notably higher in Sayedpur than the other villages. This observation may be a result of the longer presence of a primary school in the village, or

alternatively may be explained by the Sayedpurs relative proximity to manufacturing and service employment which encourages some, better-educated residents to commute rather than make a permanent move out of the village. However, the occupational composition of respondents is not distinct from the other villages. More years of secular education do translate into significantly higher rates of literacy, also displayed in Table 5.1.

Households were classified by the interviewer in the field into one of four major economic status groups. Economic status or ECSTAT, is not determined by income or wealth alone. Following examples, such as Januzi and Peach (1980), the respondents are separated into four groups based on apparent economic status. Because the assessment is applied to persons in the past, it must often be based on descriptions from the respondent. The four groups are:

- 1) Large surplus, having more than an acre of land or a well paid occupation, owning a cement or tin house in good condition, reporting ample dietary intake.
- 2) Small surplus, owning sufficient land or having an occupation that meets families' needs, having a tin house in fair condition.
- 3) Marginal, not owning sufficient land or having steady employment, occasional shortages of food.
- 4) Impoverished - not owning any agricultural land, having sporadic, low pay employment, routine shortages of food.

Table 5.3 Current Economic Status by Village

Frequency Column %	SAYEDPUR	MOHISH BHANGA	HILAL- NAGAR	BOILOR	Total
LARGE SURPLUS	5 7.14	4 5.71	0 0.00	13 18.57	22 7.86
SMALL SURPLUS	31 44.29	32 45.71	17 24.29	18 25.71	98 35.00
MARGINAL	25 35.71	18 25.71	33 47.14	35 50.00	111 39.64
BELOW MARGINAL	9 12.86	16 22.86	20 28.57	4 5.71	49 17.50
Total	70	70	70	70	280
Statistic	DF		Value	Prob	
Chi-Square	9		43.278	0.000	

The four villages have somewhat different economic status distributions, illustrated in Table 5.3. Hilalnagar, the only Hindu village and the most geographically isolated location, is relatively poor. The small surplus families were able to eat three times daily and had adequate food reserves and/or land. The poorest group on the other hand had extremely dilapidated straw housing, ate once a day and sometimes not at all. Prominent in this group in all four villages are widows with young children or no children. In all four villages the modal groups are the small surplus and marginal households.

Table 5.2 also indicates that the proportion of households owning assets such as radios and bicycles varies between the survey villages. Hilalnagar respondents had fewer radios and bicycles, but more animal carts, an

indication of differing local needs. Mohish Bhanga respondents have somewhat more land, but much of this land is dry and produces fewer crops per year.

Over time there appears to be an economic trend downward for the majority of respondents. The difference between the first life course measure and the most recent measure, presented in Table 5.4, is especially pronounced. Between their first event recording and the present 37 respondent reported gains in economic status while 113 reported declines and 126 reported staying the same. These trends are much more pronounced for the female respondents.

Women appear to lose ground at the time of marriage and even more if they have any subsequent migrations, such as in a divorce or remarriage. Possible explanations for the gender gap include downward economic moves at the time of marriage and upward economic bias when reporting the quality of life when living with their parents. Other evidence, such as the decline in land-holdings over time, supports the general conclusion that the respondents are slipping further into poverty.

Table 5.4 Economic Change: First to Final Recording

		FINAL RECORDING				
Frequency						
Row Pct		LARGE	SMALL			
Col Pct		SURPLUS	SURPLUS	MARGINAL	POVERTY	
					Total	
F	LARGE	13	17	12	0	42
I	SURPLUS	30.95	40.48	28.57	0.00	
R		61.90	18.28	11.43	0.00	15.79
S						
T	SMALL	6	56	38	19	119
	SURPLUS	5.04	47.06	31.93	15.97	
R		28.57	60.22	36.19	40.43	44.74
E						
C	MARGI-	2	20	46	17	85
O	NAL	2.35	23.53	54.12	20.00	
R		9.52	21.51	43.81	36.17	31.95
D						
I	POVERTY	0	0	9	11	20
N		0.00	0.00	45.00	55.00	
G		0.00	0.00	8.57	23.40	7.52
Total		21	93	105	47	266
		7.89	34.96	39.47	17.67	100.00

b. Housing

The housing occupied by the respondents may generally be classified as low quality. Good quality, considered to be evident in 5 percent of the households, was defined as having floors made of wood or cement, secure roofs and walls. Fair housing, including a tin roof and/or walls, or new condition mud and straw construction was evident in forty two percent of the survey. Another third of the housing was considered to be partly damaged. This group had the appearance of fair housing that had aged to the point of needing new tin and mud plaster. Dilapidated housing generally lacks walls or sections of the roof, was generally made of deteriorated straw and mud and provided little

protection from wind and rain. Twenty percent of the housing was considered dilapidated.

Virtually no housing had installed plumbing nor electricity. In Hilalnagar the housing stock was comprised of rusted tin remaining from BRAC's post-war relief effort and local straw, mud and bamboo. The tin was so badly deteriorated that it no longer kept rain out. Many of the poor families sold their tin during periods of famine. Boilor had the best housing stock of the survey villages, with 64% being in the good or fair categories. Curiously, Boilor respondents reported the smallest average landholding and tied with Sayedpur for the least land cultivated per respondent.

The size of housing is somewhat more complex to measure. Rural housing in Bangladesh is often composed of several separate structures and may be occupied by more than one household as defined in this research. Some structures are shared by different households, such as storage buildings and work rooms, while others are separate, such as cooking areas. Nevertheless, when asked "How many buildings do you or the head of the household own?" respondents provide a fairly accurate assessment. In general, owning more buildings, mostly one room structures, is an indication of greater wealth. Table 5.5 indicates that more than a third of the respondents own one structure which they must share with the entire household. As indicated in Table 5.1, average household memberships, number of children and number of structures do not seem to correlate. Sayedpur has the worst condition of housing, the smallest average number of structures but the highest number of persons per household.

Table 5.5Number of Structures per Household

STRUCTURES	COUNT	PERCENT
1	106	37
2	83	29
3	51	18
4	29	10
5	11	4
6	5	2
7	2	1
N	287	100

F. Conclusions

This portrait of rural Bangladesh and the survey locations is consistent with current literature on the social and economic issues facing Bangladesh. On a national-level, important gains are being made to meet the needs of the rural population, especially in comparison with the disastrous war and famines of the early 1970's. However, the long-term trends in population growth and rising landlessness threaten to replace the current gains with a return to periods of severe economic distress and instability.

The four survey villages are located in distinct regions of the country, but reflect at a community-level the processes of economic growth and decline which occurred throughout Bangladesh. Most of the respondents, particularly the older ones, have reported a lifetime pattern of economic decline, loss of land and diminished well-being. The villages all have primary schools and reasonable access to secondary schools, but many children cannot attend. Health services are located within walking distance of all of the villages, but are not always staffed and generally lack basic equipment.

The four villages were in part selected because BRAC is operating in them. Other economic development programs are also active nearby all four villages. The positive impacts of these programs, however, are generally confined to a subset of the active participants. Non-participants are frequently unaware of the programs or aware but unable or unwilling to participate in them.

Two strategies are particularly evident in the activities of these development agencies. Rural education and training, including adult literacy, agricultural extension and non-agricultural training, are designed both to impart marketable skills to participants and also to encourage a process of conscientization. The second major strategy is the formation of rural financial credit mechanisms. This research corroborates other studies which find that high interest rates charged on short-term, consumption loans are a common process by which land is concentrated into the hands of a few money lenders. BRAC has disbursed a significant number of loans into target villages, and most have either been repaid or are in repayment. Most of the respondents who have taken loans have been satisfied with the terms and the outcome. Borrower satisfaction is in strong contrast to attitudes about loans taken in the informal market, many of which resulted in loss of land and personal property.

VI. PARTICIPATION

A. Overview of Analysis Chapters

The conceptual model described in Chapter III relates migration behavior to economic development intervention through individual and community participation and development outcomes. Individuals and households occupy a triangle in the upper right corner, and communities occupy the lower left triangle. The intersection of the individual, the community and development intervention programs is participation. The quality and extent of participation influence patterns of individual and community development. The balance between changes in individuals and communities in turn affect migration.

Participation, the focus of this chapter, has several dimensions. These include extent and form of participation, and who participates. Two models of participation were described in Chapter II and will be further elaborated. Cohen and Uphoff take a top down view on participation, dividing it into the planning phases of decision-making, implementation, benefits and evaluation. The divisions of participation proposed in this study, from a grass roots perspective, are consumption, production and allocation.

The extent and quality of participation are prescribed in part by the nature of the intervention, selectivity of programs and socio-economic characteristics of the local population. For instance, gender is very important in determining participation in work-related projects. Muslim women in Bangladesh are not free to move about in public nor to perform agricultural labor outside the household compound.

This chapter will discuss the intervention of rural development programs, from the perspectives of program field officers and respondents. The basis for much of this analysis is respondent knowledge of and participation in programs in their current residences, that is, in the four survey villages, as well as in all past residences.

The second part of this chapter will focus on participant selectivity by rural development programs. Selectivity is implicit in some programs and explicitly mandated by others. It is not enough to ask whether or not an individual participated in programs. Individual characteristics such as age, gender and education, affect the extent and quality of that participation, as well as reasons for not participating. Other research will be called upon to supplement the primary data.

B. Development Intervention

1. Person and Place Development Programs

By now the distinctions between person and place-oriented development programs should be clear. Person-oriented programs focus on the individual and household, contributing to human capital and other resources which are movable. Place-oriented development programs are directed towards improving locations for the population that inhabits or will inhabit them, by contributing to local infrastructure and organization. The purpose of this section is to illustrate the breadth and depth of programs reported by the interview respondents. The empirical results will be analyzed with respect to participation in consumption, production and allocation.

Table 6.1 compares types of development programs with levels of participation, including representative examples of each combination. The assignment of some of the development programs is a simple matter. Emergency relief

programs demand little to no work from the participants and gives them no control over allocation of benefits. Such programs usually follow disasters or precede elections. Micro-enterprises turn control of production over to individuals, who often move their enterprise to more profitable locations. Food-for-work programs demand work from participants, but produce fixed infrastructure like roads and canals which only provide long-term, place-specific benefits.

Table 6.1 Development and Participation Typology

	Person	Place
Consumption	Health, Relief	Infrastructure
Production	Education	Food-for-Work
Allocation	Micro-enterprise	Organizing

2. Sequencing Participation

As we have seen, the distinctions between levels of participation and types of programs are often blurred by the frequent use of integrated implementation. Emphasis on consumption is invariably a popular form of entry for program administrators.

Using consumption as the basic method of motivation for rural development frequently backfires. BRAC's original mandate as a relief organization in the Sulla project area was an immediate and important response to the devastation left after the Pakistan withdrawal. Large quantities of building supplies were provided with fairly nominal requirements for work or organization on the part of the recipients. Subsequent efforts to foster participation

through group organization and local input in Hilalnagar are measured by the participants against the earlier period when people received assistance with little sacrifice on their part.

In response to the easily acquired habit of participation through consumption, BRAC has reoriented its program with several organizational objectives preceding the sanctioning of loans. The emphasis on working in groups may be similar to the factional model in appearance, but the differences are striking. The traditional faction is based upon strong leadership.

In BRAC's organizational model there is an effort to foster a democratic decision making process. Functional education is provided to all who are interested. Conscientization and empowerment are pursued for all of the members. Participants are encouraged to assume authority for their own well-being. The goals of motivating people to work for long-term benefits and fight for some authority in the allocation of community resources are ambitious. It may be that without some of the incentives, such as market-rate interest loans, access to training and work, BRAC would not attract much interest in the villages. On the other hand, experience shows that giving away too much can be as destructive to organization as giving away nothing at all.

3. The Factional Model of Organization

The process of forming factions in rural Bangladesh often takes the form of asymmetric, reciprocal relationships. Local leaders offer an opportunity to work, emergency assistance and protection from incursion into a small farmer's landholding by others in exchange for political support, guaranteed labor and other services.

In a very similar fashion rural development agencies organize factions of association members. The promises of

"interest-free loans", free medical care for children and subsidized food have all been dangled before the villagers as incentives to join one organization or another. In return, participants provide larger participation rates, enthusiastic endorsement for programs in front of visiting officials and most importantly a sustained flow of funds from the central office (Chambers, 1981).

Despite our effort to locate areas where BRAC was the only significant non-governmental development organization, the Monohordi, Boraigram and Boilor branches all have competing, if smaller, development organizations. In Monohordi a former BRAC employee spun off a small, local organization. In Boilor a Swedish development concern, named SIDA, has field representatives. CARITAS has worked in Bonpara, Boraigram, several years longer than BRAC. Each of these organizations has a somewhat different mission and employs a somewhat different mix of programs. They and BRAC share a basic guideline that participants should not be a part of another organization's association.

Competition between development organizations involves a combination of incentives to members and prospective members and a considerable measure of slander towards the other organizations. Field workers for the competing organizations in Monohordi and Boilor openly criticized BRAC for charging excessive interest on loans made to group members. This criticism is made more significant in Bangladesh by the Koranic edict against money lending with interest (Abdul, 1979; Choudhury, 1986; Mannan, 1986). In any case the promise of interest-free loans, when local money lenders charge over 100% annual interest rates, is a popular incentive. Fieldworkers for the Swedish concern and CARITAS were openly critical of BRAC's functional education program for not realizing large gains in the level of literacy of participants. There is little systematic

evidence regarding the relative effectiveness of competing educational programs.

The competition goes both ways. CARITAS arrived in Boraigram before BRAC. Part of the incentive for locating there is the sizable Christian minority living in the region. In our first interview the CARITAS branch manager complained that when BRAC arrived a significant number of CARITAS participants left to join BRAC associations. He stated that BRAC used promises of loans to win away participants. BRAC representatives emphasized that the other organizations criticize BRAC and promise many things, but aren't able to convince the association members to switch. That being said, the BRAC fieldworkers jumped in to criticizing the competing programs.

The competition is very much like the competition between faction leaders to win support. The incentives are presented, often in inflated fashion, and people are encouraged to get on board. No one can straddle two opposing factions and, unless officially sanctioned, no one is supposed to join two development associations. The participants operate under very tight economic constraints and must make decisions applying essentially short-term interests. There were cases in Mohish Bhangra and Boilor where households were able to draw benefits from both development programs. Typically this is done with spouses joining different groups.²⁰

4. Awareness of Intervention Programs

Rural development in Bangladesh takes many forms and the impacts of development programs are subtle and easily

20. My interviewing assistant in one village was a very successful operator. Not only did she work with me, but also with both development programs, and the compensation program for voluntary sterilization.

overlooked. Programs such as basic education historically reach less than half of Bangladesh's youth. Large-scale capital projects are rare and frequently do not benefit local residents equally. Even when projects are physically visible, operative, and are objectively having an impact on villages, local residents may deny the project's utility and very existence.

A visitor to a development site is likely to look first for physical manifestations of intervention, such as roads, electrical lines and buildings. People who have lived many years in the same place, which to them is their village, may in fact overlook now-familiar physical icons and tune into evolving human relationships, changes in income or changes in status. The visitor sees associations marked by the buildings where they meet, while the resident may see factions organized around a generous but selective patron.

The low profile of many if not most rural development programs and a tendency of respondents to down-play the benefits of programs presents several special challenges for measurement. There are several indications, however, that some modest programs are in place and are affecting the pace and quality of local development. All four villages have operating primary schools. Primary school students generally had less than a one mile walk to school. None of the four villages offered secondary education, though secondary schools were within three miles. Reports of development and relief programs by village are summarized in Table 6.2. Awareness of BRAC programs in the four villages is generally quite high, though in Hilalnagar the percentage is somewhat lower. This finding is somewhat puzzling given that BRAC had been in Hilalnagar much longer than the other villages. One possible explanation is that BRAC was in the process of pulling-out from some of the more pronounced forms of village intervention while attempting to support

autonomous local organizations. For many, BRAC may have appeared to be altogether removed.

Table 6.2 Knowledge of Current Development Programs

PERCENT REPORTING KNOWLEDGE OF CURRENT PROGRAMS					
PROGRAMS	SAYEDPUR	MOHISH BHANGA	HILAL- NAGAR	BOILOR	ALL
Gov't Relief	23%	57%	63%	58%	50%
Gov't Development	17%	51%	27%	52%	39%
Priv't Development	1%	59%	0%	7%	17%
Local Organization	6%	4%	13%	0%	6%
BRAC	75%	76%	56%	68%	68%
TOTAL	70	70	70	70	280

Historically awareness of relief programs has been quite high, though the total impact and duration of the programs may be quite small. The failure of the West Pakistan government to provide recognition and assistance to East Pakistan following serious floods in 1970 was the spark which ignited the 1971 independence war. Many of the respondents were dislocated temporarily by the war and were in desperate need of food assistance when the war ended. Periodic floods, droughts and famines have stimulated relief efforts.

Table 6.3 indicates reported knowledge of government relief programs is greatest among the village poor. This finding is interesting in light of the generally positive association between knowledge of government programs and economic status. Similarly, 69% of the female respondents

knew of relief programs at the time of the interview compared with only 31% of the males. The pattern of greater female reporting of relief programs holds irrespective of their life-course stage. One interpretation of this result is that since women are the most likely participants of relief programs, irrespective of their life-course stage, they are more aware of opportunities. Another possibility is that men are intentionally under-reporting such programs, not wishing to be associated with them. For other government programs, men are more likely to report government intervention.

Table 6.3 Knowledge of Relief Programs by Economic Status

KNOWLEDGE OF RELIEF PROGRAMS (Column %)	ECONOMIC STATUS				TOTAL
	LARGE SURPLUS	SMALL SURPLUS	MARGINAL	POVERTY	
YES	7 31.82%	42 42.86%	57 51.35%	34 69.39%	140 50%
NO	15 68.18	56 57.04	54 48.65	15 30.61	140 50
TOTAL	22	98	111	49	280

The Integrated Rural Development Program was the most often mentioned governmental development effort. Extension of IRDP into a national program has been accompanied by widespread criticism (Ahmad, 1983; Sattar, 1981). Foremost of the criticisms is the misappropriation of credit to wealthier farmers and overseeing committees. This charge was made repeatedly by respondents. In all of the villages people referred to BRAC as the "GORIBDER SAMITY" or poor

persons' association and IRDP as "DHONIDER SAMITY" or rich persons' association.

BRAC is clearly the best known private development program in all four villages. This is primarily a consequence of the village selection process which sought to maximize BRAC activities and minimize other interventions. BRAC is still considered to be a relief program by many residents of Hilalnagar, the earliest village to have BRAC intervention and the only one where BRAC has worked as a relief agency. BRAC had not provided food and housing aid for more than five years in Hilalnagar. Many of the respondents felt that the post-war relief efforts were BRAC's greatest contribution to the village. They hoped that BRAC would provide them with food and housing relief in the future. BRAC leadership now avoids entanglement in give-away programs which may stifle future community participation. In the other three villages BRAC is not considered to be a relief program.

The presence of CARITAS in Mohish Bhangra is noted by 59% of respondents, while SHARA is only noted by 7% of the respondents in Boilor. Thirteen percent of the respondents in Hilalnagar, all women, recognized the existence of a locally initiated women's association. Local women's organizations would have a difficult time forming in a comparable Muslim village.

Knowledge of credit sources in the villages varies from village to village, as shown in Table 6.4. Friends and family are not considered by many to be a significant sources of credit. Local money lenders were recognized by a much larger percentage of respondents in Hilalnagar and Boilor, possibly reflecting the withdrawal of BRAC from Hilalnagar and recent entrance into Boilor. Banks are recognized in all or the villages as an important source of credit. Credit from development organizations, including

BRAC, is acknowledge more in Mohish Bhanga and Boilor, the two locations with competing private development organizations.

Table 6.4 Knowledge of Current Sources of Credit

PERCENT REPORTING KNOWLEDGE OF CREDIT SOURCE					
PROGRAMS	SAYEDPUR	MOHISH BHANGA	HILAL- NAGAR	BOILOR	ALL
Friends and Family	20%	10%	1%	0%	8%
Money Lenders	41%	34%	94%	89%	65%
Banks	61%	90%	91%	90%	83%
Development Org's	49%	89%	37%	79%	63%
Other	4%	6%	3%	1%	4%
TOTAL	70	70	70	70	280

C. Summary of Program Participant Characteristics

Table 6.5 Summary Characteristics of Program Participants

	Government Relief (118/12%)	Government Development (34/3.5%)	BRAC* (188/43%)	No Program (668/68%)
% Men	51.7%	61.8%	50.5%	49.0%
% Women	48.3%	38.2%	49.5%	51.0%
% Sayedpur	12.7%	17.6%	19.1%	29.3%
% M.B.	31.4%	32.4%	22.9%	23.5%
% Hilalnagar	20.3%	29.4%	36.2%	26.8%
% Boilor	35.6%	20.6%	21.8%	20.4%
% Electricity	7.6%	20.6%	4.8%	9.1%
% Poor	20.3%	5.9%	19.7%	10.0%
% Marginal	37.3%	35.3%	52.1%	33.2%
% Small Surplus	32.2%	35.3%	23.9%	43.4%
% Large Surplus	10.2%	23.5%	4.3%	13.3%
% BRAC Members	12.8%	1.7%	100.0%	N/A
<u>Averages</u>				
Age	18.8	30.4	26.3	19.9
Household Members	6.3	6.6	6.2	9.1
No. of Children	2.4	2.4	2.3	4.4
Land Owned (acres)	1.8	4.3	1.3	3.3
Land Worked (acres)	1.4	1.5	1.5	1.9
Assets (0-4)	0.8	1.5	0.8	1.0

*Note: BRAC percentages and means are restricted to observations occurring during years BRAC was active in each village.

Table 6.5, a summary of program participants, highlights differences between persons participating in government relief, government development, BRAC and no program participation mentioned. Private organization participation was too varied for summary analysis. The primary constituents of government relief programs are

health extension and food give-aways and subsidies. The primary constituents of government development programs are IRDP/BRDB and agricultural extension (BADC). Participation in schools was analyzed separately. BRAC participation summaries are not entirely comparable to other categories as the percentages are limited to periods when BRAC actually existed in each village.

BRAC participants are in most respects drawn from the same population as persons receiving relief. In some cases BRAC participants are even less well-off. On the other end, government development program participants are generally better off. They own more land, have more assets, and are disproportionately drawn from the surplus groups. Men are more likely than women to report participation in government development programs. Households not participating in any program appear to have a higher average family size, more children, more land to work, suggesting that these responsibilities may inhibit any program participation.

Participation did not appear to be related to place of birth relative to residence at the time of the survey. Sixty-seven respondents, 15 males and 52 females, were born in Upazilla other than where they lived at the time of the survey. The small number of male respondents who have migrated to their current Upazilla might be expected to produce unstable patterns relative to the 125 males who were born in their latest Upazilla of residence. The in-migrants are, on average, only three years older than non-migrants, have approximately one-half year more education, and, as might be expected, somewhat more migration experience. The pattern of participation in development and relief programs, for males and females, however, is almost identical to that of their non-migrating counterparts.

D. Participant Selectivity in Person-Oriented Programs

Many of the salient characteristics of the respondents, their households and their geo-political surroundings were described in the chapter introducing the sample population.

This section describes respondent characteristics in relationship to the extent and quality of participation in people-oriented and place-oriented development programs. The analysis will be presented by program participation type.

1. Relief and Health

In this study several aspects of cumulative causation in individual development, as illustrated in Chapter II, are supported. The first leg of the cycle, connecting wealth to nutrition requires no verification in the case of rural Bangladesh. A common greeting in the villages is "Keyechen?", literally translated, "Have you eaten?". A significant number of the respondents in this survey were forced to forego meals on a regular basis due to poverty. The most succinct defining criteria for poverty is adequacy of diet.

Participation in health and relief programs in the four survey villages may be characterized as widespread but shallow. Many of the respondents who received food aid were insistent that it was sporadic and of little consequence, many having received bags of rice or wheat once or twice.

In Sayedpur many of the women reported attending irregular meetings held by a government doctor. The visits, held at the local school, often included mass inoculation of the children against diseases such as polio and yellow fever. In Boilor many of the respondents also reported having been inoculated as children. Respondents in Hilalnagar and Mohish Bhangra reported participation in inoculation and health programs to a lesser extent.

The only respondents who mentioned in-patient care were living in a major city such as Dhaka at the time. In a few cases the need for hospitalization motivated migration to an urban center.

Participation in family planning was only mentioned in Sayedpur by two female respondents. In Boilor one of the interviewing assistants actually worked in an local contraception and sterilization program. Unfortunately, there were not enough specific questions about health programs in the survey for more detailed analysis.

While one can well envision health programs which elicit participation on the levels of consumption, production and allocation, in practice most participation was restricted to the first level, and was very slight at that. All four of the villages have been visited at least once in the past decade by civil servants encouraging children to be inoculated against common diseases. Many parents reported that their children received at least one inoculation in such campaigns. However, in none of the four villages were health services aggressively or routinely promoted and facilities were all but non-existent. In no case were the respondents involved in promoting and providing health related services.²¹

A significant percentage of the respondents living in Hilalnagar fled to India during the 1971 independence war. Refugee camps were overcrowded, had contaminated water supplies and shortages of every conceivable necessity. Mortality estimates for the one to six month stays for refugees run as high as 10%. Respondents from Hilalnagar reported a large number of deaths during that time period, almost all attributable to disease. Ironically, for many of

21. Safe water supply is health related, but will be discussed as an infrastructure project.

the respondents contact with doctors and social services were higher in India than at any time in Bangladesh.

Hilalnagar, being part of BRAC's integrated program area, has a fourteen year post-war history of experimentation in health service delivery. During our month of interviewing we had frequent contact with a local Dai or midwife who received BRAC training in several succinct "messages" about health and illness. The DAI had never attended school and was illiterate. Her financial incentive for assisting with individual health problems was the small profit that she might make on the sale of medicine. Other rewards might include elevated social status and increased demand for her services in child births. The midwife participated in health service delivery, but possessed a very narrow range of skills learned in a short training course. The rural credit and training program is a departure from BRAC's early health programs. Even more recent projects taken on by BRAC are almost entirely devoted to health, particularly with respect to oral rehydration and infant immunization.

Selectivity in participation in health programs could not be quantified across many potentially interesting criteria. The reports of services received from government doctors have not increased over time and there is no clear pattern of use with respect to income, occupational group and religion. The refugee movement to India represents a historical high water mark for receiving health services. At the same time mortality and morbidity were never higher.

The principle determinant of receiving immunization inoculations is age group. Inoculation campaigns are apparently irregular but do reach a significant number of the rural population. Persons in the wealthiest and most mobile families have received more health services, especially while living in urban areas.

Consumption of emergency and subsidized food supplies is also widespread, but shallow. In all four villages many of respondents noted receiving small quantities of uncooked wheat and rice during past food crises.²² Nearly all of the reported participation was restricted to waiting in lines and consuming the food given away. The level of food support is low to inconsequential. In some cases the quantity is not enough to make up for the energy expended getting to the distribution point (Hartmann and Boyce, 1983). In other cases the give-away is a one time transaction which supplements the family diet for only a few days, never being repeated.

"Relief" and "control" also refer to programs which subsidized the food prices or set price ceilings in government shops. Government rationing and modified government rationing programs are on the win in Bangladesh, but have played an important role in meeting the needs of some of the urban and rural poor. These programs were popular with the respondents to the extent that they could participate.

While none of the respondents criticized food subsidy programs, they have been attacked from the left and right by development theorists, particularly those concerned with dependency (Lappe, 1977). Dependency is fostered, they argue, in the short-term by reliance upon imported food stuffs for meeting current needs, and in the long-term by driving farmers out of producing more costly substitutes which cannot compete in the markets. A common price for access to food subsidy programs is political patronage to

22. Allegations were commonplace that much of the food didn't reach the needy, but was sold in the markets by local political leaders. Similar charges are made in the literature on relief operation in Bangladesh (Jenkins, 1983:61-67).

the Union Council which controls allocation (Jenkins, 1983:63; Jansen, 1986:140-6).

Reports of participation in food give-away are consistent with the reports of knowledge of those programs.

The percentage of persons reporting participation is inversely related to economic status. Though the female respondents were more likely to acknowledge the existence of relief programs, there appears to be no significant discrepancy in reported household participation by respondent's gender.

Relief programs are to some extent reaching their intended target group. However, the level of support has been minimal to negligible for most participants. Respondent criticisms of the level of support are reflected in more systematic analysis as well. In this survey there is a visible relationship between receiving assistance and economic status at the time assistance was received.

There is not, however, a consistent relationship between food aid and subsequent economic mobility. Changes in economic status, positive or negative, over time do not appear to be affected by receipt of food aid. The function of relief then appears to be to provide life sustaining food during famines and to reduce the price of staples at other times. Participation is short-term and limited to consumption of benefits, thus does not meet several criteria for being considered developmental.

2. Secular, Religious and Functional Education

There are a several educational processes available in the villages of Bangladesh. Many are informal in nature and fall under a general heading of on the job training and apprenticeship. Examples of informal educational processes include parent-child transmission of traditional skills and hiring others children for extended labor contracts.

Informal educational processes are mentioned in passing only. They are important, but very particular to individual situations and lie outside of the domain of this research.

Formal educational programs can be aggregated into secular schools, islamic schools and adult-literacy / vocational training programs. The demographic, social and economic composition of participants in these three educational strategies are rather different. Participation is most often of a working form. Students do not simply receive benefits but are actively engaged in a learning process. With the exception of some adult education programs, participation does not extend to decision-making about the content and form that the programs will take.

Attendance in educational programs is selective with respect to several social, geographic and economic factors.

Attendance is measured here in terms of years completed for children's programs and whether any participation at all occurred in the adult education programs. The outcomes of participation, such as literacy skills, will be analyzed in the following chapter on individual development.

The government of Bangladesh is by far the most important actor in providing all levels of education in Bangladesh. The sample villages have functioning, public elementary schools, though they were characterized by overcrowding, mixed age groups, and insufficient classroom materials. Secondary schools in all four cases could be reached within a 45 minute walk. The secondary schools seemed better equipped than the primary schools, but were not large enough to allow even half or all persons in the proper age range to participate.

Table 6.6 summarizes respondent reports of schools in the community. Clearly the perception of access to education is that it is increasing. The ambiguity in Mohish Bhangra and Boilor is in part associated with the ambiguity

of the borders. These are the least well defined, multi-area villages. In both cases the current primary schools are located on the border with another village. Summuk Boilor, which is nearly indistinct from Dokhin Boilor, has acquired a secondary school which accounts for the reports of a secondary school.

Table 6.6 Access to Public Schools

PERCENT REPORTING SCHOOL LOCATED IN VILLAGE					
	Pre-1950	1950-9	1960-9	1970-9	1980-6
SAYEDPUR	95.0%	100.0%	96.2%	96.0%	100.0%
M.B.	29.4	66.7	29.4	66.7	91.2
HILALNAGAR	12.5	0.0	0.0	39.4	100.0
BOILOR	58.2	78.6	66.7	84.9	76.5
[secondary]	0.0	0.0	20.0	9.1	18.8
RESPONSES:					
SAYEDPUR	20	13	26	25	73
M.B.	17	18	17	39	91
HILALNAGAR	8	19	21	33	75
BOILOR	12	14	15	33	85
TOTAL	57	64	79	130	324

The process of cumulative causation for individuals, as outlined earlier, suggests that families of stable financial means and higher levels of education and occupational skills will be more willing and able to put their children through formal educational programs. Most educational programs, on the other hand, recognize the importance of reaching out to the less privileged members of their communities. The goals of the suppliers of education and the population demanding education can thus come into conflict.

If such a scenario is applied to the four survey villages, then the data suggests that demand is a more important determinant of who attends schools than social welfare policy. In 1985 66% of the persons between ages 5 and 15 in large surplus households were students. That percentage drops to 45% for the small surplus households, 27% and 30% for the marginal and poverty households respectively. The chi-square statistic gauging interaction is significant with a probability $<.001$.

Islamic as well as Hindu cultural norms for inheritance and intergenerational responsibility tend to favor males. When children marry, the expenses of the wedding fall largely upon the bride's parents. In addition to the cost of the marriage ceremony, the bride is expected to carry a sizeable dowry. In Bangladesh dowry is an important criteria in selection of a bride.

Once married the daughter moves from her parent's home into that of her husband or his parents. Daughters have little financial responsibilities for their parents. Sons, on the other hand, are expected to assist his parents as they age. Given the future costs associated with daughters and benefits associated with sons, there is reason to expect greater participation in formal education programs by boys.

In this survey 44% of males and 33% of females in this age range are students. The pattern, however, is not consistent across age groups.

3. Economic Status and Education

a. Secular Education

Well-being is also related to education, both as a cause and a consequence. The following multivariable regression was calculated in order to test the hypothesis that higher income parents provide higher levels of education for their children. Education, the dependent

variable, is measured in total number of years in secular schools. Households are classified as large surplus, small surplus, marginal and impoverished. Gender is included in the model as males are expected to receive longer periods of education. In order to control for reverse-cohort sampling bias the sample is restricted to 335 persons between the ages of 15 and 19. Age, within the interval, is included as a further control over potential cohort effects.

The regression results indicate a significant positive association between household well-being and children's education. After controlling for the gender and age of the individual, there is still a significant relationship between economic status and education. Economic status was included as a categorical variable, but the pattern of the means for education indicates a positive relationship. Means for education by economic status are compared using a least-squares means test of equality. The comparisons along with the analysis of variance table are presented in Table 6.7.

Table 6.7 Comparison of Education by Economic Status

Source	P	R-Square
Model	0.0001	0.13

Source	F Value	P
GENDER	0.64	0.4239
AGE	1.19	0.2768
ECONOMIC STATUS	14.79	0.0001 *

TEST OF EQUALITY OF MEANS FOR EDUCATION
BY ECONOMIC STATUS.

ECONOMIC STATUS	AVERAGE YEARS OF EDUCATION	P		
		LARGE SURPLUS	SMALL SURPLUS	MARGINAL
LARGE SURPLUS	5.3	.	.	.
SMALL SURPLUS	3.7	<.01*	.	.
MARGINAL	2.1	<.01	<.01	.
POVERTY	1.5	<.01	<.01	NS

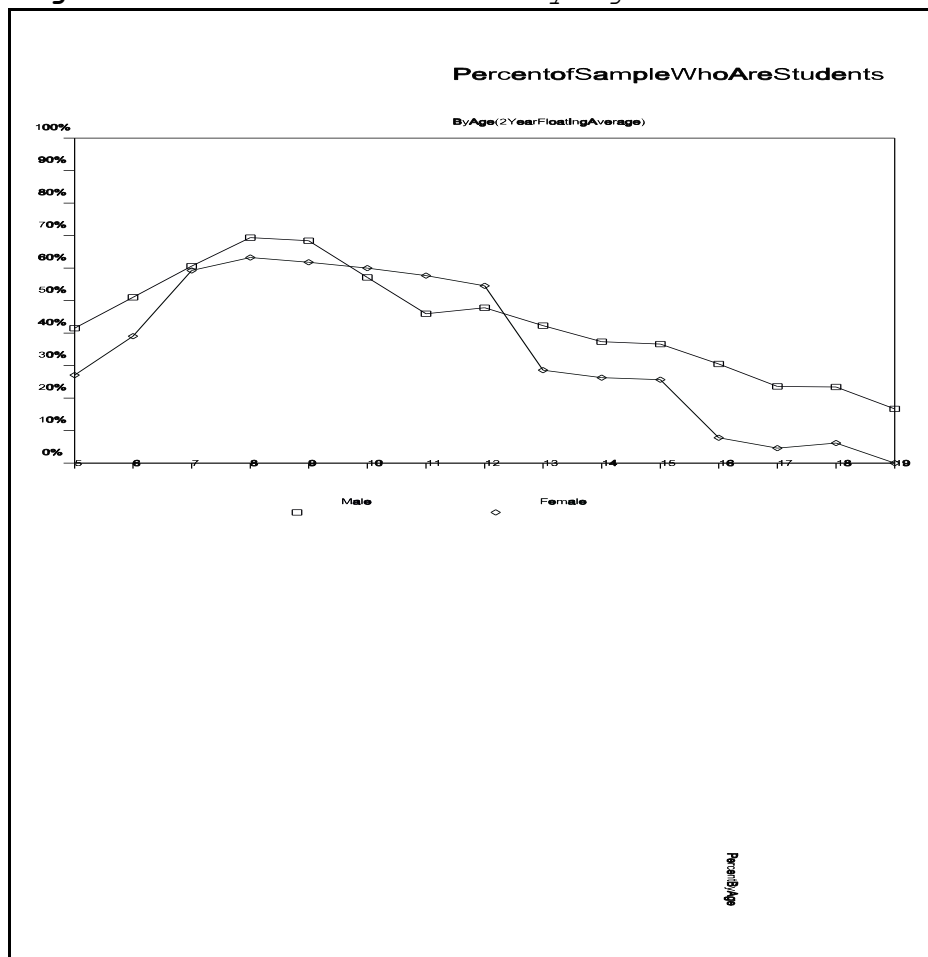
* P<.01 indicates significant differences in mean level of education.

Since this sample is restricted to persons between ages 15 and 19, the causality may be assumed to run primarily in the direction of higher economic status of parents permitting additional time in school. Gender, surprisingly, does not appear to be significantly related to the number of years that children attend school. The lack of a gender-education relationship for this age group is further evidenced in the graph of persons age 5 to 19 who are students which follows the statistical results.

Within the 15 to 19 year age group, age itself has no significant influence on current level of education. Were secondary and college education more common, the distinction between rich and poor might well increase. After controlling for age and gender, the effect of economic status continues to be significant, though the differences in least squares means are not statistically different between the two poorest economic groups and in substantial terms means are fairly low even for the wealthiest group.

National statistics in Bangladesh show that in 1981 25.8% of males and only 13.2% of females (age>5) were literate (BBS, 1985A:484). Yet the percentage of males and females in the respondent's families who are currently students is nearly equal, as illustrated in Figure 6.1. The percentage of females who are students actually rises slightly above that for males for ages 10 - 12 before dropping well below again. This period may be explained by the entrance of young males into the labor market while young women continue in school. After age 12 and again after age 15 there are sharp drops in the proportion of females that are students. These drops probably reflect female entrance into puberty and marriage. In this survey there no women continued as students after marriage.

Figure 6.1 Enrollment Rates By Age and Gender



b. Islamic Education

Attendance in secular school drops off rapidly when people reach their teens. Historically the pattern was even more pronounced, with a much larger percentage of persons never attending school at all. Several alternatives exist for gaining an education in the sample villages. The most common alternative for Muslims is attending a Koranic school. In three of the sample villages Koranic education was available in local MAKTAB. The purpose for attending MAKTAB is to learn recitations from the Koran, and in so doing acquire a rudimentary knowledge of Arabic. The

classes were attended primarily by young boys and girls. The teachers live in the community and are supported through local tuition.

In neighboring communities more comprehensive Koranic Schools, called MADRASSA, were also available. Madrassa are often state supported and resemble the schools with the addition of a strong religious component. A range of subjects, including mathematics, Bengali and English are also taught in Madrassa. This being the case, it is possible for a student to rise quite high in the Madrassa system, reaching post-graduate status.

The economic background of participants in religious educational programs differs somewhat from participants in the secular schools. Table 6.8 contrasts respondents by their reported economic status around the age of fifteen and their place of education. It should be noted that respondents who attended both secular and Koranic schools were encoded as attending secular schools. Those who attended only koranic schools are represented in the Koranic row. Those who never attended any form of school are listed as a third group. The pattern is quite clear. Those who grew up in relatively better off homes were more likely to attend secular schools. The poorest households were most likely either to send their children to Koranic schools or no school at all.

Table 6.8 Youth Study Location by Economic Status

ECONOMIC STATUS DURING YOUTH		TYPE OF SCHOOL ATTENDED		
(Row Percent)	SECULAR	KORANIC	NONE	TOTAL
LARGE SURPLUS	32 74.42%	2 4.65%	9 20.93%	43 15.47%
SMALL SURPLUS	61 49.59	17 13.82	45 36.59	123 44.24
MARGINAL	26 28.89	10 11.11	54 60.00	90 32.37
POVERTY	5 22.73	4 18.18	13 59.09	22 7.91
Total	124 44.60	33 11.87	121 43.53	278 100.00
Statistic	DF	Value	Probability	
Chi-Square	6	32.9	0.000	

c. Adult Functional Education

BRAC, like many other non-governmental organizations, has attempted to address educational gaps within the governmental system. The outreach phase of village intervention for BRAC includes a course in functional education. All of the instructional materials are developed in BRAC's Materials Development Unit (MDU).

"The FEC (functional education course) classes are composed of 20-25 adults who come from a common socio-economic background. The lessons are conducted by a class member chosen by the class and trained by BRAC to serve as the "facilitator".

In addition to teaching the FEC learners basic numeracy and literacy, each lesson is designed to stimulate discussions about the causes of their problems, and explore options available to overcome them. The average class requires 4

months to complete the entire set of lessons. The "concientization" methodology developed by MDU for the FEC has become the primary vehicle through which BRAC works with the rural people of Bangladesh." (BRAC, 1983:6).

Of the 101 respondents reporting at least some activity in BRAC, half reported having attended classes under BRAC's supervision. The prior educational status of this group was about average for their socio-economic class. Only two persons who participated are currently in the large surplus economic group, and they participated in Hilalnagar when BRAC worked with entire villages. 25% of the participants are currently in the poorest class, which is 17.5% of the sample of all respondents. Nearly half of the participants are now in the marginal class. The remaining 25% are in the small surplus class.

Table 6.9 summarizes self-reports of literacy status among persons participating in BRAC's functional education program. Given the four month duration of functional education training, it is not surprising that there is little evidence of a significant impact of the program on the economic status of the participants. There appears to be some support for the effectiveness of the functional education in the arena of concientization. Of the forty nine participants, thirty two stated that they participated in order to "learn", while others stated motives such as "to get a loan" and "to help organize the group". The program impacts on literacy are modest. The participants are more likely to be able to write their own names, but less likely to have more advanced writing skills than the sample as a whole.²³

23. My experience in adult education, stemming from three years of teaching basic education in migrant farm worker camps in the U.S., is that learning to write one's own name is an important milestone for the students. The

Table 6.9BRAC Functional Education and Literacy

LITERACY (Column Percent)	PARTICIPATED		TOTAL
	YES	NO	
ILLITERATE	21 42.86%	118 51.08%	139 49.64%
CAN WRITE OWN NAME	19 38.78	26 11.26	45 16.07
LITERATE	9 18.37	87 37.66	96 34.29
TOTAL	49 17.50	231 82.50	280 100.00
Statistic	DF	Value	Probability
Chi-Square	2	23.991	0.000

In addition to the functional education program, BRAC maintains one major training facility, named TARC, and a few smaller training branches. The training facility allows BRAC association members to get away from day to day obligations and concentrate on learning new skills in agriculture, fish culture, appropriate technology, basic education and leadership. For women the experience can be quite unique. Most have had few opportunities to travel outside of their immediate residential neighborhoods. Many have never traveled in a motor vehicle nor met women from of their level of education and experience and yet from other

benefits are practical, for such necessities as signing contracts, and also psychological. In a literate world there is a great deal of embarrassment associated with having to sign with an X or provide a thumb print. For some students learning to sign their name was their first and most important learning objective.

parts of the country. The visits to TARC last from several days to more than one week. During that time women are free from daily chores such as child care, cooking and cleaning.

Several of the respondents had attended training sessions at TARC and all responded positively about the experience. Systematic data was not collected on these experiences, though BRAC includes process evaluations of training programs in annual reports.

In summary, secular, Koranic and adult-functional educational programs have been discussed. Participation in the four sample villages has been far less than universal, especially for the poorest households. With higher economic status there is a greater likelihood that both male and female children will be sent to secular schools. With fewer resources, families fall back on local Koranic schools or no schools.

BRAC has been actively promoting adult literacy and functional education in all four survey villages. In addition to classes held in the village with local facilitators, they maintain a campus for training local leaders and association members. BRAC's target are the marginal and poor households. Even with three educational tiers, a large percentage of the children and adults in the sample villages have never participated. The majority poor are unable to read or write and have only modest numeracy skills.

E. Participant Selectivity in Place-Oriented Programs

1. Infrastructure

Participation in programs using and improving local infrastructure, as described earlier, can occur on all three levels. Embankments, electrification and water resource development are used here as examples to demonstrate who

participates in using, building and allocating public infrastructure.

Public infrastructure is not equally available to all.

Most of the rural poor cannot afford electrical appliances and transportation equipment. As such they benefit less from the arrival of electricity and roads than wealthier residents. Among the poor, a common perception of these facilities is that they only benefit the rich (Jansen, 1986:263).

The use of irrigation in all four villages has increased dramatically over the period under analysis. At the time of the interview 178, or 64% of the respondents reported at least one household member working in agriculture. Within that group, 95 households, or 53% are working at least some land that is irrigated, almost always with motorized pumps. Of those farmers who use irrigation, an average of 2 acres was reached by water. At the time of the survey, approximately one third of all of the sample households were cultivating land that has at least some irrigation. Many of the farmers are not the owners of the irrigated land. They may sharecrop or work the land on a wage labor contract.

A common issue raised in the literature is the impacts of power pumps on economic equality within villages. There are several paths through which this relationship may be traced. With respect to participation as consumption of programs, the larger landholders are expected to gain better access to the water, often locating wells within their properties. In this survey it certainly did appear to be the case that some of the largest landowners were members of local Integrated Rural Development Project Associations, and through their association were able to drill wells on their property. Comparing farmers at the time of the survey, those who were categorized as having some surplus

consumption on average owned approximately three times the irrigated land than those without any surplus. Not only did they own more land, but more significantly a larger proportion of it was irrigated and therefore more productive. Table 6.10 summarizes patterns of land ownership, land cultivation and access to irrigation.

Table 6.10 Land ownership and Irrigation

	SURPLUS		MARGINAL		t-Test	
	Mean	n	Mean	n	Diff.	Prob
ACRES OWNED	4.7	499	0.9	480	3.8	.000
ACRES WORKED	2.2	499	1.3	480	0.9	.001
ACRES IRRIGATED	1.0	499	0.6	480	0.4	.000

Irrigation is sold by pump owners to other people in the village at a profit. Smaller plots are expected to cost more to irrigate per unit of land than larger ones. Eighty four of the households reported currently paying for irrigation. The price paid varies considerably, from 100 to 2,500 TAKA per acre per season (or approximately U.S. \$3 to \$80). The average price was 1010 TAKA per acre with a standard deviation of 389 TAKA (\$30 $\sqrt$ \$10). However, in this survey no significant relationship was found between the reported price paid for irrigation and the size of the plot irrigated. Tentatively we might conclude that irrigation access has favored wealthier community members. However, when water is "purchased", the price is not related to the economic status of the purchaser.

The middle level of participation, production, or in this case construction and maintenance, is often rationed out to people who have an immediate need for paid employment. Public Law 480, or Food for Peace, projects supported by donor countries are a good example. Public works projects financed under PL-480 are intended to provide temporary work during cyclical low periods for agricultural employment, such as between planting and harvesting and during fallow months. Projects run from one week to a few months. Long-term employment is not offered, nor do projects occur on a regular basis. The immediate needs of the poor for paid work puts them in a position of dependence on those who allocate resources for construction. This dependence is one of the essential elements allowing the factional model of development organization to thrive.

Group discussions held with BRAC Samity members indicated demand-for but distrust-of infrastructure strategies for development. Part of the frustration expressed about the benefits of participation in building infrastructure is that much of the money or wheat that they are promised is stolen by corrupt political leaders and civil servants (Jenkins, 1983:62). In one village local leaders chose to sell the wheat which is normally handed over to workers in-kind. They obtained a very low price and turned over cash to workers which would not be sufficient to purchase a comparable quantity of wheat. Rumors circulated that the leaders colluded with a local vendor and received substantial kickbacks for the below market-price sale.

Allocation is of greatest concern to those who are likely consumers of the finished product, such as families able to afford electricity and those who have land which will benefit by an embankment. Control of government development funds is generally shared by Upazilla and national government representatives. Allocation, then, is

controlled by a mix of local elected officials and civil servants.

Participation in locally controlled programs can only partially be understood through analysis of covariates with socio-economic data. Factionalism and corruption also play important roles determining in who participates. Non-governmental programs, while specifying more rigorous economic criteria for participation, are not above the influences of factions.

2. Organization

The government sponsored Integrated Rural Development Program has the widest coverage of all development efforts in Bangladesh and has reached into all four of the survey villages in different ways. BRAC is the most active non-governmental program in all four survey villages. The missions of these two groups overlap considerably, yet the participants are selected from quite different social and economic groups. This section considers specifically who participates in these two organizations and the level of that participation.

The membership guidelines dictated by BRAC's central office for many years have explicitly excluded members from surplus households. The criteria used in assessing wealth is land ownership, though other community members who may have established wealth without land, such as large shop owners and families receiving sizable remittances are also excluded from membership.

Implicitly there are mechanism which also discourage the entrance of wealthy community members. One of the most effective means is the expectation that members will engage in manual labor. Rural Muslim women are particularly unlikely to work outside of the home unless forced to by dire economic circumstances (Begum and Greely, 1979).

Projects which encourage women's organizational meetings, agricultural production, infrastructure improvement and so on simultaneously screen out women who are already self-sufficient and work to raise the incomes of the participants.

The Integrated Rural Development Program has attempted to work across economic levels within communities. Large landholders are encouraged to participate while quotas are designed to maintain the participation of the poor who might otherwise be excluded. Local associations are established by government extension workers and rural infrastructure and credit programs are established which in principle are quite similar to those of BRAC.

Jack Rothman provides a useful format for comparing BRAC and IRDP in "Three Models of Community Organization Practice, Their Mixing and Phasing". Locality Development, Social Planning and Social Action are presented as three strategies for community organization. BRAC most nearly conforms to the Rothman's Social Action category. The "Basic Change Strategy" is the "crystallization of issues and organization of people to take action against enemy targets" (Rothman, 1979:30). BRAC has defined a constituency of the poorest members of rural communities. Participation in consciousness raising activities encourages a critical awareness of inequities which are in part responsible for the participant's poverty. Enemy targets include corruption, usurious lending practices, illiteracy and fatalism. While Rothman suggests that social action organization works at affecting policy at the highest levels, BRAC differs in its closer adherence to grass roots problems.

The IRDP mandate is broader, to encourage development of entire communities. As such IRDP is best classified as "locality development". Rothman's suggests that the basic

change strategies of locality-oriented organization is to work with "a broad cross section of people in determining and solving their own problems" (1979:30). Government organizations, especially those intended to bring community members together, are not in a good position to choose sides in local conflicts. Despite the broad mandate of government agencies, respondents frequently charged that IRDP Associations also organize along factional lines.

The most concrete measure of participation in both BRAC and IRDP associations quantified in this study is receipt of loans. Only active participants are supposed to receive loans, though many participants do not receive loans and there are always allegations that non-participants get loans corruptly. Table 6.11 illustrates the economic cross-section of recipients of loans from BRAC and IRDP. The middle groups, small surplus and marginal households have received most of the loans while BRAC lends to the poorest class and IRDP lends more to the wealthiest households. The pattern for IRDP loans also indicates that wealthier participants received larger loans, though the small number of observations makes this observation tentative. The few BRAC loans that went to the wealthiest community members were made during the early period in which BRAC was also attempting to reach a broad cross section of participating villages.

Table 6.11 IRDP and BRAC Borrower Economic Status

MEMBERSHIP (Row %)	ECONOMIC STATUS				TOTAL
	LARGE SURPLUS	SMALL SURPLUS	MARGINAL	POVERTY	
IRDP	7 25.9%	8 29.6%	12 44.4%	0 0.00%	27
BRAC	4 5.6%	15 20.8%	39 54.2%	14 19.4%	72

Another indicator of well-being of loan recipients, which corresponds more closely to BRAC's official participant criteria, is the amount of land owned by borrowers. On average IRDP borrowers owned 3.4 acres and worked 1.6 acres of farm land themselves, compared with an average of .3 acres owned and .7 acres worked by BRAC participants. Both groups include borrowers who were functionally landless, but the largest landholding for a BRAC borrower was 3 acres as opposed to 18 acres for IRDP. A t-test comparing the two means indicates significant difference. IRDP programs appear to involve a wealthier and perhaps broader economic cross section of the sample group, though they have not sanctioned any loans to the poorest households in this sample. BRAC, on the other hand, appears to be successful in preventing participation of the rural upper and middle classes. Only a few BRAC loans were reported by the large surplus households, and none of these households owned more than three acres of land.

Two important points emerge from this analysis. There are basic differences in the development objectives of BRAC and IRDP. These differences are observable both in the

institutional policies. While BRAC has targeted the rural poor and acts to promote their interests, IRDP has a village-wide mandate. The difference in institutional mandates is reflected in the composition of people who participate. The findings are consistent with the literature on organization in Bangladesh. Where tangible benefits are extended without strict guidelines as to the beneficiaries, the wealthier and presumably less needy community members tend to dominate.

3. Formal Credit Markets

Credit in rural Bangladesh is available on a quasi-competitive basis for a number of activities. As was discussed in the chapter describing the sample villages, the primary activities demanding loans include agricultural inputs, tools and inventory for small businesses and trade, housing construction and repair and a number of social obligations such as weddings and funerals. As has been mentioned, there are essentially two credit markets. The formal markets use funds initially supplied by the government and international development agencies and to a much lesser extent money saved locally.

Several factors are recognized in the literature as contributing to household participation in formal credit markets. These include financial characteristics such as land-holdings and housing as well as social factors such as gender, education, ethnicity and personal networks. In the four survey villages ethnicity is not an issue, however other economic and social factors prove to be very significant. Land ownership implies not only a need for agricultural credit but also acts as collateral for loans. Sharecropping farmers are expected to purchase inputs, such as seed and fertilizer, but cannot offer the rented land as collateral. As sharecroppers generally turn over fifty

percent of their harvest to the landowner, any borrowing implies much greater risk of going into the debt spiral.

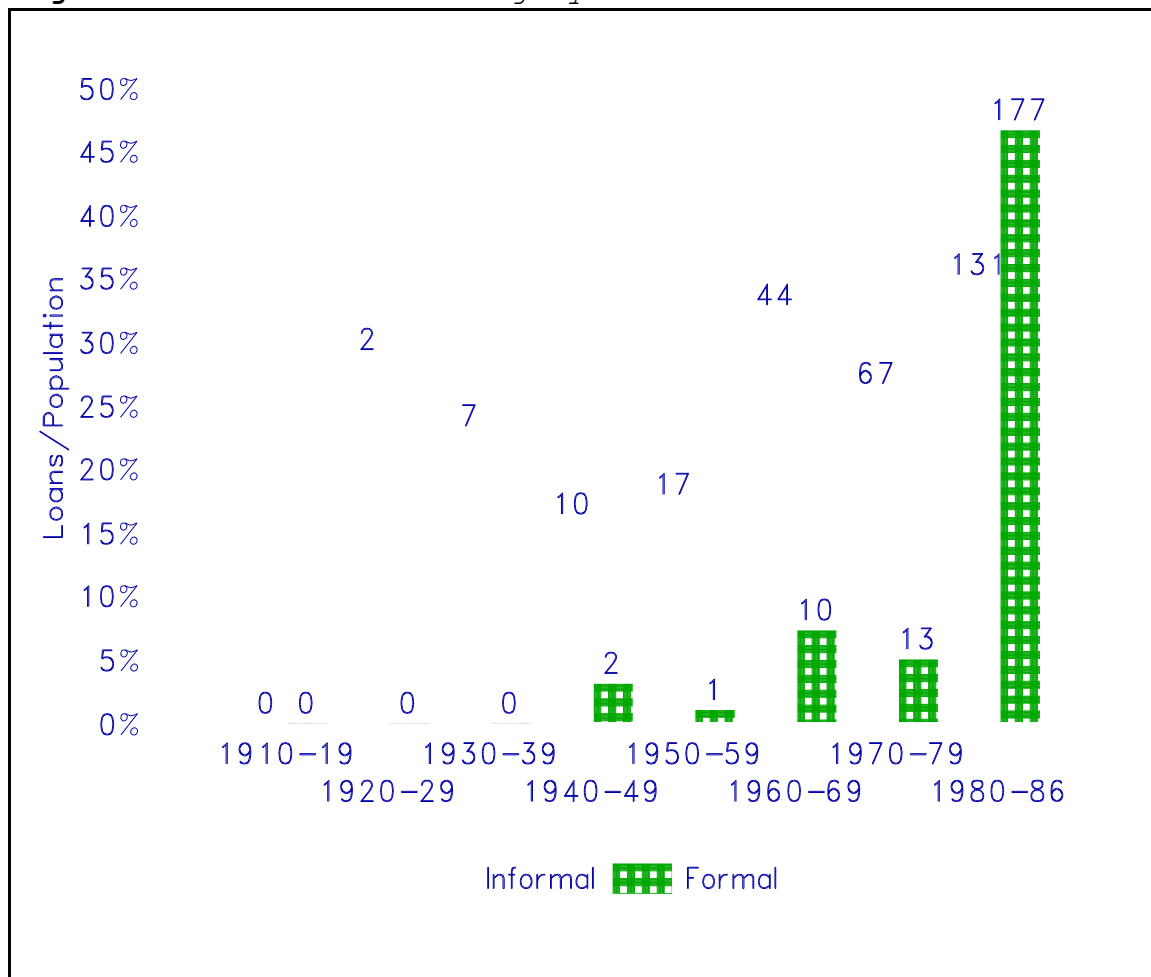
It is difficult to carry through comparisons of effects of gender on access to formal credit markets with this data set. The vast majority of women in the village survey were discouraged from even applying for banks loans. During interviews, women noted reasons such as modesty, illiteracy and social restrictions on their movements outside of the home. In at least one of the three BRAC-RCTP branches the record of repayment for women's associations was much better than that of the men. The overall evidence was that women are equally successful at repaying loans, despite the greater risk that their husbands would misuse their money.

Education is closely related to income, gender and access to credit, placing it near the center of several explanations for credit market participation. While there are no formal requirements in lending institutions that the borrower be literate, persons who cannot read and write are clearly at a disadvantage. The association of education to poverty and community participation will be discussed in greater detail in the chapter that follows.

Finally, formal credit markets have grown considerably over the course of the survey period. Nationalized banks, private banks, government and non-government development programs have sprouted up throughout the country. Several effects can be expected from this growth of lending institutions. One outcome is a large pool of funds for loans. More loans are made and lenders may reach further down the economic ladder in order to disburse their funds. Several of the more recent programs, such as BRAC's rural credit, the Grameen Banks and the widespread introduction of savings groups, have targeted loans to productive, low income households. The rise in use of formal credit uncovered in this analysis is notable. The raw number of

loans rises quickly in the latter decades both due to greater lending activity but also the sample design. In order to control for the increasing size of the sample over time the borrowing rate is reported along with the number of loans for that period. The borrowing rate is defined as the number of loans reported divided by the number of respondents who are potential borrowers during the time period. Respondents have multiple recordings within a particular decade if a residential change occurred. The denominator in the borrowing rate is the total number of respondent recordings for each time period. Figure 6.2 substantiates a rise in overall lending in excess of the growth of the sample size. Formal credit markets have grown very rapidly in the past two decades for the four sample villages. BRAC is the most frequently cited formal credit source in all four villages.

Figure 6.2Rate of Borrowing by Source and Decade



The rise in the likelihood of use of formal credit sources is not accompanied by a decrease in the use of non-formal credit. The pattern of sustained use of informal credit sources is largely a result of the continued prominence of money lenders in Hilalnagar. Since Hilalnagar is not part of BRAC's rural credit and training program, the level of BRAC loans is actually quite low and declining. For the other three villages there is evidence that formal markets are replacing informal lenders for certain types of loans.

The bivariate relationships discussed above may be spurious. Average level of economic status and use of formal credit markets both shift over time. A dichotomous logit model testing the consistency of data with the structural relationship is presented in Table 6.12. Logit analysis is appropriate for estimating regression models in which the response variable is dichotomous. In this case, the response variable (Y) is the source of the loan, and the response function is the probability of selecting an informal sector lender given information on the borrower (vector $\mathbf{x}$). The model is:

$$p = \text{Pr}(Y=\text{Informal Lender} \mid \text{Year, Land Owned, Ec. Status})$$

$$\text{logit}(p) = \log(p/(1-p)) = \alpha + \beta'\mathbf{x}$$

The unit of analysis in this case is the loan. Each loan is coded with respect to when it was taken, the economic status of the borrower, the amount of land owned by the borrower and whether the lender was part of a formal or informal credit market. Records on 479 loans were assembled from the 280 respondents. Maximum likelihood estimation is used. The coefficients reflect the contribution of the independent variables to the likelihood that loans are taken from informal sources. A negative coefficient indicates greater likelihood of loans coming from formal sources.

In this model all of the coefficients have the expected signs and all are significant. They indicate a negative association between the year that a loan is taken and the likelihood that it is taken from an informal source. Over time, formal credit markets have expanded, reaching more respondents.

A large number of male and female respondents were quite bitter that during their youth their fathers and fathers-in-law had lost much or all of their land to local money lenders. The pattern continues in the present, though the individual who loses land may be ashamed to divulge that

information in an interview. For a majority of the respondents the process is already complete in that they are effectively landless.

After controlling for year of loan, the expected economic relationships are consistent with the data. Large landowners are significantly less likely to use informal sources of credit than small landowners. Land ownership provides both an incentive for borrowing as well as the potential of offering collateral. Economic status has been treated as a continuous variable, though the measurement is ordinal with four groups ranging from 1, poverty, to 4, large surplus. Allowing this assumption, the relationship is as expected. Households with few resources are more likely to use informal credit sources. Land ownership is arguably the most common requirement for participation in formal credit markets. In this case, persons without land are more likely to draw on informal credit sources. The overall model has a log likelihood ratio of 362.7 with a level of significance $<.05$ indicating significant remaining unexplained variation in selection of loan source. Other probable explanations for selection of loan source, such as factional membership, family ties to lenders and timing of borrowing needs with formal lending opportunities were not measured adequately for statistical testing. Gender of the borrower was also not significant, as many of the loans were not taken by the respondent, but rather the respondent's house or household.

Table 6.12 Logit Analysis of Formal Sector Credit Use

DEPENDENT VARIABLE: SOURCE OF LOAN

1. INFORMAL LENDER
2. FORMAL LENDER

Effect	β	Chi-Square
INTERCEPT	8.9448	39.82 ***
YEAR OF LOAN	-0.1193	52.00 ***
AMOUNT OF LAND OWNED	-0.0017	10.45 ***
ECONOMIC STATUS	-0.3881	6.76 ***
LIKELIHOOD RATIO		362.70 **

(*** $p < .01$, ** $p < .05$)

The actual use of loans is often difficult to verify. Respondents normally reported use of formal sector loans in accordance with the lenders' stipulations. Once money is lent, however, the actual use may deviate significantly. The following excerpt from the research journal exemplifies the potential for diverting loans.

Excerpt from Boilor field notes: I just finished an interview in which it became most apparent that BRAC loans are being abused in every possible way. The respondent took her first loan and used it to husk rice. Not having made much profit at that she and her husband decided to use the loans for completely non-productive uses. The second loan (ostensively for paddy husking) was used for food. The third loan was used as seed money for their personal revolving loan fund. They just loaned it out at 300% interest rates to others who aren't in BRAC. With the profits of the first round of loans they paid back BRAC and purchased tin for their roof.

Anyway, while I was hearing all of this, one of their debtors walked in and asked for an extension on his loan. They forced him to sell his new hoe, at 50% value or less. Incidentally, he probably got the hoe from the CARE - Food For Work project. They treated him just like they were MOHAJAN (private money lenders). So I guess these problems cut pretty deep. The fact that these are core "leaders" in their SAMITY (BRAC association) speaks trouble for the entire group. I felt really sorry for the guy who they forced out of his hoe. I suppose they have been in similarly tight spots and had to do more than a little crawling. I can't imagine that non-members think too highly of BRAC under the circumstances. In fact, I really can't imagine what they are thinking.

F. Summary

The following hypotheses regarding development participation were posited in chapter III:

1. Individuals who are impoverished and functionally landless are more likely to participate in non-governmental and relief programs.
2. Individuals who are middle and upper income and who own some land are more likely to participate in formal credit markets and government development programs.
3. Individuals who own fixed assets in the community, such as land, are more likely to participate in place-oriented programs.
4. Individuals who are below working age or are engaged in person-oriented occupations, such as farm labor, trade and transportation, are more likely to participate in person-oriented programs.

The analyses presented largely support the hypotheses.

The low overall level of participation in government development programs limits potential for statistical inference. Participation in relief efforts is affected by both individual circumstances and regional events. During the 1971 independence war rich and poor Hindus fled Hilalnagar for Indian refugee camps. All were the beneficiaries of relief efforts in India and in Hilalnagar

after the war ended. Participation in health extension inoculation programs occurs, again irrespective of economic status, when the intervention occurs.

Participation in development programs is, in many respects, the center of the conceptual model linking development programs to migration. In order to understand how intervention is likely to change population distribution on a regional scale, information on the level of individuals and communities is instructive. Without participation it is fairly clear that development cannot occur. However, participation comes in several forms which require different analyses and are likely to have different impacts on the human condition as well as migration. In this chapter participation is separated into three general forms, consumption of program benefits, productive work using program inputs and allocation of program resources. These categories reflect different levels of individual activity and responsibility.

Programs are examined for their content, which defines the scope of participation options, and with respect to selectivity of participants. Participation in essentially consumption-oriented programs, such as relief, has been high for the poor, women and people caught in catastrophic events, such as wars and famines. Participation in infrastructure producing programs is a function of the economic status of participants and their role in community factions. The poor are more often employed as productive labor, such as in the Food for Peace Program. The better off residents are more likely to control allocation of resources and consume products, such as safe water, roads, electricity and irrigation.

VII. INDIVIDUAL DEVELOPMENT

Individual development has been defined as a process of upward socio-economic mobility within the context of the life-course. Persons on an upward path gain better living standards, access to resources and life course options. Individual decline, a downward path, is characterized by losses in health, material well-being, employment options, and in many cases the onset of severe deprivation. Intervention programs most salient to individual development include health, education and financial credit. Individual development will be measured using a number of quality of life indicators, and as a process of accumulating and using human capital.

A. Health Programs

In some respects health programs are the most fundamental of the human capital strategies. A popular Bengali expression "Panta Bhater Ghi" means putting expensive refined butter-oil on day-old rice. Attempting to educate and employ a person who is starving or severely malnourished is equally inefficient. Poor health in rural Bangladesh accounts for tremendous losses in productivity and restricts participation in development activities. Health care costs drain meager family savings and frequently exceed the families ability to pay.

When faced with serious illness families respond with a mix of traditional and modern remedies. Traditional responses range from prayer, herbal treatment and local Kobiraj doctors through homeopathic, allopathic and ayurvedic (Hindu) practices. Traditional treatment has

several advantages, including familiarity of practices, low cost and local availability.

Health intervention in rural Bangladesh is geographically and temporally inconsistent. Villages rarely have health workers living or working within their borders.

For most of the rural population, health clinics located in Subdistrict centers are more accessible than major urban areas, though staffing is inconsistent and equipment and medicine almost completely absent.

There are limited forms of Western health care in rural areas. The two most common forms are private medicine stores-cum-pharmacies and government and charitable primary care clinics. All four villages are located within an one hour walk of medicine stores. These stores offer an array of medications, including pain relief, treatment for symptoms and pathogens of dysentery, even antibiotics. Medications are not limited to oral and dermal applications.

As in many developing countries injectable medications are expected to have tremendous healing powers. Many shop owners have little or no formal training in medicine and sell what they have on hand, irrespective of its efficacy. Some owners cordon off a corner off their shops with a sheet behind which they act as doctors, prescribing medication, giving injections and other treatments.

Medicine shops are a popular alternative for many of the persons interviewed. The general perception is that the shop owner knows what he is talking about and is selling remedies which will work at a competitive market price. On the other end of the spectrum are government health clinics.

While these tended to be located a bit further from the villages, location was not the major impediment to their use. A more significant problem was the lack of medications and staff available in the clinics.

Preventative health care is clearly an important means for keeping people healthy, productive and free from debt. To this end, BRAC and other public and private development programs, have attempted in numerous ways to improve rural health care delivery. The results so far have been modest.

Table 7.1 shows the percentage of respondents who report that a public health service was available or provided on a short term basis in the survey village at each recording time. The percentage has risen over time for all of the villages, though a majority still are not aware of any service available in the village. In Sayedpur there appears to be growing recognition of health services, from no respondents reporting assistance before 1960, to 31.5% recognizing assistance during the 1980's. Reports from other villages show even less consistency. The level of service which is acknowledged is universally low. In many cases, the service reported was a one time inoculation campaign for the children who attend school.

Table 7.1 Awareness of Village Health Services

VILLAGE	YEAR				
	Pre-1950	1950-9	1960-9	1970-9	1980-6
SAYEDPUR	0.0%	0.0%	7.7%	12.0%	31.5%
M.B.	0.0	11.1	0.0	5.1	14.3
HILALNAGAR	0.0	5.3	0.0	6.1	0.0
BOILOR	8.3	7.1	6.7	12.1	16.4

Hilalnagar appeared to lack any access whatsoever to public health clinics. The nearby town of Markuli had one

pharmacy and a few small medicine stores. The pharmacy and medicine store owners prescribed and sold an assortment of medicines. High incidence of diarrhea and dysentery have created considerable demand for intravenous rehydration fluid and services.

The three remaining survey villages had better access to public health facilities located in nearby villages or towns. Even so, public clinics were criticized by many of the respondents for not having medicine on hand and frequently being closed. The expectation appears to be that a public facility should provide medicine as free or subsidized service.

Two points are important here. First there is the expectation that "medicine" particularly injectable medicine is the best solution to health problems. Second, there is an expectation that medicine ought to be provided on the spot. Clinic staff write prescriptions when they do not have medicine on hand, but for illiterate patients the prescription carries little weight. A common statement from the respondents was, "Why go there? They only give you a scrap of paper."

The staff in public clinics also complained that they lacked equipment to work with and rarely received sufficient supplies. Privately run pharmacies, on the other hand, keep a stock of medicine, dispense prescriptions, illegally, and sell the medicines immediately. As such, many of the respondents were more inclined to bypass the clinics and go directly to the pharmacies.

BRAC's most significant health intervention in the four study villages is in Hilalnagar. They have selected traditional midwives from many of the villages in the integrated project areas for training. The midwives are generally not literate nor do they have a large income. They are given a set of ten messages, such as the proper

preparation and use of oral rehydration mix for diarrhea and dysentery. After intensive training in these ten messages they are encouraged to assist people in a narrow, but fairly common set of health problems. They are encouraged to carry the non-prescription drugs which they are trained to use, and to sell them at a small profit to patients. The midwife in Hilalnagar appeared to be active in her role, but did not generate a very large income and did not appear enthusiastic about the activity. An illiterate woman in Bangladesh is at a tremendous disadvantage in seeking credibility, especially in professional fields like health.

BRAC has been active two very widespread programs in preventative vaccination and oral rehydration, covering large regions of Bangladesh. Village residents are recruited as health promoters, receiving training in the health messages and a small compensation for extension work.

However, these two programs were not active in the survey villages.

Health statistics in Bangladesh reflect insufficient investment in rural health infrastructure and high vulnerability of the population to infectious diseases. In the four survey villages health services had few impacts on respondent health. Participation, discussed in Chapter VI, was limited primarily to irregular inoculation programs and medical emergencies. Private medicine stores were used more often by respondents when money permitted.

B. Education, Occupation, and Economic Status

The pattern associating economic status to participation in educational programs was presented in Chapter VI. Gender preference in educating children is declining in the four sample villages, though males still receive more years in secular instruction. A positive association was demonstrated between economic well-being of

the family and the number of years children attend school. This pattern can now be extended to argue that participation in educational programs has been an important element in establishing a future occupation and economic well-being.

Table 7.2, based on a sub-sample of persons over fifteen years of age, indicates mean years of formal education between occupation groups. The best educated groups are persons employed in the government dominated service occupations, such as teachers, bureaucrats and clerks, and those who are still studying. The least educated groups are those employed in housework and domestic services, primarily women, and traditional sector occupations, such as farming and fishing. The range of education within each occupation group indicates some diversity.²⁴

Table 7.2 Mean Level of Education by Occupation Group

OCCUPATION	N	Mean	Standard Deviation	Percent Literate
DOMESTIC SERVANT	26	0.2	0.6	8%
HOUSEWORK	916	1.8	2.8	31%
FARMER	570	2.4	3.2	39%
FISHERMAN	52	2.4	2.7	38%
ARTISAN	58	2.9	3.1	47%
TRADER	77	4.3	4.5	65%
MANUF./CONST.	47	5.8	4.8	66%
CIVIL SERVANT	150	7.9	5.1	79%
STUDENT	58	8.9	3.1	97%

24. The students who are over fifteen but show no formal education are enrolled in Koranic Schools. The dual system of education in most Islamic countries creates some ambiguity in studying level of education. Islamic education in Bangladesh can include a broad secular curriculum or simply training in Arabic and the Koran. For this reason only time in secular schools, as opposed to MADRASSA and MAKTAB, is considered "formal education".

Literacy is also significantly associated with occupation and economic status ($p < .01$). While 59% of large surplus and 47% of small surplus respondents were literate, only 30% of marginal and 8% of impoverished respondents were literate. Literacy is not always gained in formal educational programs, though in this study there are few exceptions. Most respondents who had more than a few years of formal education claimed to be able to read and write. Respondents with no formal education or with a few years of Koranic education were usually unable to read.

No adult education program, including BRAC, has significantly raised participant literacy. Most participants gained only marginal skills, such as being able to sign their names or read very limited texts. However, the combination of minimal literacy and membership in the association enables participants to make small occupational and economic shifts. The Sayedpur BRAC Association joined with other BRAC associations to control the lease of one of the region's most important markets. Members of the association collected rent from market vendors, a role that was facilitated by literacy and numeracy skills. Similarly, women engaged in cottage industries were better equipped to take out loans for materials when they were capable of understanding the required paperwork.

C. Household Structure, Economic Status and Dependency

Thus far, the pattern of upward mobility appears to be cyclical and reinforcing, conforming to Schendel's model of centrifugal forces. Demographic changes often reinforce accumulation or loss. For most women in the survey villages, marriage represents a change of household and a distinct new phase in their life course. In no case did a female respondent continue formal education after marriage.

Aspirations for finding paid employment outside of the home also diminish. The birth of children, which generally follows within two years of marriage, increases maternal responsibilities considerably, while the location of all work continues to be the household compound. In the survey villages there were very few paid employment opportunities for women, married or single, with or without children, outside of the home.

The extra time that some men and women spend in education acts to delay marriage. However, the pattern in developed countries, that higher education, better occupation and delayed marriage lead to a lower familial dependency ratio, is not plainly evident in rural Bangladesh.

The dependency ratio, defined here as the population under age 15 divided by the population 15 and older, is a rough measure of the load which working people must support.

As in all countries the dependency ration is only an approximation of the true level of dependency. Factors like rural underemployment, seasonal work fluctuations and child labor are not incorporated in the measure. Though most women in this sample are not wage earners, they are considered to be a part of the work force. Persons over age 65 are also considered part of the work force, as those surviving to that age group often do continue working. Mean dependency rates were calculated for the 280 household at present by the four economic status groups. There is no significant difference nor consistent pattern between the mean dependency rates which range between .687 and .784 persons under 15 per person 15+ years of age.

Several explanations exist for the absence of a pattern between well-being and the dependency ratio. First, the average overall size of households appears to decline with declining economic condition. Young boys and girls are sent

to work for relatives or neighbors who will see to it that they are able to eat every day. Family disagreements erupt during times of scarcity, causing households to break-up. Scarcity is also associated with higher levels of infant mortality. All of these factors tend to compensate for the other processes which push for a positive correlation between poverty and large household size. Dependency thus acts as a centripetal force to reduce disparities among households.

Looking briefly at the composition of households, economic status does appear to be related to the likelihood of that household being extended. Households are defined as nuclear if they are limited to parents with or without unmarried children. Households with three generations, married siblings or non-relatives are considered extended. Table 7.3 illustrates that the percentage of households which are extended is highest for the large surplus households and declines with economic status. This pattern suggests that while the dependency rates are quite similar across economic groups, the nature of the dependent population differs. Wealthier families are taking on non-relatives and supporting their own children at least through age 15.

Table 7.3 Household Formation and Economic Status

ECONOMIC STATUS	HOUSEHOLD STRUCTURE		
(Row Percent)	NUCLEAR	EXTENDED	TOTAL
LARGE SURPLUS	6 27.27%	16 72.73%	22 7.86%
SMALL SURPLUS	49 50.00	49 50.00	98 35.00
MARGINAL	77 69.37	34 30.63	111 39.64
POVERTY	38 77.55	11 22.45	49 17.50
TOTAL	170 60.71	110 39.29	280 100.00

The tendency for wealthier households to grow quite large may act to reduce disparities between the rich and poor. Schendel discusses just this pattern as a "centripetal" force, or one that increases equality in peasant societies (Schendel, 1981). Dependency and household well-being act interdependently. In this survey some infertile couples enjoyed relative prosperity. At least in the short run the lack of expenses associated with children enabled childless couples to save, invest and consume at higher levels. The long-term consequences of infertility for parents are certainly more mixed, with serious implications for financial support after retirement.

D. Credit Markets

Credit markets in rural Bangladesh are instrumental in changing household economic status. Households in this

study borrowed money to meet immediate consumption needs for food, shelter and social obligations such as marriages, and to invest in production inputs, such as seed, tools and land. Investments were generally planned with repayment of loans expected to come out of profits. The vagaries of climate, insect and disease attacks and inexperience of borrowers all contributed to accumulation of bad debts. Consumption loans rarely contributed significantly to income and were all the more likely to result in accumulating bad debt. The interest rates and terms of loans, largely a function of the loan source, were especially important in determining outcome. This section reviews sources, uses and outcomes of loans taken by respondents. Development program interventions in rural credit markets will be stressed.

1. Traditional and Informal Credit Markets

Informal credit markets have two major components. Family and friends pass surplus funds back and forth in extremely small amounts, often with no expectation of principle repayment or interest. Sharing current surplus funds or food increases the likelihood of receiving support during lean periods in the future. Most of this small-scale, give and take is excluded from the analysis.

The second informal credit source is comprised of local money lenders or "MOHAJAN" who engage in money lending as a means of earning profits, obtaining land offered as collateral, and shoring-up local factions. These lenders generally do not solicit borrowers, but gain a local reputation for loaning money when approached. Lenders often own above average amounts of land and serve as local political leaders. In the two survey villages that had Hindu residents, pre-independence lenders were most often said to be Hindu. The independence war forced millions of

Hindus into exile. Wealthier Hindus often chose to remain in India after the conflict ended. Current information suggests that this religious-occupation connection no longer exists.

The two primary uses of debt are: 1) immediate consumption, such as food, shelter and family needs, and 2) short-term investment, such as seed purchases, land rental and mortgages. In this study, over half of all loans taken in the informal credit market were for consumption purpose. Fully 86% of all consumption loans were reported to come from informal credit sources. Typically, a family faced with severe food shortages borrowed locally to meet immediate needs without any strategy for repaying the loan.

Many of the respondents were in long-term debt arrangements with local money lenders. Rather than planning one large loan, many families accumulated large debts through taking frequent, small loans at high interest rates.

2. Formal Credit Markets

Formal credit markets are dominated by public and private banks and development organizations. The boundaries between public and private, bank and development program are not precise. The Grameen Bank is generally recognized as a development program. Private banks have been nationalized in the past and then allowed to return to private ownership.

All three forms of organization share some common attributes. The structure of banks and development programs is normally centralized in the capital, Dhaka, with tight supervision of branch offices. Formal credit markets function very slowly, reducing their usefulness for emergency and consumption needs. Most formal market sources have policies against making consumption loans, especially to the poor. Not surprisingly, only 13% of the formal

market loans were reported to go towards consumption. Loans from formal sources are generally made at or even below moderately profitable interest rates, ranging from 6% to 28% (Ahmad, 1983).

Most private banks lend money using traditional criteria, such as evidence of solvency of the borrower and tangible collateral. In the rural sector, loans from these banks most often go to higher income households for agricultural and business inputs. Low income farmers cannot offer collateral and are considered high risk (Ahmad, 1983).

State controlled banks operate with a mixture of conservative lending criteria and special government programs which are intended to assist small farmers.

BRAC, CARITAS, the Grameen Bank and other rural development programs work in almost the opposite manner. Small loans for income-generating projects are used as a primary means of attracting and guiding wider development program participation. Loans are targeted to low income farmers and landless workers for agricultural inputs and non-agricultural, small enterprises. Collateral is often intangible, such as co-signatures from members of a borrowing group.

BRAC is one of the largest rural credit development programs in Bangladesh and serves as a good example of the small loan strategy for assisting the poor. BRAC field staff assist villagers to prepare project plans and simple loan applications. BRAC then loans money at formal market interest rates between 18% to 25% as opposed to informal, money lender rates which are often in excess of 100%. Loans are made to village associations rather than individuals. Associations are responsible for timely repayment, with no new loans extended to associations holding sizeable overdue loans. The use of associations allows BRAC to make otherwise unsecured loans. A long-term goal of BRAC is to

integrate participants into the wider formal credit market, allowing BRAC to move it's resources into new locations.

3. Comparisons

Table 7.4 Sources of Credit

SOURCE	NUMBER OF LOANS	AVERAGE AMOUNT (TAKA)	AVERAGE INTEREST RATE	AVERAGE TERM IN MONTHS
MONEY LENDER	213	1,774	73%	13
FRIEND, FAMILY	29	2,259	33%	13
LAND OWNER	13	1,592	75%	5
LOCAL BUSINESS	3	967	30%	8
TRADE PARTNER	2	4,750	56%	12
EMPLOYER	1	200	91%	1
OTHER LOCAL	6	1,100	37%	8
KRISHI BANK	56	2,161	15%	19
JANATA BANK	24	1,858	12%	13
UTTARA BANK	5	2,960	16%	26
SONALI BANK	4	3,150	15%	18
OTHER BANK	1	2,000	.	36
BRAC	73	1,218	20%	17
IRDP	27	2,126	13%	21
CARITAS	2	450	7%	4
COOPERATIVES	2	1,250	12%	36
OTHER DEV. PROGRAM	2	5,050	16%	18
TOTAL	463	838,000		
AVERAGE LOAN		1,810	49%	15

During the study period, 1930 to present, prices have risen steadily on local and imported goods. However, most respondents kept no written records on loans and tended to report old loans in terms of current purchasing power or quantities of rice. As such, loans are aggregated over time in current units. Because this form of aggregation is

unreliable, most analyses is treated as dichotomous, either existing or not existing, repaid or not repaid.

Table 7.4 compares lending sources reported by respondents in the Debt section of the household interview.

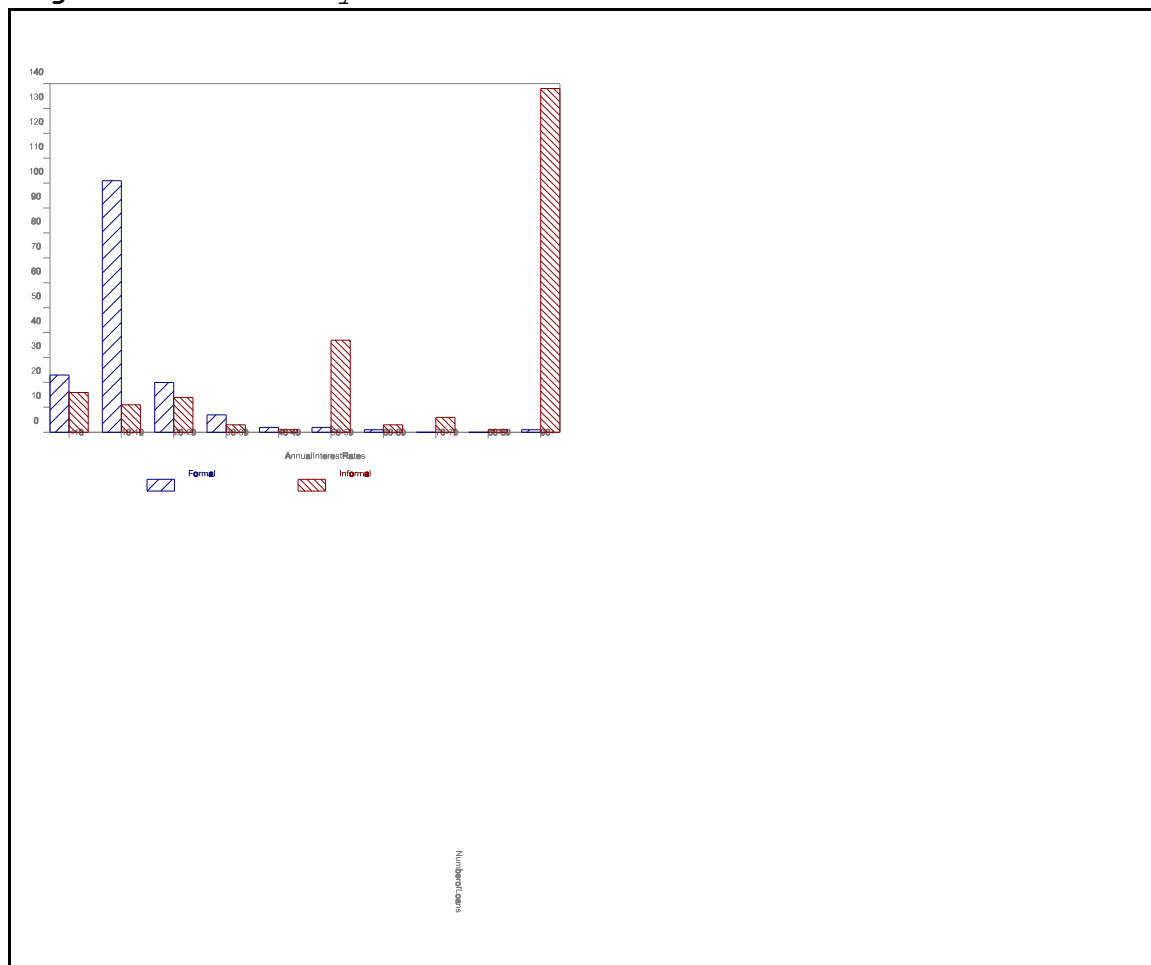
All loans carrying an annual rate of interest over 90% were truncated to 91%. In many cases respondents reported rates above 150%. The reported rates were often based on a sketchy understanding of basic mathematics by respondents. Furthermore, seasonal loans, made in kind, were often repaid in-kind when commodity prices were lower. Thus a pound of rice loaned during lean times might be repaid by a pound and a half six months later, or an annual rate of 100%. However, the TAKA price for a pound of rice was often significantly less at the time of repayment. A 25% decline in the value of rice would reduce the effective monetary interest rate to 50%.

Figure 7.1 dramatizes the bimodal distribution of interest rates on loans taken by respondent households. Though the higher rates have been truncated, the differences among rates by lending source remain dramatic. The sources of credit produce two peaks in the spectrum of interest rates. On average local money lenders demanded 73% annual interest on loans whereas banks and development agencies charge market rates or subsidized rates ranging from 0% to 25%.

Access to the formal credit markets is not equal across income classes (Ahmad, 1983). Access to the lower interest, formal credit markets is generally greater for the upper income classes. The risk-return argument, that better off borrowers are more likely to repay loans and thus are more reliable loan recipients does not appear to apply in Bangladesh. Several lenders, including BRAC, the Grameen Bank and Proshika report a lower percentage of overdue loans

to very low income borrowers than the more common bank loans to better off borrowers (Lurie, 1988).

Figure 7.1 Loans by Annual Interest Rate and Source



BRAC loans are intended to go entirely into productive investments. There are many non-investment circumstances, however, which the villagers consider to be at least as important justifications for borrowing. BRAC field staff receive frequent requests for home improvement loans and short-term food-purchase loans. While these requests are formally denied, there is evidence that loans are sanctioned for productive investment which are later used for housing,

food and other forms of consumption. Reported use of loans may have been biased by concerns over reprisals for misuse of BRAC loans. Loans taken at low rates are occasionally re-loaned at high rates to other borrowers. Many development programs, including BRAC, encourage group savings funds in order to meet emergency consumption needs.

The 486 loans reported in the survey are in different stages of repayment. Table 7.5 summarizes these stages as well as the consequences of loans which are outstanding, overdue and written off. The reports are submitted by the borrowers, and must be interpreted with caution. The lenders, particularly local money lenders, might report very different outcomes. From Table 7.5, it is apparent that most of the loans have been taken relatively recently. More than 27% are still outstanding, which means that they are not yet fully due. About half that many are reported as being overdue. Though only 13 are reported as having been renegotiated, many of the outstanding loans have been renegotiated informally. Loans that were overdue or in default frequently resulted in fines, penalties and loss of land.

Table 7.5 Status and Result of Loans Taken

LOAN STATUS	LOAN RESULT				
	No Loss	Money Lost	Land Lost	Indentured Labor	TOTAL
Paid on Time	142 88%	8 5%	12 7%	0%	162 100%
Paid Late	1 3%	15 39%	22 58%	0%	38 100%
Renegotiated	11 85%	2 15%	0 0%	0%	13 100%
Outstanding	111 87%	6 5%	11 9%	0%	128 100%
Overdue	28 41%	37 54%	3 4%	0%	68 100%
Default	5 8%	4 7%	39 66%	11 19%	59 100%
TOTAL	298 64%	72 15%	87 19%	11 2%	468 100%

Bad debt is one of the primary processes by which small land holders have become landless. When loans cannot be repaid in cash or land, they are even repaid through labor.

Children are contracted out for long periods of time, during which they tend animals and perform household cooking and cleaning. Laborers are paid in canceled debts rather than in cash.

One third of the 486 loans were used to purchase food, generally taken by marginal or impoverished households during very difficult times. Additional, small loans were used for food and other immediate needs, but have not been

included here. Forty percent of the loans were used for agricultural investment, such as purchase of inputs and mortgaging land.

Forty six percent of the loans were taken from local money lenders with the predominant annual interest rate being greater than 90% and the predominant term being one crop season or about four months. BRAC supplied seventy four loans or fifteen percent of the total, despite their recent entrance into credit programs. Forty one percent of all the loans were secured with land and eighteen percent of all loans resulted in loss of at least some land.

The analysis of rural credit markets raises a number of important issues. On the positive side, credit markets enable farmers, traders, artisans and other entrepreneurs to expand production and increase their potential income. Markets also funnel savings into productive activities. The negative side of credit markets, especially local money lending, is their association with catastrophic economic decline for small land holders. Whether local lending practices delay or accelerate the borrower's financial collapse is difficult to determine, though the absence of affordable loans certainly does accelerate decline for many families. The gap between the moderate terms and interest rates associated with formal markets, such as banks and development institutions and the extremely high rates and short-terms associated with local money lending greatly disadvantage the poor. There have been some significant inroads of formal markets into relatively poor populations, but the demand for loans far exceeds the supply.

Debt plays an important role in Schendel's centrifugal forces of accumulation and impoverization. Respondents who own significant quantities of land or have successful businesses are able to take formal sector loans which allow them to increase crop production, expand inventory and

improve services. Respondents who have little land must look for loans in high cost informal markets. The weight of 90+ percent interest rates very often leads to further loss of land, loss of assets and even indentured work. Programs which invest in the poor have an opportunity to interrupt the spiral of impoverization. As we shall see, the connection between desperate poverty and rural out-migration may be directly influenced by such credit schemes.

E. Analysis of Factors Affecting Individual Development

Two latent variable models relating individual economic status, participation in development programs and subsequent economic status are now presented. The analysis is based on covariance of nine variables. The correlation matrix including standard deviations is presented in Table 7.6. The participation variables are dichotomous (0- Didn't participate, 1-participated), and economic status is a four point, ordinal scale (1-Poverty, 2-Marginal, 3-Small Surplus, 4-Large Surplus). The use of non-interval variables reduces the robustness of the model, but in this case probably does not alter the results. The correlations are generally very low, with the highest correlations being land and economic status between two residence recordings. A number of correlations are negative, particularly with respect to participation in relief programs and BRAC. This is evidence that screening criteria are in fact encouraging higher participation rates among the poor. The government integrated program, BRDB and government health programs do not have economic screens and thus do not exhibit strong correlations.

Table 7.6 Individual Development Correlation Matrix

	ED	ECST	LOWN	GREL	GH	BRAC	BRDB	ECSTB	LOWNB
ED	1.00								
ECST	0.31	1.00							
LOWN	0.08	0.34	1.00						
GREL	0.10	-0.14	-0.05	1.00					
GH	0.03	0.07	-0.03	-0.08	1.00				
BRAC	0.10	-0.15	-0.06	0.06	-0.04	1.00			
BRDB	0.05	-0.00	0.04	-0.03	0.04	0.01	1.00		
ECSTB	0.32	0.55	0.17	-0.12	0.14	-0.18	-0.02	1.00	
LOWNB	0.06	0.26	0.33	-0.06	-0.02	-0.12	-0.01	0.36	1.00
Mean	2.71	2.58	3.27	0.09	0.06	0.13	0.01	2.44	2.13
STD	3.83	0.85	8.39	0.28	0.23	0.33	0.10	0.86	5.03

N = 699

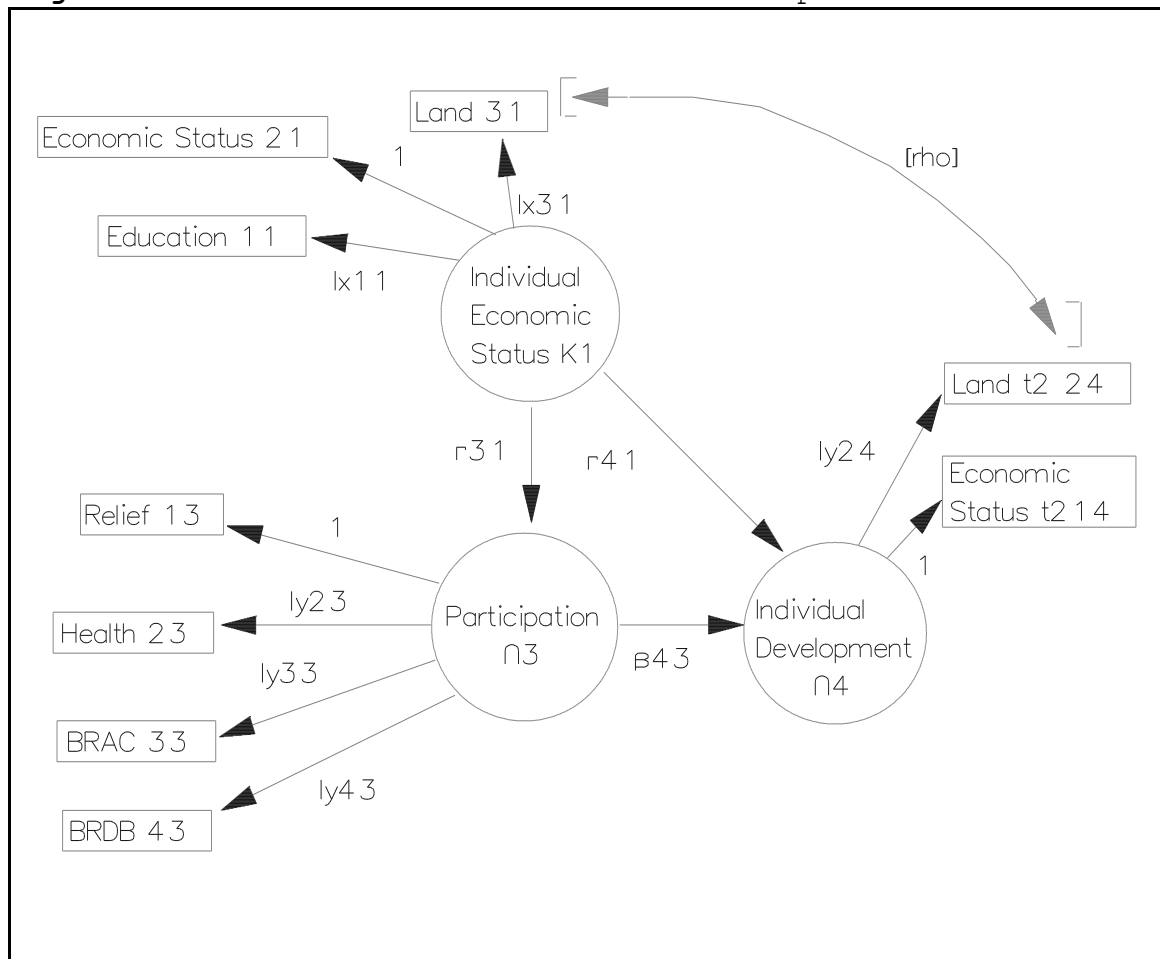
ED - Years of secular education
 ECST - Ordinal measure of economic status-time 1
 LOWN - Land owned in acres-time 1
 GREL - Participated in government relief programs-time 1
 GH - Participated in government health programs-time 1
 BRAC - Participated in BRAC-time 1
 BRDB - Participated in BRDB-time 1
 ECSTB - Ordinal measure of economic status-time 2
 LOWNB - Land owned in acres-time 2

A path diagram of the model is included in Figure 7.2. Latent models have two components which are estimated simultaneously. The first component is a the measurement model which is similar to confirmatory factor analyses. Variables in boxes (x,y) represent directly measured data collected in the field. Variables in circles (K,l) are latent constructs which are modelled to be the underlying force behind the measured variables. Arrows (lx,ly) pointing from the latent to the measured variables represent the influence that the latent construct has on each variable. One measured variable for each factor has a path

set to one in order to provide a scale for the factor. Additionally, residual vectors (δ, ε), not illustrated, indicate the amount of unexplained variation in the measured variable. The general format for measurement equations is:

$$X = l_x * K + \delta \quad \text{and} \quad Y = l_y * I + \varepsilon$$

Figure 7.2 Path Model of Individual Development



The second component of the latent variable analysis is the structural model. Paths connecting the latent variables (Γ, β) indicate the influence of independent latent variables

on dependent latent variables. Residuals for each of the endogenous latent variables (Z), not illustrated, indicate unexplained variation. In this analysis, three latent variables are linked causally, with economic status as an exogenous factor which directly influences participation in development programs and economic status in the next event recording (t2). Participation in development programs is an endogenous term which is influenced by economic status at time one and in turn influences economic status at time two. The paths between the latent variables are interpretable as regression paths, though the latent variables cannot be measured directly. The general format for structural equations is:

$$I = \beta * I + \Gamma * K + Z$$

The relationships in this model are:
Measurement Model

Education = 1x11 EcChr + δ11
Ec.Status = 1 EcChr + δ21
Land = 1x31 EcChr + δ31

Relief = 1 Part + ε13
Health = 1y23 Part + ε23
BRAC = 1y33 Part + ε33
BRDB = 1y43 Part + ε43

Ec.Status t2 = 1 EcChr2 + ε14
Land t2 = 1y24 EcChr2 + ε24

Structural Model

EcChr = Φ

Part = Γ31 EcChr + Z3

EcChr2 = β43 Part + Γ41 EcChr + Z4

Degrees of freedom are handled somewhat differently in covariance analysis from regression analysis. The total number of non-redundant values is the number of cells in the diagonal and lower triangle of a square covariance matrix. A matrix of $n \times n$ elements will have $(n*(n+1))/2$ non-redundant values. When all degrees of freedom are used, a model is "just identified". When more parameters are requested than degrees of freedom, a model is "under-identified" and cannot be estimated. When, as in this case, there are remaining degrees of freedom, the a model is "over-identified". A number of statistics are produced measuring the similarity between the original and reproduced covariance matrix. A covariance matrix with nine variables produces a total of $(n*(n+1))/2=45$ degrees of freedom, or non-redundant values. Each free parameter uses one degree of freedom. In Model 1, 21 parameters are estimated ($lx=2$, $ly=4$, $\delta=3$, $\varepsilon=6$, $\Phi=1$, $Z=2$, $\Gamma=2$ $\beta=1$) leaving 24 degrees of freedom. The null model allows one error term for each measured variable and has 36 degrees of freedom.

SAS CALIS was used to estimate the measurement and structural models simultaneously. The results are presented in Table 7.7. The Goodness of Fit Index (GFI), which ranges from 0 to 1, for Model 1 is .9698. The GFI adjusted for degrees of freedom is .9434. The chi-square in this model is 97.9 ($p<.0001$) with 24 degrees of freedom. The null model chi-square is 960 with 36 degrees of freedom. While both chi-squares indicate a significant difference detected between the measured and reproduced matrices, the sample size of 699 makes the chi-square very sensitive. Hoelter's critical N, the sample size at which the Chi-square detects a significant difference ($\alpha=.05$) is 261. Generally a critical N greater than 200 is an indication of significant similarity between the two matrices.

The data conform well to the overall model. However, several paths have low t values, in parentheses, which indicates that the relationship is weak or non-existent. In the measurement model, education, economic status and land are positively associated with a latent construct, EcChr. The third latent construct is nearly identical to the first, though education is not included. The latent variable Part is more complex. Participation in government relief programs is restricted as a requirement of model specification. Participation in BRAC is positively associated as well. Participation in Government health programs and BRDB is negatively associated with the latent variable, though BRDB is non-significant. The low participation rates in Health and BRDB programs probably account for low t values, though at least the sign of the coefficients is in the expected direction. The latent participation variable is identified by participation in programs which attempt to exclude participation of surplus producing households. Participation in Government Health and BRDB is not screened, with BRDB having greatest participation from surplus households.

Table 7.7Model of Individual Development Results

Measurement Model				
Education	= 2.01 (7.9)	EcChr	+	12.56
Ec.Status	= 1.00	EcChr	+	0.19
Land	= 4.33 (7.8)	EcChr	+	60.53
Relief	= 1.00	Part	+	0.08
Health	=-0.67 (-2.5)	Part	+	0.05
BRAC	= 1.60 (3.2)	Part	+	0.10
BRDB	=-0.01 (-0.1)	Part	+	0.01
Ec.Status t2	= 1.00	EcChr2	+	0.21
Land t2	= 2.94 (8.1)	EcChr2	+	20.70

Structural Model				
EcChr	= 0.53			
Part	=-0.05 (-3.4)	EcChr	+	.003
EcChr2	=-4.29 (-1.5)	Part	+	.54 (3.3) EcChr + .18

The structural model reflects the stronger correspondence of latent and measured variables for economic characteristics at time one and time two. The path $\Gamma_{41}=.54$ is positive and significant. There are declines in average land-holdings and economic status between the two periods, but persons in the higher status groups normally maintain higher status. Few impoverished persons rise out of poverty.

Participation has the expected negative relationship with economic characteristics. Persons of higher economic status are not as likely to participate in the programs targeted to the poor. Participation has a negative but probably non-significant relationship to individual development. No firm conclusions can be drawn from this

path, though it suggests that participation in development and relief programs has not been sufficient to overcome pressure downward on economic well-being. The tendency of a factor reflecting participation in programs for the poor would be to correlate negatively with economic status at a later time. A positive coefficient would have shown support for the positive effects of participation on economic status. The indirect effect of economic characteristics on economic development, as mediated by participation, are in fact a positive value of .22. The combined indirect and direct ($\Gamma_{41}=.54$) effect produce a total effect of .76.

A small modification is introduced in Model 2. The introduction of correlated errors in land ownership, designated as $[\rho]$ in the path diagram, at times one and two recognizes that land-holdings are likely to be correlated beyond what the structural relationships will indicate. The modification is given further impetus by the high normalized residual noted for the covariance in Model 1. The impact of this modification on the adjusted goodness of fit index is quite significant, increasing by .0289 to .9723. Chi-square is reduced by half to 45.3 and Hoelter's critical N doubles to 543. The coefficient for ρ is 10.17, or .28 when standardized. Clearly there is unexplained correlation between land ownership at times one and two. The addition of the correlated error term does not significantly change any of the path coefficients, suggesting that the measurement and structural models are reasonably stable.

F. Summary

Five hypotheses were stated in the conceptual model.

1. Individuals who are better educated are more likely to continue ascending on the economic scale.
2. Individuals who are wealthier are more likely to continue ascending on the economic scale.

3. Participation in development programs has positive effects on individual development.
4. Participation in relief programs has little effect on individual development, but contributes to survival.
5. Person-oriented programs have greater impacts on individual development than place-oriented programs.

Chapter VII has endeavored to illustrate patterns of individual and household development. For most of the respondents in this study life has been difficult, and hard work has been required to avoid complete economic ruin. Few households have seen significant improvement in well-being, and many have seen decline.

The processes of growth and decline are often complex and intergenerational.²⁵ The advantage translates into better health and education for children, better selection opportunities for arranged marriages, more occupational opportunities, more land inheritance and higher income. The inner loop of downward mobility works through many of the same patterns of cumulative causation. Households are unable to invest in health and education, lack capital for seed and fertilizer, and lack expertise for better paying non-agricultural employment. When emergencies arise, marginal households are forced to borrow money at usurious interest rates, often sacrificing their land. The downward cycle can spin quickly, with respondents beginning their lives at the highest economic level and finding themselves near the bottom forty years later.

25. Caldwell discusses the concept of intergenerational transfer and its relationship to family size desires in "Towards a Restatement of Demographic Transition Theory" (1976). A common response to my questions regarding remittances from children to their parents was (translated) "If they cannot make ends meet, what will they give me?". The great difficulty of finding work for young adults may make them a riskier investment for parents and in turn reduce desired family size, especially among the poor.

These development cycles are not iron-clad. As Schendel argues, there is considerable departure from expected economic courses. These departures are represented as jumps from one cycle to another. The positive association between surplus and higher dependency rates is an example of a centripetal force, reducing somewhat the pace of economic polarization.

Development intervention has been analyzed with respect to this cycle through its impacts in three important areas.

Health, education, and credit are highlighted as examples of interventions which represent investments in individuals or human capital. The impacts of these programs can be dramatic for participants, but more often are short-term or shallow. The chapter concludes with a multivariate latent structural analysis which indicates that while economic characteristics do persist over time, participation in relief, health, BRAC and BRDB has not had significant, measurable impacts on land ownership and economic status. Participation rates are low in all development programs, reducing the strength of this approach to intervention assessment. Other shortcomings of the multivariate analysis are noted.

VIII. COMMUNITY DEVELOPMENT

Community development has been defined as the process of economic growth and diversification involving the participation of residents. Analysis of the four study villages follows a three-prong strategy. First, some of the characteristics of community cycles of growth and decline are discussed.²⁶ The commonalities and divergences among the four villages lend perspective to some complex development issues. The discussion then turns to community-oriented development intervention. This is followed by a discussion of the role of organizing in intervention programs. The chapter ends with a review of the hypotheses related to community development and conclusions based on this research. The four villages are interesting cases of development; however, they do not represent a cross section of Bangladesh. Applicability of this analysis of community development to the nation as a whole will be discussed later.

Several tables in this chapter report respondent assessment of activities rendered in the entire village, whether or not the respondent actually participated. An activity either occurs or doesn't occur in a village at some time. Either cloth weaving occurred or didn't occur at a

26. Several tables comparing the four villages will be presented in this section, in which only percentages are displayed. At the bottom of the first table the sample size from which the percentages are calculated is included. The data are presented in decades from 1930 to present. Insufficient data existed prior to 1930 to calculate even simple percentages. In some tables villages are demarcated by the first letter of their names, thus Sayedpur is "S", Mohish Bhanga is "M", Hilalnagar is "H" and Boilor is "B".

specific time and place. Yet, the perceptions of the respondents seem to vary considerably. Two respondents are likely to give opposite accounts of village activities even in the present.

Since the variance in interpreting village activities is real and pronounced, the proportion of persons reporting such activities is taken as a measure of the level of that activity. If everybody says cloth is woven in the village, then the activity is surely widespread. If only a small percentage of the respondents report the activity, then we may infer that it was an unusual activity. Respondents were asked to describe all of the places where they have lived in the past, including migration destinations. In these tables only the data coming from the four villages will be included. Comparisons with other migration destinations will be made subsequently.

A. Cycles of Development and Decline

The literature review in Chapter II introduced several theories of development, growth and decline. One of them, the model of cumulative causation, was highlighted as being especially useful with respect to the juxtaposition of individual and community patterns of development, person and place-oriented development strategies and the role of migration.

Population growth is occurring in villages that have virtually no unused, cultivable land. Increasing the carrying capacity of the land may be expected to occur through intensification, diversification of production and integration with other localities. Intensification in Bangladesh includes multi-cropping, use of hybrid seed and irrigation. Diversification includes adding new industries and occupations and internalizing transactions within the community. Integration includes building better horizontal

linkages, such as communication links and trade with other communities and distant regions. In most respects all four villages have been intensifying traditional production, diversifying into new industries, and integrating through trade and communications.

B. Intensification

For three of the villages under study the land areas remains essentially fixed, with gradual losses to residential plots. In Hilalnagar, river bank erosion is further reducing cultivable land. Virtually all cultivable land is in use. The tropical climate permits no-stop use when other inputs are available. The other important inputs are water, labor, seed, fertilizer and agricultural chemicals. Increases in these inputs given the fixed quantity of land generally represent intensification of production.

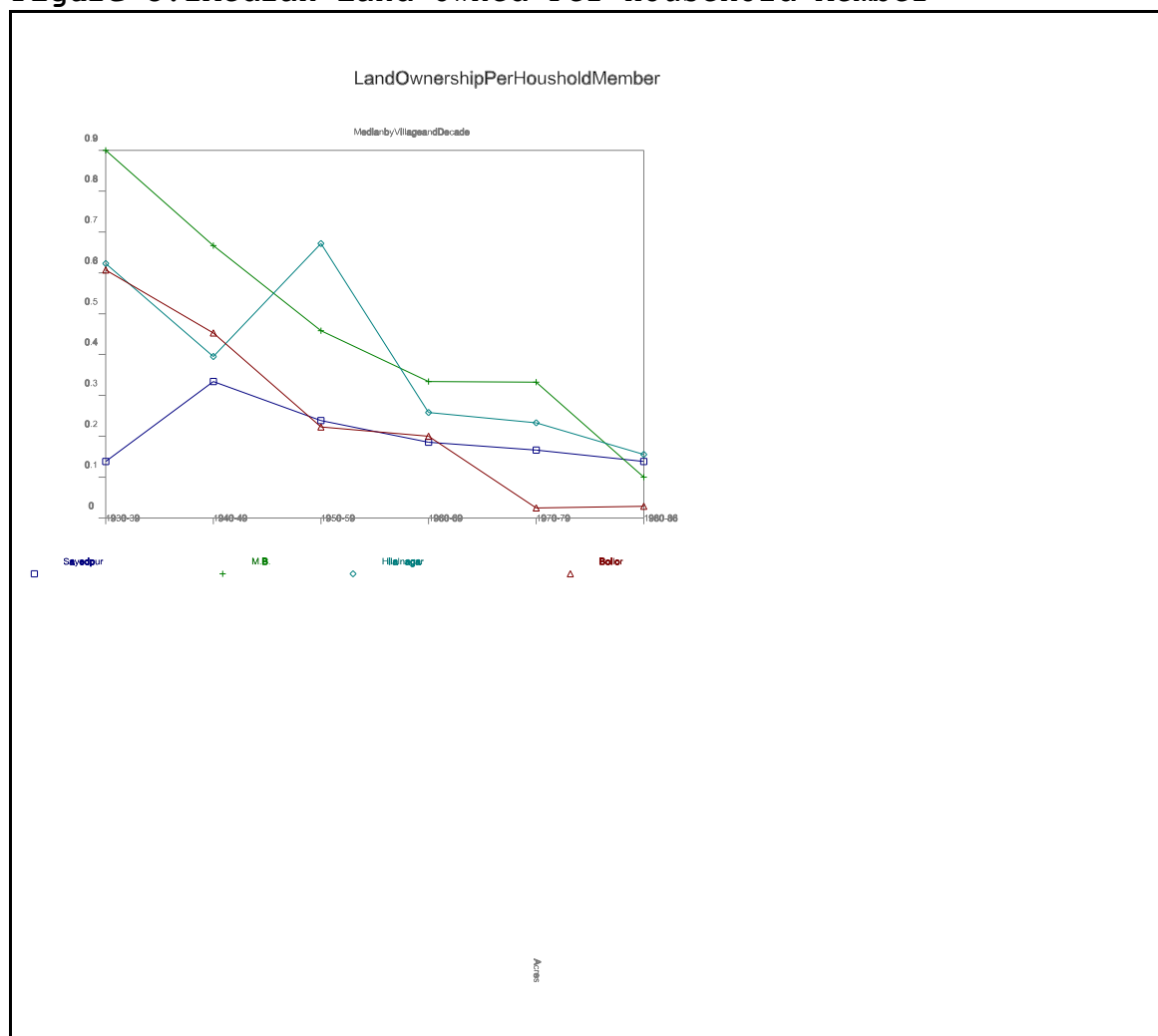
Respondents were asked how much land they cultivate and under what tenure arrangements. Tenure was categorized into sixteen basic patterns which are describe in the research methodology. The pattern of declining land per household is clear. The reported average landholding for households in the 1930's was 6.4 acres which has declined over time to the current average of 1.6 acres.

Average household size has also been declining in all four villages. In the 1930's the reported average was 9, a figure which has dropped to 5.5. Even so, the decline in land-holdings is outrunning the decline in household size. Figure 8.1 presents the median acres of land per household member owned by respondent households.²⁷ The ratio of land

27. Calculation of the mean for per capita land ownership resulted in a similar, but more erratic decline. The unevenness of the means is due to the large effect of outliers on the small sample groups. The means do decline steadily for the combined sample.

per capita is dropping in all four villages. The most dramatic decline is for Mohish Bhanga, where reported per capita median landholding was nearly one acre in the 1930's and has declined steadily ever since. On the other extreme, even excluding the anomalous first decade, Sayedpur has shifted relatively little over time. All four of the villages appear to be converging to a median of less than 1/5 acre per person, which is well below subsistence for agriculture even with double cropping.

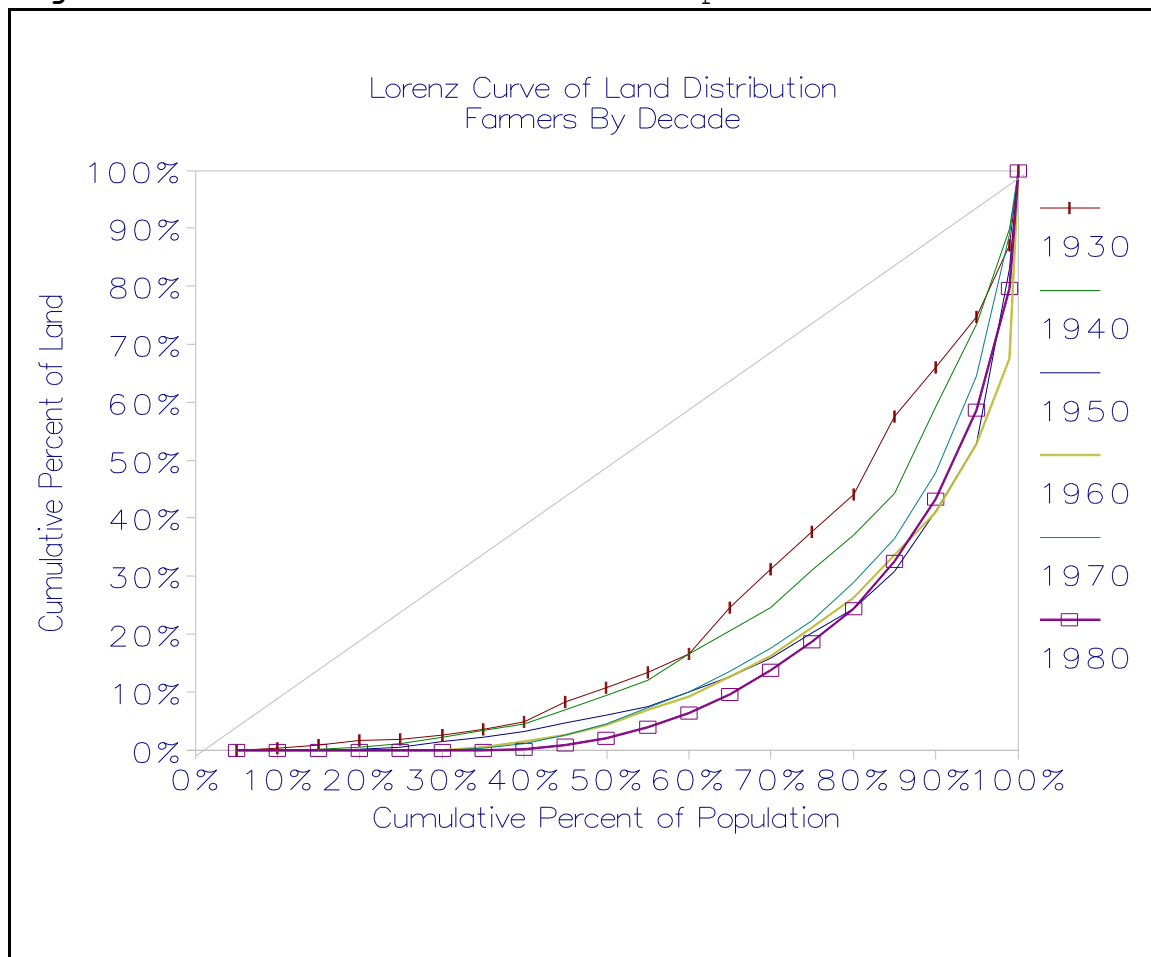
Figure 8.1 Median Land Owned Per Household Member



While median per capita landholding is declining for the respondents, the distribution of land has shifted towards greater inequality. Figure 8.2 is a series of Lorenz curves reflecting the cumulative distribution of land for the pooled sample of respondents by decade. The straight diagonal line represents perfectly equal distribution of land. Fifty percent of the sample own fifty percent of the land. Each of the curved lines below the diagonal represents land distribution among the respondents by the decade of reporting. The lines closest to the diagonal are kinked due to the relatively small number of respondents reporting during the early decades. Over time the curves become increasingly concave with respect to the diagonal, indicating increasing inequality of land distribution. However, by the 1950's the variation in the curves becomes fairly minimal. The major movement after in the 1960's-1980's is a shift on the bottom end, indicating a rising number of farmers who are completely landless. The pattern of increasing inequality is supported by calculated Gini Coefficients. A Gini of 0 indicates land that is distributed evenly across a population. A value of 1 would indicate that all land is owned by a very small group of people. In 1930 the Gini Coefficient was .56. It increased to .61 in 1940 and .72 in 1950. After 1950 that coefficient changes very little, reaching .74 in the 1980's.

Though the curves and the Gini Coefficients stabilize, the analysis of medians land-holdings indicates that overall ownership is declining. By the 1980's approximately 40% of respondents who reported at least one farmer living in the household owned no land at all. Eighty percent of the farmers owned only 20% of the land.

Figure 8.2 Lorenz Curve Land Ownership Distribution



Respondents in the four villages were asked for their estimate of the percentage of village cropland under mechanical irrigation. The responses show a somewhat different pattern for each of the four villages, shown in Table 8.1. In Sayedpur and Mohish Bhangra the proportion of persons reporting no irrigation shifted from 100% in the 1950's to nearly 0% at present in the 1980's.

Hilalnagar always had irrigation, though there is a pattern of substitution from use of manual systems of irrigation to low lift power pumps. The ample supply of surface water allows for the use of swing baskets to lift

water to lower fields during dry months. The amount of labor required to irrigate a field with a swingbasket is considerable, both in preparing ditches and lifting water, which can go on for days. The power pump does not eliminate ditch digging, but lifts the water at a much faster rate to a wider variety of locations. Boilor has moved towards power pump irrigation, but the pace has been slower. In 1985 approximately one fourth of the land in Boilor was irrigated.

Table 8.1 Use of Irrigation

RESPONDENTS REPORTING NO POWER-PUMP IRRIGATION					
	Pre-1950	1950-9	1960-9	1970-9	1980-6
SAYEDPUR	20 100.0%	13 100.0%	24 92.3%	20 80.0%	4 5.5%
M.B.	17 100.0	18 100.0	17 100.0	30 76.9	5 5.5
HILALNAGAR	8 100.0	19 100.0	18 85.7	15 45.5	0 0.0
BOILOR	9 75.0	13 92.9	12 80.0	25 75.8	55 64.7

The upper limit for crop intensification, and lower economic limit for land-holding are difficult to determine.

The introduction of irrigation has greatly extended the productivity of the land, and importantly adds productive work in what were off-seasons. With a growing percentage of landless people, it is clear that agricultural intensification is a limited solution for these villages.

C. Diversification

This section discusses the emergence and disappearance of economic and institutional activities in the four survey villages in two parts. Industries refer to organized activities which take place in the villages. Occupations are held by individuals who live in the village, but may occur outside of the village.

1. Industries

Industries are classified within three major groups. Primary industries encompass agriculture, fishing and mineral extraction, secondary industries include construction and manufacturing and tertiary industries include a broad assortment of trades and services. The dominant industry in all four villages continues to be agriculture, and in the case of Hilalnagar fishing during the annual floods. The expansion of alternative industries has depended upon access to inputs and markets.

Table 8.2 summarizes respondent reports of manufacturing and cottage-industry activities in the survey villages over time. Historically there is not much evidence of secondary sector expansion in the four villages. Virtually all of the manufacturing was and still is based on available local inputs such as jute, bamboo, clay, and fish.

There are a few small exceptions. Net making has shifted from local fibers to imported string. Clothing manufacturing uses a variety of inputs ranging from locally woven cloth to scraps salvaged from damaged used clothing donated by developed countries.²⁸

28. There is a great deal of debate among the Bengali about the impacts of used clothing shipped as charity from developed countries. The scale of the used clothing market is very large and the prices are very competitive with local products. One of the early used clothes efforts on the part of the U.S.A. was during Nixon's Presidency. The name

Table 8.2 Manufacturing Industries

		PERCENT REPORTING ACTIVITY IN VILLAGE				
INDUSTRY & VILLAGE		Pre-1950	1950-9	1960-9	1970-9	1980-6
LEATHER	S	5.0%	15.4%	3.9%	4.0%	13.7%
NETS	M	23.6	27.5	17.7	12.8	28.6
JUTE	H	62.5	42.1	52.4	60.6	54.7
COTTON	B	25.0	28.6	46.7	42.4	42.4
BAMBOO	S	10.0	7.7	7.7	24.0	57.5
WOOD	M	76.4	83.3	82.4	89.7	93.4
	H	62.5	52.6	61.9	66.7	58.7
	B	50.0	64.3	86.7	78.8	81.2
CLAY	S	0.0	0.0	0.0	0.0	0.0
	M	5.9	16.7	5.9	2.6	9.9
	H	0.0	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	3.0	2.4
FOOD	S	0.0	0.0	0.0	0.0	0.0
PROCESS	M	53.0	83.3	58.8	51.3	67.0
	H	62.5	42.1	23.8	39.4	38.7
	B	16.7	0.0	0.0	9.1	5.9
OTHER	S	0.0	0.0	0.0	0.0	2.7
	M	23.6	33.3	23.5	56.0	41.8
	H	0.0	0.0	0.0	0.0	1.3
	B	0.0	0.0	0.0	3.0	4.7
Number	S	20	13	26	25	73
of Res-	M	17	18	17	39	91
ponses	H	8	19	21	33	75
	B	12	14	15	33	85
TOTAL		57	64	79	130	324

Production is divided according to the principle inputs used. In no village does manufacturing appear to rise

"Nixon Market" still persists in Bangladesh for used clothes vending areas!

systematically. Among the villages there are some notable differences in the level of local production. In Sayedpur, the village closest to Dhaka, there is less manufacturing across the board. However, nearby urban centers such as Narsingdi have numerous factories, and the road between Dhaka and Sayedpur is dotted with apparels plants at various stages of construction. Persons employed in manufacturing commute to the nearby plants.

In Mohish Bhangra and Hilalnagar, the two relatively isolated villages, there is somewhat more local production.

Much of the food processing in Mohish Bhangra is accounted for by tapping of date palm trees and refinement of the sap into molasses. In Hilalnagar food processing consist mainly of drying fish into a product called Shutki. Fish drying is particularly important in the region of Hilalnagar because of the near absence of refrigerated transport systems to move the abundant quantity of fresh fish to urban markets. There is no electricity in the region and thus no refrigeration.²⁹

All villages in Bangladesh produce rice and a great deal of labor goes into processing rice before it is consumed or sold. Because most of the local paddy husking in the four survey villages is done manually for household consumption, it was not included in the category of manufacturing. While paddy husking continues to be a major occupation for women, small gasoline powered winnowing machines are growing in popularity.

Except in the case of work with clay, manufacturing is not typically a full time occupation. When agricultural work is not available many respondents work in cottage

29. Unprocessed, jumbo shrimp are packed in imported ice and carried out in cargo boats for export primarily to Japan. The process involves stopping along the river trip south to pick up ice from villages that have electricity.

industries. Local manufactured products are stored during good times and traded when the household needs cash for seeds or food. Nighttime production in the villages is limited by darkness, a situation which will be affected in the future by rural electrification. For many of the poorest families the price of raw materials, even a few stalks of bamboo, exceeds their disposable income, excluding them from cottage production. Others borrow materials and then return a percentage of their profits to the lender.

Another avenue for economic expansion in a village is incorporation of trade activities which were previously carried out in neighboring villages or towns. Table 8.3 indicates that in all four villages there has been a growth in the number of shops. A small market area has emerged along a dirt road passing through Mohish Bhanga. The market includes more than ten stalls, mostly selling basic commodities such as rice, soap, tea, cigarettes and soft drinks. The shops in the other three villages sell basic supplies and are located within the homes of their operators.

The idea of opening a small shop, or Dokan, is very popular. Grass roots development organizations are continually solicited for credit to help finance the inventory of would be shop owners. None of the four villages contains shops selling items other than basic commodities. For the purchase of clothes, shoes, many condiments and tools the weekly HAT and town markets are essential. None of the four villages actually sponsors a weekly HAT.

Table 8.3 Retail Activity

PERCENT REPORTING NO SHOPS IN VILLAGE					
VILLAGE	Pre-1950	1950-9	1960-9	1970-9	1980-6
Sayedpur	80.0%	92.3%	65.4%	52.0%	9.6%
M.B.	35.3	16.7	35.3	20.5	1.1
Hilalngr	100.0	63.2	66.7	48.5	8.0
Boilor	50.0	42.9	40.0	24.2	9.4

Some caution is in order in interpreting the growth retailing in rural areas. The emergence of these markets is at least in part an indication of the level of monetization of the villages. The presence and use of cash represents a more fundamental integration of the villages with urban centers. The demand for inexpensive commercial goods, such as the ubiquitous Coca Cola and cigarettes also represents a change in consumer preferences towards goods which cannot be manufactured locally.

Service industries are also classified as tertiary sector activities. None of the villages had multi-employee service organizations. Services rendered by people in the village were relatively small in total impact. The most common form of service employment was probably domestic help given by young boys and girls. Compensation for this work was frequently limited to meals or very low wages. A number of women interviewed were employed as domestics, but most often their work was in other villages or nearby towns. As such it is more appropriate to discuss this work under the occupations section.

The near absence of electrification, piped water, mechanical tools or vehicles and substantial housing construction rules out several potential service occupations. Mohish Bhanga did have one local healer. He worked both in his dispensary in a nearby town and out of his home. All four villages had religious leaders. In the Islamic villages the leader also taught Koranic classes in the local Madrassa or Maktab. In the Hindu village one person lived in the temple and was supported minimally through charitable meals. The public sector provided a number of services in the villages, but in no case did these government service workers establish offices or live in the villages.

2. Occupations

A summary table of the occupations of members of respondent households is presented in Table 8.4. Occupations throughout Bangladesh are gender-specific. Aside from artisan trades such as weaving, there are few occupations which both men and women pursue. However, a common reply by both men and women to the question, "What work do you do most of the time?", is "Krishi Kaj", or farm work. The lack of specificity of the response required a follow up questions, but in most cases their primary occupation was "Housework" while men were assigned to one of several farmer categories, depending on land tenure.

"Housework" is a poor descriptor, as it encompasses a broad number of activities, including child care, cooking, washing, water and fuel gathering. Many women also engage in income-generating activities within their homes. The most common income-generating occupations are food processing, such as manual rice winnowing, par-boiling and husking, drying fish, and animal production.

Some traditional occupations for women are disappearing. Rice husking is a traditional occupation for women and one of a few in which they have earned money without leaving their homes. The Dheki, a seesaw device used by two or more women to pound the husks off of rice, is still a common tool in rural homes. However, many of the respondents have switched to paying a local rice mill to do in a few minutes what took days to do manually. Many respondents are aware of the mixed blessing of labor displacing technologies like the power huskers and winnowers. A common suggestion for future assistance loans was to purchase just such technology for their own profit. Respondents see the inevitability of the spread of some agricultural mechanization and would prefer at least to be the owners of the machines rather than those who are displaced.

In the late 1970's and 1980's, BRAC, as well as other economic development organizations, assisted women in forming small manual rice husking businesses. At the time there were efforts to resist the introduction of motor powered rice husking machines (Chen, 1983:114-119). In 1979 Cain estimated that rice processing represented 50% of all paid work for women (Cain, 1979:34-45). More recently husking machines have become so widespread that the NGO strategy is shifting towards assisting groups of women to purchase them. The problem of mechanization replacing labor intensive work still remains.

Women's participation in several traditional cottage industries, such as weaving bamboo, jute, silk and cotton appears to be declining. At least some of the decline in traditional cottage industries is taken up by new, export-oriented cottage industries sponsored by the NGO's.

In contrast to women, nearly all men work outside of the home. In the four villages surveyed more than half of

working men are employed in agriculture and fishing. Fewer than half own enough land to be self sufficient and must therefore supplement their incomes through day labor and non-agricultural employment. The occupation of farmer is divided into those who own and work their land, those who work other's land, those who migrate seasonally to work other's land and those who own land but essentially manage a crew of farm-hands.

In Hilalnagar the regular seasonal floods occurred at the time of the interview. With most of the farmland under water, many of the male respondents were working as fishermen. During the dry season, between January and June, the water recedes and a most of the fishermen return to agricultural labor. Seasonal job changes are common.

Male participation in manufacturing and cottage industries has dropped considerably. It is very difficult, though, to measure precise levels of participation in occupations such as weaving. Clothing, nets, bamboo mats and baskets are often produced for household use. When families encounter shortages they sell or barter possessions for food or money. The irregularity of sales makes it especially difficult to assign a value to the production.

Table 8.4 Household Member Occupations (Age>14)

OCCUPATION	MALE				FEMALE			
	FIRST	%	SECOND	%	FIRST	%	SECOND	%
NONE	2	0%	*304	-	2	0%	*375	-
FARMER	147	31%	59	34%	2	0%	3	4%
FARM LABOR	100	21%	37	21%	2	0%	4	5%
MIGRANT LABOR	7	1%	2	1%	0	0%	0	0%
MANAGE FARM	9	2%	2	1%	0	0%	0	0%
ANIMAL CARE	5	1%	0	0%	3	1%	35	45%
FISHING	37	8%	25	14%	1	0%	0	0%
CONSTRUCTION	3	1%	2	1%	0	0%	0	0%
MANUFACTURING	3	1%	0	0%	2	0%	0	0%
COTTAGE IND.	17	4%	1	1%	14	3%	2	3%
SMALL TRADE	20	4%	29	17%	2	0%	0	0%
COOLIE	1	0%	0	0%	1	0%	0	0%
OTHER RETAIL	10	2%	5	3%	0	0%	0	0%
OFFICE/CLERICAL	3	1%	0	0%	1	0%	0	0%
TEACHER	8	2%	1	1%	0	0%	1	1%
PRIVATE SERVICE	9	2%	4	2%	0	0%	4	5%
TRANSPORTATION	19	4%	2	1%	0	0%	0	0%
GOV'T SERVICE	6	1%	0	0%	2	0%	0	0%
MILITARY/POLICE	0	0%	0	0%	0	0%	0	0%
OWN HOUSEWORK	4	1%	0	0%	374	83%	26	33%
DOMESTIC	0	0%	0	0%	15	3%	1	1%
STUDENT	37	8%	1	1%	18	4%	1	1%
RETIRED	26	5%	3	2%	11	2%	1	1%
UNEMPLOYED	4	1%	0	0%	0	0%	0	0%
BEGGING	0	0%	0	0%	2	0%	0	0%
TOTAL	477	100%	173	100%	452	100%	78	100%

Occupations such as blacksmith, carpenter and potter appear to be more common among the Hindu minority. According to Thorp, traditional Bengali Muslims associate the Sakti, or strength of the earth with the status of an occupation. Farming is preferred over many occupations because of its proximity to the earth (1978:13-15). Economic factors are very important though, and Thorp concludes that the cultural norm of working with the earth is giving way to service sector occupations. Service occupations do appear to be on the rise in the sample

villages. Among these, educators, transportation workers, and government civil servants dominate.

D. Integration

The final of the three planks in community development is integration. A community becomes better integrated externally when markets, communication and transportation linkages are created and enhanced with other places. Internal integration is enhanced as members of a community become better organized and work together. The evolution of external markets and community organizing will be described for the four survey villages, with particular reference to the role of external development intervention.

1. Markets

The market for a significant share of local production is also in the villages. Small cash, barter and credit transactions occur frequently. Another significant share of local production is sold into external final and intermediate markets. Most Upazilla are not geographically large, but the financial and time costs associated with travel to the Upazilla center can be quite high. While Upazilla centers generally have substantial markets and even larger weekly Hat, none of the survey villages used their Upazilla centers as their primary markets. In all four cases the primary market was within a thirty minute walk of the survey village. The Upazilla centers were much further, ranging from a sixty minute walk in Sayedpur, to an all day boat trip for Hilalnagar.³⁰

30. Hand- and wind-powered boats move very slowly. Motor powered launches connect Hilalnagar with larger river bank towns, but also move slowly. Small speed boats are quick, but are only available to the high level government officers, military and non-governmental organizations.

The people of Sayedpur sell most of their produce at the nearby market town called "Haterdia", which is a major source for the Dhaka market. Intermediaries arrive for the twice weekly market in trucks so large that they can barely enter the small town's dirt roads. Two very interesting patterns appear to be emerging for the Haterdia market area.

The first is the integration of the nearby villages as collectors of produce from more remote areas. Several persons from Sayedpur travel on foot for days to purchase livestock which they walk back for sale in Haterdia. The price difference is sufficient to reward the level of effort expended to bring back a few cattle. The second trend is the diversification of the agricultural base to meet urban and even international tastes. During one visit the market was filled with "snake gourds", a type of summer squash. The farmers claimed that much of the produce is exported to the Middle East. Haterdia is an intermediate market, bringing in produce from remote areas and moving it into lucrative urban and international final markets.

The Upazilla center for Boraigram is located several miles away from Mohish Bhangra along a railroad line. A two lane, paved road was later constructed which passes through Bonpara, a short walk from Mohish Bhangra. Consequently many of the Upazilla offices and the major market moved to Bonpara. Railroads are still an important means of transportation in Bangladesh, but far less important than roads.

Markuli, located approximately one mile from Hilalnagar, has grown considerably despite losing the southern portion of town, including the high school, to river bank erosion, and despite the absence of electricity and land transportation. For Hilalnagar this has opened up an alternative for selling crops to the traditional pattern

of selling to intermediaries who visited the village by boat.

Because Hilalnagar's people are Hindu, they have been at a disadvantage in selling produce in the past, and continue to operate with care not to cause animosity with Muslims living in the region. When asked in a group meeting why members didn't eliminate the intermediaries and transport their crops and fish to larger markets, respondents were insistent that this would be a dangerous venture. Some of the community's young men did buy fish and sell them in other markets, but only secretively. The restrictions on transporting goods are in part defined by the cooperative arrangements for fishing rights. Fishing areas are controlled by leases purchased from the government. Selling fish outside of lease arrangements is a means of cheating the cooperative members out of their percentage of the catch. Defining lease areas in flooded regions is quite complex and is made more complex by the multiple levels of deception employed to increase profits (Jenkins, 1983).

The final case, Boilor, has the proper conditions for increasing use of the Upazilla market. Both Boilor and the Upazilla, Trishal, straddle a new two lane highway which connects Dhaka to the Mymensingh, the district center. Frequent back and forth movement of busses allows for creation and use of markets along the highway. Yet few respondents reported using the Upazilla market and even fewer mentioned the district market. Two nearby villages have weekly HAT and these appear to absorb most of the produce from Boilor.

The four villages are connected to larger markets, but the connections are entirely through intermediaries. While several men in each of the villages earned all or part of the household income through trade, no one actually

transported large quantities to major urban markets. Food prices did appear to rise with proximity to urban markets. Most notable was the approximately ten to one price difference for fish between Hilalnagar and the other less isolated villages. The logistics of transporting fresh food appear to be very significant constraints on market integration.

2. Transportation

Access to transportation plays a crucial role in both the diversification and integration of village economies. The use of transportation is all the more important given the absence of telephones in all four study villages and nearby market towns. The use of transportation varies greatly between regions in Bangladesh. The most important single factor in determining the local transportation mix is likely to be water. Meandering rivers, widespread flooding and intense tropical storms greatly increase the cost of building and maintaining roads and bridges. Water transport, on the other hand is limited by river depth and the slow speed at which ships must move. Both road and river transport in Bangladesh carry risks, with ferry and bus accidents occurring frequently.

The four villages are set in rather different environmental and thus transportation networks. Hilalnagar stands out in that it is literally surrounded by water during the annual floods, eliminating any use of ground transportation. In the dry season, however, the water recedes and eliminates much of the water transportation. Access to Hilalnagar is entirely by water and by walking. On the other extreme, Sayedpur and Boilor are in very accessible locations with two lane, paved roads leading into Dhaka. Bus transport passes frequently within a short walk of the villages and both can be approached to a point by

cars and busses. Mohish Bhanga is also located within a moderate walk of the Dhaka-Pabna-Rajshahi road. However, this road to Dhaka is interrupted by a wide expanse of river that adds two or more hours delay for a ferry crossing. The road is uninterrupted by water between Mohish Bhanga and Rajshahi, the smallest of the four division centers. Even so, Rajshahi is outside reasonable commuting distance.

Table 8.5 shows respondent descriptions of whether cars or buses can reach their immediate neighborhood. The trend in three of the villages is clearly toward wider roads and greater accessibility. In the case of Hilalnagar there has been no movement. Though all of the villages are near to rivers, only Hilalnagar can be approached by cargo ships. The others are located on smaller rivers that have seasonal fluctuations and are used primarily by country boats. Trains do not appear to play an important transportation role for any of these villages.

Table 8.5Transportation Access to Neighborhood

PERCENT RECOGNIZING ACCESS OF AUTOMOBILES					
VILLAGE	Pre-1950	1950-9	1960-9	1970-9	1980-6
SAYEDPUR	0.0%	0.0%	0.0%	24.0%	78.1%
M.B.	0.0	0.0	0.0	20.5	89.0
HILALNAGAR	0.0	0.0	0.0	0.0	0.0
BOILOR	0.0	14.3	20.0	33.3	54.1

E. Intervention in Physical Infrastructure

The process of community development, outlined above, emphasizes three aspects of productivity, those being

intensification, diversification and integration. Interventions into these processes take numerous forms, many of which are so commonplace in developed countries that they are taken for granted. This section considers the ways in which intensification, diversification and integration are fostered by development intervention.

The line between government services and non-governmental programs is fuzzy. Governmental programs are often funded by other private sources, while non-governmental programs are regulated by government agencies.

An example was provided during the 1985 floods. After the severe coastal flood began to subside, relief efforts were divided between the government and the NGO's. The affected region was further divided into areas or domains for particular organizations. The government assumed responsibility for immediate disaster relief while NGO's were asked to implement long-term reconstruction strategies.

It turned out later that NGO's did in effect provide considerable disaster relief where government programs fell short.

Development programs are broad in nature, unevenly distributed and often only partially implemented. NGO's frequently fill in gaps missed by government programs, as was the case for BRAC's first rural relief program. NGO's also offer a changing mix of special programs and pilot projects in an effort to point the way for future national policy.

1. Physical Infrastructure

Improved water, sanitation, energy and transportation resources have immediate impacts on the efficiency with which work is discharged and the health and well-being of the beneficiaries. In the long run the addition of utilities permits new forms of economic activity, such as

manufacturing, that were hitherto impossible. Irrigation permits higher cropping intensities, electrification permits work at night and so on.

a. Sewage Removal and Treatment

Most forms of physical infrastructure are very expensive to implement and many of the costs are incurred at the outset. Systems for removal and treatment of sewage are perhaps the most costly. In Bangladesh's major cities the state of sanitation engineering is primitive and in all but a few small cities and villages it is non-existent. There was no form of sewage nor solid waste removal or treatment in any of the four villages and no prospect for building such a system. The state-of-the-art for waste handling is the raised, sanitary pit latrine, and these too were not found in any of the villages. Pit latrines did exist in a few households, but were not covered and had no means of preventing insect movement nor flooding. This essential step towards control of infectious diseases, such as cholera and dysentery, has yet to be taken.

b. Water Supply

The technology for water supply in the four villages is more advanced than for waste removal, though contaminated water sources are still used even when sufficient, relatively clean water exists. Rivers and ponds are clearly the most contaminated sources. The ponds from which water is drawn are often stagnant and may even have latrines constructed over them! Cholera outbreaks are not uncommon in any of the regions where this research was conducted.³¹

31. One interview was called off as the respondent's son appeared to be delirious from cholera or some other diarrheal disease. The respondent had no money to afford a doctor. After giving that family a gift of approximately U.S. \$6.00, my reputation shot through the village and soon

Bucket wells are an improvement over natural water sources, though they too harbor contamination and present a drowning risk for young children.

CARE, BRAC, UNICEF and others are very active in an effort to supply villages with community hand pump wells for household water use. The water is generally safe and the technology simple to maintain. Unfortunately the growing use of shallow and deep power pump wells is threatening the utility of hand pump wells. A slight drop in the water table is sufficient to dry up hand pump systems. More sophisticated systems, such as household or neighborhood piped water supplies did not exist for these villages.

Table 8.6 summarizes water use over time for the four villages. Each of village histories is distinct. Hilalnagar shows the most dramatic advance from complete reliance on the nearby river for water to heavy reliance upon the two hand pump wells installed through development programs. Sayedpur has no convenient natural body of water and has gradually shifted from the use of bucket wells to hand pumps. Mohish Bhanga and Boilor show mixed progress with bucket and tube wells available to some of the residents and others forced to rely on bucket wells and natural sources.

Even in Hilalnagar, with 100% of the families reporting some use of the tubewell, there were uses where river water was preferred. Common reasons for using river and pond water were lower iron content and better flavor. Many of the families cooked rice, washed dishes and bathed in the river, diminishing the beneficial health aspects of

requests for assistance were coming out of the woodwork. I was unable to do any additional research in that village after that time.

tubewells. Of course there are other benefits to having wells, such as convenience and labor savings.

Table 8.6 Reported Use of Various Water Sources

WATER SOURCE		PERCENT REPORTING USE OF WATER SOURCE				
		Pre-1950	1950-9	1960-9	1970-9	1980-6
NATURAL (pond & river)	S	0.0%	0.0%	0.0%	0.0%	0.0%
	M	29.4	44.4	17.7	35.9	42.9
	H	100.0	100.0	81.0	51.5	21.3
	B	66.7	57.1	26.7	18.2	11.8
BUCKET WELL	S	100.0	100.0	96.2	72.0	38.4
	M	94.1	100.0	100.0	82.1	42.9
	H	0.0	0.0	0.0	0.0	0.0
	B	83.3	78.6	73.3	93.9	75.3
PUMP WELL	S	0.0	0.0	11.5	36.0	76.7
	M	0.0	0.0	0.0	18.0	83.5
	H	0.0	0.0	42.9	84.9	100.0
	B	0.0	7.1	20.0	36.4	81.2

c. Electrification

Electrification has a number of ramifications for short run and long run productivity and well-being. It is easy to loose sight of the difficulty of working at night in the absence of electricity once one has adjusted to having artificial light. Meetings held at night are held in the dark or with one or two inadequate kerosene lanterns.³²

32. While attending BRAC group meetings in the villages I noticed that the men spent a great deal of time comparing flashlights. Not everyone could afford a flashlight or batteries. The social environment seemed like that of men comparing their new automobiles in the U.S., only on a vastly different economic plane. Other than the short bursts of the flashlights we were in complete darkness. For me being without light is something of a novelty, like a camping trip, while for the group members it is a reality.

Domestic work, like sewing and cleaning is pretty much restricted to light hours. In the long run there is virtually no chance for movement of the villages into manufacturing or even higher level service occupations without electrification. The competition with urban areas for productivity is too great to manage without this valuable asset in all but a few industries.

The spread of rural electrification is substantial. Two of the research sites, Boilor and Hilalnagar had no electricity. Boilor was likely to receive trunk lines in the near future while Hilalnagar, was likely to remain in the dark for a considerable time. Sayedpur and Mohish Bhangha have recently been included in electrification schemes. In Sayedpur 36% of the respondents reported having electricity in their homes, while in the 1960's and mid 1970's none did. The arrival of electricity in Mohish Bhangha is even more recent with 17% reporting use of electricity at the time of the interview. Those respondents who have electricity in their homes use it for lighting and, for wealthier households, a radio. Lighting was never more than a bare bulb suspended from the ceiling. Even so, it enabled students to study at night and parents to mend broken tools and torn clothing. Twenty nine of the forty five radios owned by the respondents ran on batteries. Households with electricity were three times as likely to own radios, though their incomes were also higher. There were no televisions in any of the villages at the time of the interview.

After lighting, one of the most notable uses of electrification in both villages is the introduction of

My flashlight was very popular as it had a florescent tube. I was repeatedly asked to demonstrate it and occasionally drew applause.

motors for irrigation and rice husking. Electric pumps for irrigation are far less difficult to maintain than gasoline pumps. They have fewer moving parts and have less need of lubrication. Many of the early irrigation schemes in Bangladesh appear to have collapsed when the gasoline powered engines break down. Reliable irrigation systems permit greater cropping intensity. Rice husking is also manageable with gasoline engines though electric motors were preferred.

Beyond the considerable benefits of lighting and some use of motors, electrification of Sayedpur and Boilor has not had many profound impacts on the nature of work. The two most common work related applications of electricity, pumping water and husking rice, alter work relations within villages, especially with respect to gender. Rice husking and irrigation were labor-intensive operations requiring a large amount of unskilled effort. Operating these two machines is a specialized, if still essentially unskilled, occupation. Women gain a considerable amount of time for other work, but most were not allowed to pursue work outside of their homes. Students are able to study more effectively with electric lights, but not much other "paper work" was seen in the villages. Traditional occupations were maintained and improved upon without any new industries evolving. Of course the introduction of electricity is relatively new and may as yet have important impacts on the nature of work.

It is difficult to say whether electrification has had immediate impacts on the integration of these villages with other villages or urban areas. No data were collected on the effects of mass media on the survey communities, though such an investigation would be very interesting. The increased use of radios is likely to increase knowledge of national affairs and public service programs. The use of

radios may also affect consumer tastes. Larger effects may be felt by the younger generations who are better able to pursue studies and acquire new skills. More detailed information will be required in order to derive solid policy conclusion.

d. Transportation

Transportation into the four villages has been influenced by development programs very directly. Since most transportation vehicles, other than the trains, are privately operated, the real input from the government and NGO's are construction and maintenance of roads and rivers.

Only a few interurban paved roads exist in Bangladesh. Two of the village, Mohish Bhanga and Boilor, are located close to such roads. The villages located immediately along paved roads have grown as marketing centers. People living at a slightly greater distance seek work in the markets and use bus services to commute to larger urban areas. Some roadside market towns have become informal hiring markets, with unemployed men waiting by the road for day jobs.

The construction of embankments is one of the only means for establishing fixed territorial boundaries, controlling water and establishing year round transportation pathways. Their construction requires a tremendous amount of labor in the absence of mechanization. During the relatively narrow data collection period two of the four villages were participating in PL-480 embankment projects.

A typical embankment stands five to ten feet above the fields through which it passes and is wide enough for a four wheel vehicle to move along slowly. The surface of most embankments is packed earth and improvements, such as lining the sided with trees and cobbling the top are also common.³³

33. Surfacing with stone is a very difficult and costly undertaking. With the exception of the north east and south

Cropping areas are divided into large pieces by embankments and many smaller pieces by slightly raised footpaths. Though construction is labor intensive, the alternative of walking, wading and paddling between locations also requires large amounts of time and effort.

Many embankments in the survey villages were constructed through programs like PL-480 Food For Peace. U.S. wheat and foodstuffs from other countries are donated to the government of Bangladesh and NGO's for distribution to the poor. During slack labor periods workers are paid in-kind for time they spend constructing and repairing embankments. The program thus ties together at least three models for rural development. First, roads are constructed with the intention that villages will become better integrated with urban centers. Urban centers benefit by improved quality of produce. Rural areas benefit by greater access to the urban markets and through spread effects from urban development. The basic needs strategy of development is supported through supplementing the diets of the rural poor. Unfortunately a large percentage if not most of PL-480 food is lost to corrupt leaders, civil servants and village elite. A dramatic case of this is presented in The Net (Jenkins, 1983:61-63).

Finally, embankments permit greater control of water and in many cases allow for intensification of agriculture and fish culture. When the embankment is lined with trees, additional products such as timber, leaf forage and fruit are realized.

Accessibility to all four of the survey villages has been enhanced by embankments. Wider paths permit trucks and

east corners of the country, there are no rocks or stones available. Cobbling either requires importing stones or baking clay into bricks.

bicycle-rickshaws to haul materials in and out. None of the villages had bus service, but in three cases the towns served by buses were a 15 to 30 minute walk away along a raised embankment. Hilalnagar, as always, stands alone in that the embankments were badly damaged by floods and in any case there were no buses in the region. In the other four villages traditional means of transporting goods, the country boat and oxcart, still function but are gradually giving way to rickshaw and truck.

One indication of the impacts of improved pathways on community-regional integration is the change over time of the relative locations of home and work. Between 1910 and 1960 the percentage of persons working outside the survey villages, but contributing to respondent household incomes in the four survey villages fluctuated around 10 percent.³⁴

The percentage rises to 15% in the 1960's, 18% in the 1970's and reaches 28% in the 1980's. There are several aspects to this broadening of the economic territory of the villages. Many of the survey households do in fact have working members who walk, peddle rickshaws or take motorized transport to neighboring areas for work.

Another aspect of wider labor markets is the expansion of non-agricultural employment. Table 8.7 shows select occupational groups by the work location relative to household location. The workforce is still predominantly agricultural, and farmers live near their fields or the fields of their employers. Artisans, such as tailors, weavers and net makers, also tend to work in or near their residences. The number of persons working in construction,

34. The 1930-39 decade shows 22% of those contributing income to the village households living outside the village. This exception is difficult to explain, though with a sample of forty seven workers, the fluctuation may be stochastic.

manufacturing, services and trade in the villages is small, but growing. Persons in these occupations generally work in nearby towns, such as Union and Upazilla centers. The percentage of all workers who were farmers declined from approximately 80% in the early decades to 60% in the 1980's.

Table 8.7 Occupation Mix in Village

PRIMARY OCCUPATION	NUMBER OF WORKERS	PERCENT OF TOTAL VILLAGE WORK FORCE	PERCENT OF WORK DONE IN VILLAGE*
FARMER	793	93.7%	93.7%
ARTISAN	30	3.6	58.8
MANUFACTURE /CONSTRUCTION	4	0.5	16.0
SERVICE	12	1.3	13.0
TRADER	6	0.7	8.0
TOTAL	845	100.0	

* Work done in the village is contrasted with work done by village residents outside of the village.

A final source of urban income for village households is remittances from family members not living in the village. Persons sending support, while not living in the household, were still defined as workers for the household.

One of the objectives of this study was to identify the importance of remittances in local incomes. As the Bengali say, questions about income are likely to receive "Ghorar Dim" or horse's eggs for answers. The data collected on the level of remittances appeared well below other studies and is not considered reliable.

Occupations associated with non-rural and non-local work sites increase in a diversifying economy. At the same time, the improvement in transportation networks enables persons taking those occupations to remain in their villages. The combination of the shift in occupational mix and improved transportation is moving the four villages toward greater regional integration. An interesting topic for future research would be the specific nature of the interaction between diversification of village occupational mixes and improved transportation. Graeme Hugo has explored this issue in Indonesian migration (Hugo, 1982:59-84). The data in this study are not sufficient to separate these two effects.

2. Negative Impacts of Infrastructure Programs

Infrastructure programs have negative impacts as well.

Embankments and raised road occupy a lot of land in a land poor country. Plot sizes for many of the respondents were less than a quarter acre. When small plots are crossed by an embankment little or nothing remains for production. Compensation for lost land is often inadequate. A second and more complex effect of embankments is their contribution to upstream flooding. In extremely flat areas flood prevention in one location are often produces floods elsewhere. The causes of shifting floods are difficult to attribute to specific changes in topography. In this survey none of the respondents mentioned embankment construction as a cause for loss of land or increased flooding.

Electrification appeared to be even less likely to produce losers. None of the respondents reported dissatisfaction with the introduction of electricity. A number of respondents resented not being able to have electricity in their homes, but even so were positive about village electrification.

Hand pump wells were universally popular. Decisions of where to locate wells were contentious, and resentment about not living near the well inevitable. Still, there were no other major complaints. Perhaps the most discouraging aspect of the hand wells was that they did not entirely replace the use of unsafe river and pond water for bathing, washing and consumption.

Deep tube wells, on the other hand, were not universally popular. In the literature there are numerous arguments as to the inequitable effects of irrigation for large versus small land-owners. Many of the landless laborers tended to contradict this charge, instead arguing in favor of increasing irrigation in the villages. The complaints most frequently raised by the respondents were that water costs too much, with profits going to large land owners, that the pump engines failed and needed repair, and that hand wells dried up as deeper wells lowered the water table.

F. Intervention by Organizing

The central question for this section is how community and group organization programs, aside from their credit and direct service components, influence the process of community development. This is a more complicated methodological task than the evaluation of physical infrastructure. Community and group organizations are not tangible. Unlike infrastructure projects, an organization has few physical manifestations and in Bangladesh tends to be unstable over time. Analysis will consist primarily of a discussion of the role that BRAC organizing has played in the nature of group participation. Particular emphasis will be placed on the importance of group organization for the integration of women into the local political economy.

Chapter six identifies several attributes of BRAC participants which are distinct from non-participants. This study verifies that very few upper class households participate in BRAC, an indication that screening criteria are being enforced. On the other hand many persons in lower economic classes are not members of BRAC SAMITY, despite their qualification and substantial need. Some explanations for selectivity within qualified populations included lack of knowledge or interest, inability to contribute savings or time to the group, factional divisions, interpersonal disputes and for women, restrictions imposed by their husbands.

1. Levels of Participation

Three basic ways in which participation relates to intervention are passive-consumption, active-production and directive-allocation. In a number of group meetings I raised the question of how people define their role in development and most responses fit into one or another category. The first and most common perspective of development is a higher standard of living as defined by consumption of food, housing and amenities. The second level of participation was also mentioned in statements like, "I want to work on the embankment program to feed my family" and "if I could start a business, I would be able to make more money". The third level of participation, controlling the allocation of resources is one of the principle goals of empowerment and concientization. It was also the least remarked upon in our interviews, especially by women.

There were circumstances, though, which produced a very earnest desire for gaining control. The misdirection of PL-480 wheat to members of the Union Council and local elite infuriated respondents. They saw little hope of attaining

their consumption and work goals if they did not find some means for gaining greater control over the allocation of resources. To this end a number of BRAC association members have contested in and won elections against traditional local leaders.³⁵

Three types of village assistance illustrate ways in which participation can differ. Immediately after the independence war a large number of relief programs came into existence. BRAC provided large quantities of tin and bamboo for roofing. There appeared to be no question in the minds of those beneficiaries in Hilalnagar, even a dozen years after the relief program ended, that BRAC had contributed to the "Unoti" or development of the participants. Experience suggests, and this research confirms, that once entered the passive-consumption orientation is very difficult to do away with. So popular was the relief program that many participants ridicule BRAC's subsequent efforts which have required active participation and local input.

Benefactors build status as patrons and use handouts for political leverage. Relief funds and food are frequently used to shore up local patronage and concentrate the benefits in a narrow circle of supporters (Blair, 1982).

A common expression is that a newly elected Union or Upazilla chairman can build his "Dui Tola Basha", or two story house.

The second level of participation conforms to the expectations of a great many development programs. Top down design of infrastructure projects lends itself to local participation through contracted labor. Embankment and road building programs require unskilled labor. Lower class

35. Unfortunately, in one case of diversion of wheat, it appeared that the BRAC SAMITY member who gained a place on the Union Council was also corrupted.

residents doing the manual labor are accustomed to directed labor and appeared to be comfortable with that position.

Participation in production assures at least some income for workers, and political control for the upper class. A primary goal, perhaps the primary goal, for government in Bangladesh is to maintain stability (Blair, 1985:1232) The first two forms of popular participation do not challenge traditional power structures and are unlikely to antagonize traditional authorities.

BRAC's Outreach and Rural Credit and Training Programs intentionally avoid the passive-consumption level of participation. Experience in Hilalnagar proved that local initiative is stifled or redirected inefficiently by give-away programs. In subsequent efforts to organize entire communities, the traditional domination of the local elite coupled with the willing role of productive-worker benefitted most those who needed the least. The move to "organize" the landless and poor represents an effort to bring the poor into the third level of participation, allocation. The methods of organizing the poor are well established in BRAC's programs. All of their programs, such as literacy and vocational training, legal council, concientization and participatory action research are designed to provide participants with tools for effective leadership and decision-making. Only when a group has passed through these first steps are they given access to limited resources in the form of credit assistance. At this stage the participants not only have a better chance to work for a living, but also have some control over just what work will be done and by whom.

Several challenges should be emphasized. Group dynamics in the BRAC Samity generally are not as egalitarian nor as cooperative as one might hope. Meetings are often dominated by a few speakers. Many of those attending said

little, even when questioned directly. Leaders act as brokers in many cases, developing proposals for BRAC loans which the silent members employ for productive work. Leaders gain the status of a patron for assisting in loan proposals while others maintain a lower level of participation than BRAC envisioned. The dominance of a few can further lead to elevated expectations for financial rewards on their parts.

A greater concern for BRAC is the threat that they will emerge as the patrons in an imbalanced relationship with the participants. BRAC field representatives are well educated and have lived at least some portion of their lives in urban areas. The expectation that they will work side-by-side with less educated, less travelled clients is often unrealistic. If there was one chair in the meeting room, then the highest ranking BRAC representative occupied it. Many of the meetings dissolved into shouting matches between angry field representatives and resentful Samity members. The field representatives were angry that members misused loans, or refused to repay them. Samity members were angry that the loans were small, directed to a narrow set of concerns and so on. Shouting matches may also be consciousness raising in the Bengali context, but for this observer they were quite disconcerting. BRAC representatives take on the appearance of a money lender trying to get back loans from a very poor set of borrowers.

The borrowers appear to be using their cunning to evade repaying the loans which they probably misused. Traditional relationships are difficult to change.

2. Organizing Women's Associations

Perhaps the most dramatic changes resulting from organizing activities are felt by women. In traditional, Muslim villages women are expected to stay close to home.

When away from home, tradition dictates that they wear a body-length veil which greatly inhibits physical activity, comfort and vision. Initial efforts by many of BRAC's male fieldworkers to organize women's groups are described by one of the most experienced branch managers. Translated and paraphrased:

"When we first went into the village, the women would run away. We spoke with their husbands and explained what BRAC is and what we could do for them. The men agreed to let their wives meet with us. For the first few meetings the women all stayed in a room together and we stayed outside. We had to shout so that they could hear us through the walls. After a few meetings they came out of the room and would sit with us. Now they have no reservations and say what they want to say."

From the perspective of a foreign male trying to communicate with women in an Islamic society, the impact of BRAC participation seems nothing short of revolutionary. My experiences exactly matched the experiences of BRAC field workers when first entering villages. I was always grateful when it turned out that women I needed to interview were BRAC SAMITY members, because I knew that they would be comfortable speaking with me and answering my questions. At the other extreme were interviews with women who had not joined in an association and were carefully controlled by their husbands. This is an extract from my journal:

"I hope, I hope, I hope that I won't have any more interviews like the last one. The respondent was absolutely unwilling to face me, answer my questions, deal with me as a human, anything. Like all of the women so far she has been virtually nowhere and seen virtually nothing outside of the "mud walls". She was so terror stricken that I gave up on the last page and turned it over to Hasina (my female, local assistant) to finish. I heard the screaming start as soon as I left the compound. Even when husbands encourage their wives to cooperate there's no smooth sailing." (DOKHIN BOILOR, Jan. 12, 1986)

The fact that women who have been involved in BRAC Samity for some time are willing to walk unaccompanied some distance from their homes, are more aggressive in talking with men and are more likely to state their concerns is very appealing to westerners like myself. The reactions of conservative religious leaders in our research villages were less enthusiastic. Whether such a transformation constitutes a step forward in development appears to depend on the perspective of the observer. My impression is that for the women the sense of development which results from organizing is unequivocal.

BRAC's principle mechanism for organizing and eliciting participation is the group meeting. The women's associations functioned identically to the men's. Like the men's association, the women collect dues and discuss training and credit project proposals and personal interests. The associations are not strictly egalitarian, and a few women tend to do most of the talking. BRAC supports informal leaders among the women by sending them to the regional and national training centers for literacy, skills and leadership development.

Projects that women embark on are substantially different from those of men, primarily in conformity with the traditional gender roles. However, even with respect to occupation, the influence of BRAC and other development organizations is to open up traditionally male occupations to women.

An example of moving the gender boundary is organizing commercial vegetable production. Traditionally, Bengalis have not been major vegetable producers. The staple crops, rice and jute, takes large amounts of land. Small-scale, home vegetable production has been the domain of women. With the increasing availability of irrigation, the colder, drier winter months have emerged as a prime season for

producing a wide variety of temperate climate vegetables. Women's associations mortgage land in order to produce commercial quantities of vegetables, such as cabbage, cauliflower, and lettuce. Women are engaging in cash cropping, they are working in the fields away from their BARI, and they are cooperating as a group. Because vegetable are in the domain of women, they have been able to gradually increase the dimensions of their plots beyond home consumption. By building on a traditional base the transition has been less threatening to men and has incorporated both production and allocation-oriented participation.

Other occupations for women are emerging under pressure from rising poverty and with the intervention of development agencies. In this sample a few women had begun to work in agriculture outside their homes. Caritas and other organizations have given sewing machines to women's clubs. These machines are used to make clothes and repair used clothing donated by foreign countries. Traditional handicrafts, such as embroidered blankets, called Kanta, and macrame from local jute are being revived. Women are also employed in promoting community development. Rural health and basic education programs seek out women to act as extension agents and community organizers. One of the most dramatic examples is a highway maintenance program in which women are assigned sections of road which they repair and clean.

The urban centers of Bangladesh have seen a veritable explosion of apparels factories, many of which exclusively employ women. Women who live, or move closer to the urban centers are being hired to work in an expanding apparels manufacturing industry. Even with the tremendous growth of female employment in urban areas, their labor force participation rates remain low. Female labor force

participation has increased from .9 million, or 4.1% of the total labor force in 1974 to 2.0 million or 8.1 percent of the labor force in 1984 (BBS, 1985A:183). In rural areas the statistics, including those from this study, are not changing quickly, and most of women's work remains disguised.

G. Summary

Four hypotheses relating intervention to community development were posed.

1. Many of the benefits of person-oriented development are diffused out of the villages.
2. Place-oriented development programs increase employment opportunities, albeit unevenly across segments of the population.
3. Participation in place-oriented programs contributes to community integration.
4. The development of transportation infrastructure increases integration of villages with each other and with urban centers.

The purpose of this chapter has been to demonstrate some of the connections between development intervention programs, local participation and the process of community development. Though the first hypothesis is stated in this chapter, the issue of diffusion through migration is taken up in Chapter X. Place-oriented programs, such as infrastructure and human organization were discussed. Place-oriented programs are less prone to diffusion of benefits resulting from out-migration.

Community development is measured through changes in the intensification of production, the diversification of occupation and industry, the external integration of communities with other places, and internal integration of members within a community. Based on these measures, there is ample evidence of the impact of development programs on

the four survey villages. Irrigation, electrification and transportation, play different roles in the development process. Irrigation increases employment through more intensive production of traditional crops. Electrification increase employment through diversification into small manufacturing industries and especially food processing, especially where tasks were previously restricted by insufficient artificial light. However, some traditional work is diminished by the introduction of labor-saving technology, such as the motorized rice husker.

Transportation encourages a diversified occupational base, with a commensurate rise in integration with secondary and primary urban centers. There is a small, but steady rise in the use of improved transportation systems for commuting to urban job sites. In some locations informal roadside hiring stands have appeared. Employment has also moved to new roadside markets. Hilalnagar, the only village which has not seen improvements in transportation infrastructure, remains relatively isolated from national commodity and labor markets.

Participation has been presented on three levels. The lowest level of participation, consumption, is fundamental to intervention in the form of emergency relief. In times of lesser emergency development participation takes the form of productive work and directive allocation of resources. Traditional roles in the survey villages are being challenged by participatory, organizational programs such as those sponsored by BRAC. The transformation is not complete in any sense, and BRAC inadvertently assumes the paternalistic role of Mohajan, or local money lender. Nevertheless the changes in people's attitudes and desire to work together seems to be dramatically changed, especially in the case of women.

An unfortunate restriction in this chapter is the small size of the sample. Analysis of community development is generally restricted to the four survey villages over the course of fifty years. Data limitations restrict analysis to descriptive and qualitative assessment. Information on numerous other communities is provided by respondents as part of the residential history. The loose correspondence between what respondents report about villages and official records reduces the reliability of respondent-provided contextual data. In the four survey villages there are sufficient reports for a given time to actually turn inconsistent reports into a measure of intervention intensity.

IX. MIGRATION

A. Overview of Chapter

Chapter VII presented individual development as a process of socio-economic mobility in the context of the life-course. Chapter VIII presented community development with respect to intensification, diversification and integration of people's economic relations within the community and with other communities. The analysis illustrates a set of general trends in the development of communities with tremendous variation in the participation of their residents. The lack of new arable land limits the expansion of traditional agricultural production and encourages communities to use existing land more intensively, adopt new industries, and strengthen ties with other communities and urban areas. Households have moved up and down the economic scale, though for the most part the trend has been down.

Migration is an important activity which affects and is affected by individual and community development. Chapter II presented diagrams of circular and cumulative causation which illustrated several migration and development relationships. The purpose of this final chapter is to highlight a variety of migration and development interactions with particular reference to the ways in which individual and community development influence movement into and out of rural communities.

The chapter begins with a description of the intensity, selectivity, timing and choices of destination of migration into and out of the four study villages. Several analytic techniques are applied, including analysis of regional net migration rates, village gender and age composition and

residential histories, in order to illustrate past, present and future migration trends. The section which follows relates migration trends to earlier discussions of individual and community development. The chapter concludes with a review of the salient relationships uncovered in the chapter and their implications for the original hypotheses.

B. Migration Patterns: Past, Present and Future

1. Migration Estimation

Bangladesh, like most countries, has few controls over internal migration and no system for migration or residential registration. Consequently, there is little published information which appears to use direct estimation of migration. The Bureau of Statistics limits publication of migration statistics to net migration, normally derived from inter-district differentials in vital rates and census figures. Shortcomings of residual estimation techniques were noted in Chapter 4.

This section incorporates several methods using both national and survey data. Migration patterns are presented from macro- and micro-demographic perspectives. Patterns in migration selectivity, frequency, parity, distance, destination, and life-course stage are discussed. This multifaceted approach provides a useful if somewhat complex picture of internal migration in Bangladesh.

2. Regional Net Migration Rates

Three regions of Bangladesh have attracted a large share of the migration, each for a different combinations of reasons. Dinajpur, in the northwest of Bangladesh, has historically supported a lower population density than the southern and northeastern districts. The principle factor has been lower agricultural productivity. The widespread

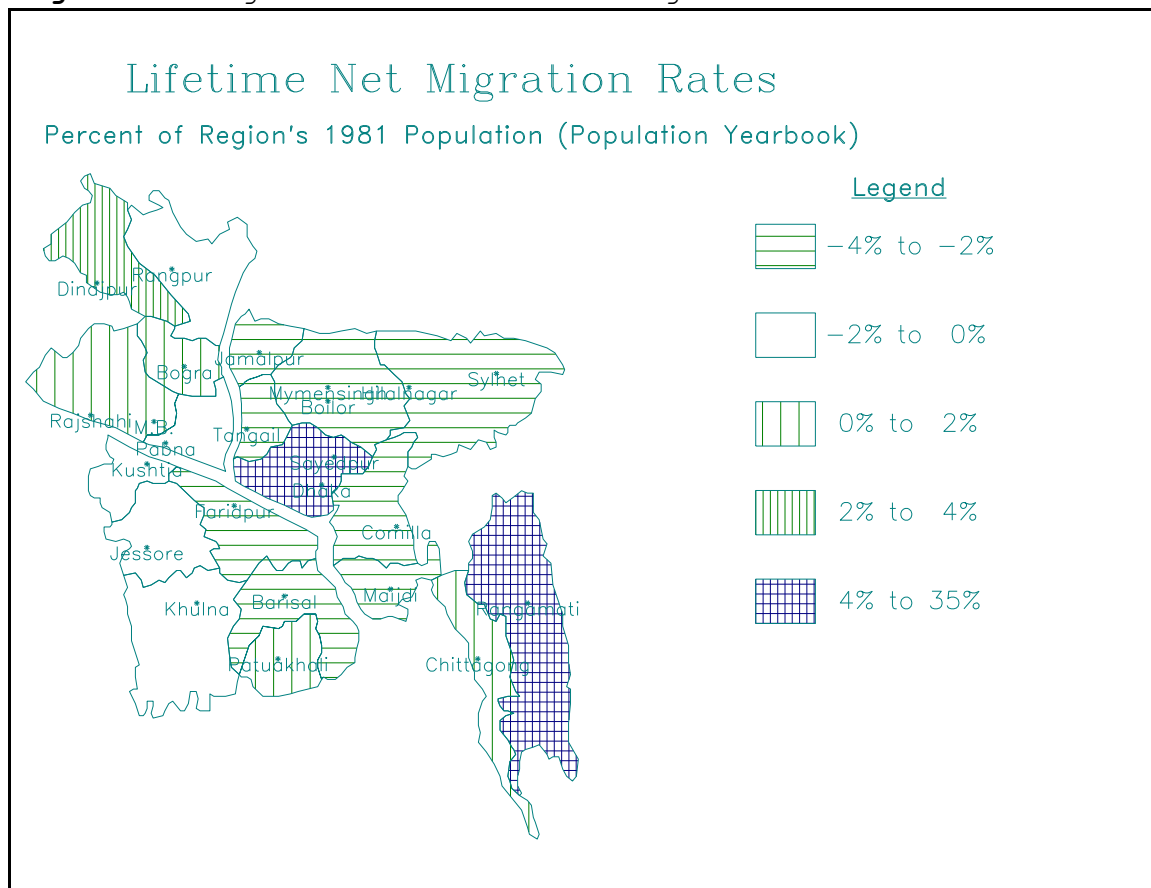
introduction of irrigation as well as the extremely high population densities in districts such as Comilla, have contributed to a movement of people in search of land, especially in the early and mid-1900's (Rashid, 1981:38-39).

The early migrants initiated a pattern of chain migration from the densely populated central eastern districts to the northwest.

Dhaka district has grown rapidly as a result of immigration. The city of Dhaka offers a variety of formal and informal employment opportunities with a strong economic base of government and foreign assistance programs. Several industrial areas located in the periphery of Dhaka, most notably Tungi and Narayanganj, have also become significant attractions for migrants. The pace of investment in Dhaka accelerated during the 1940's, following the partition of East and West Bengal, and again in the 1970's following the independence war. The rise in autonomy which accompanied these political changes moved Dhaka into prominence as a regional and then a national capital.

The third, strong net migration region, Chittagong, has grown both because of agriculture innovation in areas with lower land densities and through urbanization. The Chittagong Hill Tracts contain nearly all of the sloping land for the entire country. Much of the land cannot be cultivated, yet Bengalis have been moving into this region in search of opportunities not available in their home districts. The migration of Bengalis into the Hill Tracts and across into India has provoked angry reactions from the earlier residents and in several instances has resulted in violent confrontations (Weisman, 1986). Figure 9.1 illustrates net-migration rates for major districts in Bangladesh.

Figure 9.1 Regional Lifetime Net Migration Rates



The districts encompassing the four survey villages are differ significantly with respect to net migration. Sayedpur, located within Dhaka district, is in a large net in-migration area, despite the fact that the Narsingdi new-district, within which Sayedpur is located is one of the most densely populated agricultural locations in the country. Sayedpur's immediate surroundings are not exceptionally built up, but the highway connecting the Monohordi Upazilla and the city of Dhaka is sprinkled with small and medium sized apparel factories. The proximity to Dhaka and the manufacturing centers in Dhaka's periphery enable some residents in and around Sayedpur to maintain

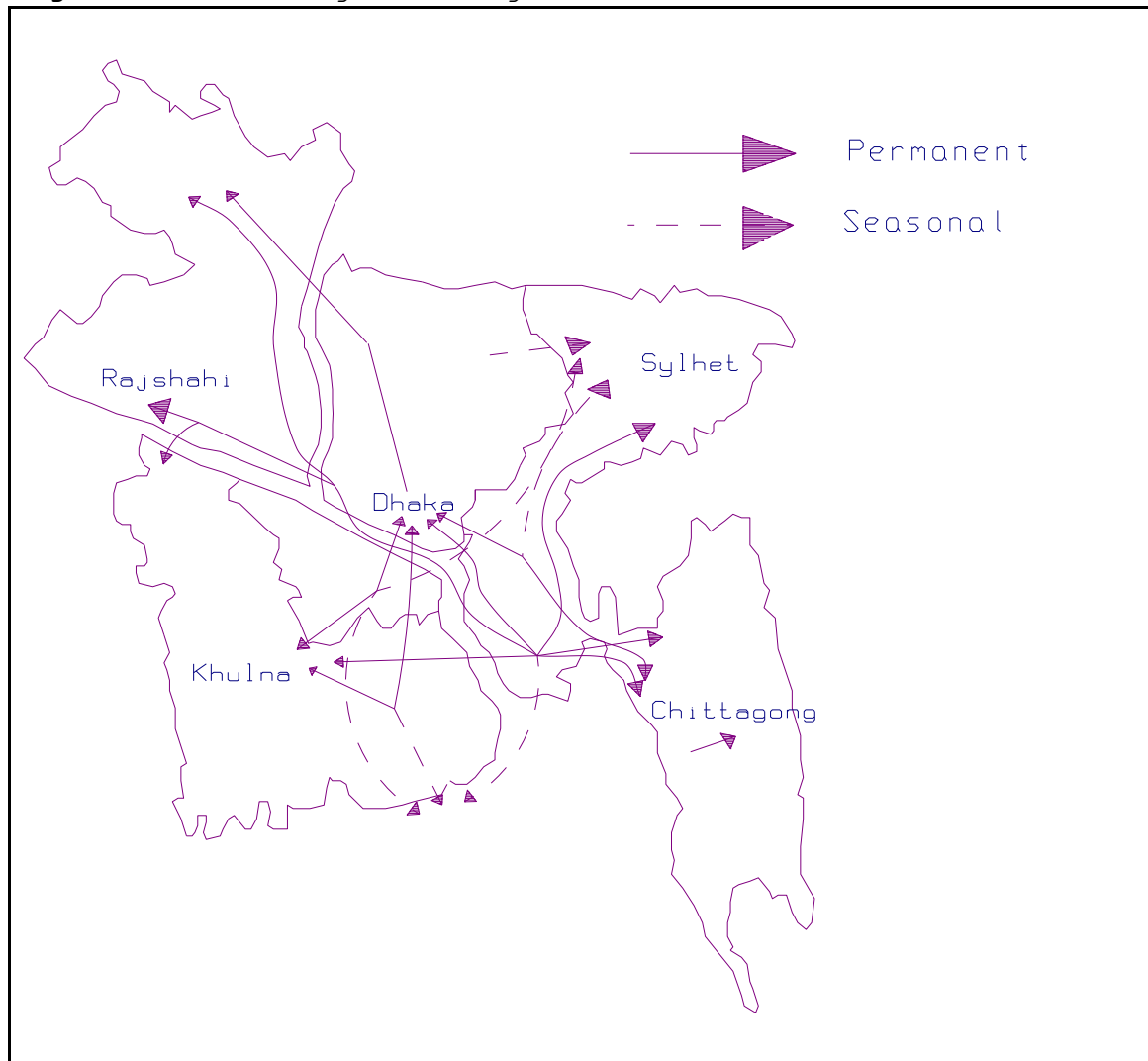
rural households while commuting to non-agricultural occupations.

Mohish Bhangra is also located in a positive net immigration area. Agriculture is still the largest employer in the Upazilla, though the paved highway enables a significant number of residents to commute to nearby Natore and Pabna for work. Population density in Rajshahi has historically remained lower than for much of Bangladesh. Like its neighbors in the northwest, the introduction of irrigation has increased land carrying capacity in Mohish Bhangra. More recently, however, the government of India constructed a large dam on the India and Rajshahi border which once again has reduced the water supply to this region and may have the effect of pushing population out.

Hilalnagar is located in the most distinct geographic zone of the study. Annual floods cover most of the land surface for months, greatly altering the occupational mix of the area. Net migration to the northeast Haor or flooding region has been mildly negative, with seasonal influx of migrant laborers. There are no major urban centers other than Sylhet, which lies a full day's journey by boat from Hilalnagar. The flow of seasonal workers may be best explained by the relatively low densities in the region and the adaptation of high yield, hybrid rice to conditions of sustained flooding.

Finally, Boilor is located in a zone which is fairly typical of north-central Bangladesh. Boilor is located close to a highway which enables people to commute to Mymensingh, a growing regional center, on a daily basis and Dhaka on a weekly basis. Mymensingh has also experienced negative net migration.

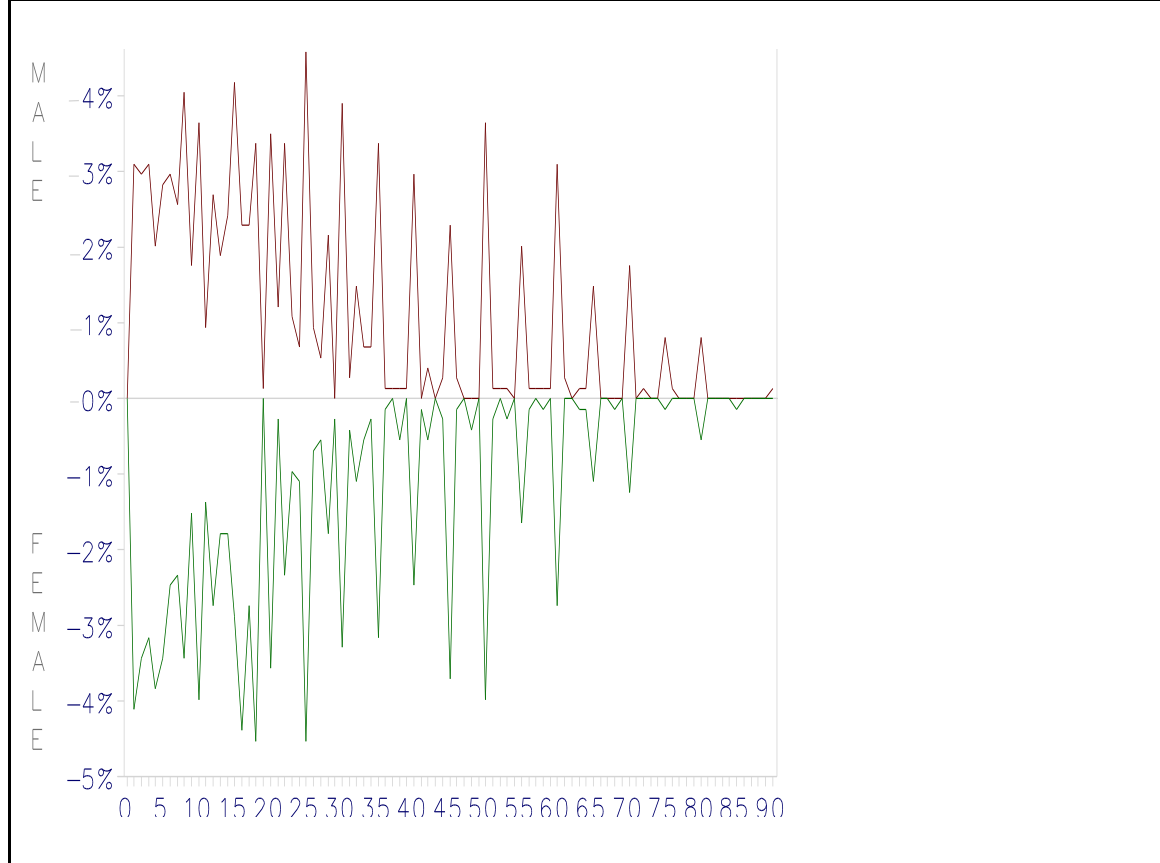
Figure 9.2 Interregional Migration Flows



In An Economic Geography of Bangladesh, Rashid depicts several important interregional migration routes (1981:36).

His map is reproduced below in Figure 9.2. The two patterns referred to earlier are represented in this map with population flows towards the north and into the major cities. Seasonal migration is distinct from permanent migration with important destinations in the lowest elevation agricultural areas along the southern coast and in

Figure 9.3Single Year Age Pyramid



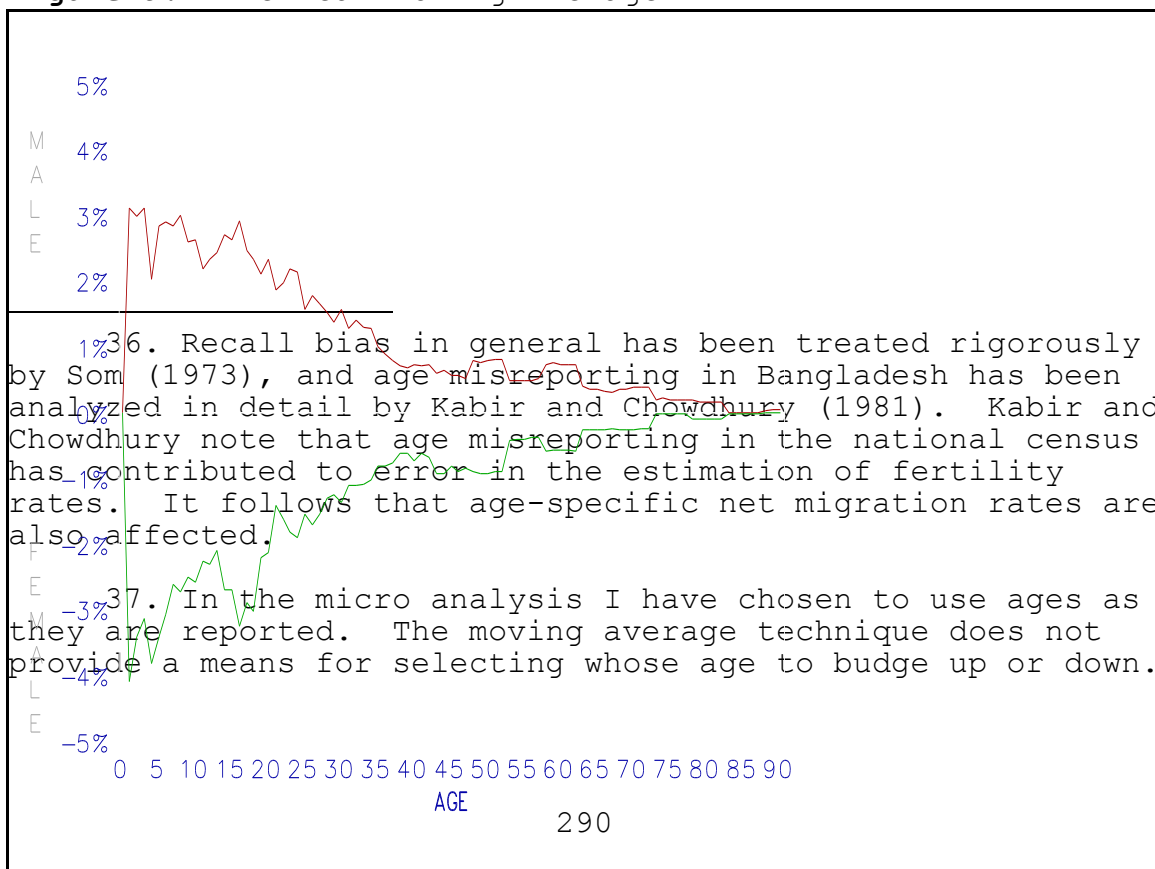
the north eastern Haor region. Temporary labor shortages are still common in these regions, whereas during the monsoon there is little work, or dry land for that matter, available. Rising population densities in these low lying lands contributes to increasing numbers of deaths during high flood years. In summary, agricultural intensification, urbanization and a third factor, roughly described as population density leveling, appear to play a role in forming these patterns.

3. Age Distribution

The age distribution of the households of the four survey village is similar to the nation as a whole. The figure on the left indicates reported ages for the respondents and their household members. Most notable in Figure 9.3 is the dramatic tendency to report ages ending in 0's and 5's.³⁶ Digital preference is well established after age 18 and becomes almost absolute by age 45 with everyone reporting ages ending in 5's and 0's. Not surprisingly, respondents were more certain of their own ages than those of their relatives and household members. An expedient method for smoothing the data is to calculate a five year moving average of the frequencies.³⁷ Figure 9.4 reveals a generally wide base for the population pyramid which is characteristic of populations experiencing high fertility rates. There are no obvious deviations by gender.

After smoothing, one irregularity remains for persons

Figure 9.4 Five Year Moving Average



aged 10 to 20. The dip in persons in this age group probably results from a combination of lower wartime fertility in 1971, out-migration of secondary school students, over-estimation of ages into the next age bracket and selective marriage out-migration.

4. Inter-Upazilla Lifetime Residence Change

Section 3 of the MIGDEV Survey, the household roster, asks the respondents provide the Upazilla where each family member lives and where they were born. Since all of the respondents are themselves currently living in the survey villages, they represent only one segment of the former rural population. Useful information can be gleaned from the patterns of residential change for family members, many of whom have moved and have not returned. The sample, however, must be understood and patterns of migration interpreted with caution. Table 9.1 presents a tabulation of respondents and their siblings, over the age of 20, by life-time residential change. This is analogous to a survey taken of families in which all members of one generation, the siblings, are coded by place of birth and current residence. The sample is then restricted only to those 20 years or older, for whom one sibling, the respondent, currently lives in one of the four survey villages. Nine males and 16 females emigrated to India during the Independence war and are excluded from the table. Proper classification of residence for this groups was difficult to establish.

Table 9.1 Sibling Lifetime Residential Change

	Male		Female		Total
	Urban	Rural	Urban	Rural	
Same Upazilla	0	421	0	239	660
Mean Age	-	36	-	35	35
Mean School Years	-	3.5	-	1.5	2.8
Different Upazilla	33	40	7	164	244
Mean Age	32	36	28	36	35
Mean School Years	9.4	4.3	6.0	1.9	3.4
Total	33	461	7	403	904

Of 904 siblings, twenty years or older, 660 or 73%, live in the same Upazilla where they were born.³⁸ The other 27% reside in a different Upazilla. Several methodological factors cause this method to underestimate the true rate of migration. When only the place of birth and current residence are known, intermediate, return and repeat moves are either partially or completely missed. Permanent moves within the Upazilla are also not detected. In cases where

38. The "birth residence" is the residence where people spend the early part of their lives. Many women return to their father's homes when they are about to give birth or shortly after giving birth. They may remain in that home for more than a month, but generally return to their husband's home once a few weeks have past. This temporary move was not recorded in the interview.

entire families move and no close relatives remain there is less likelihood that move will be included in the sample. Finally, attrition due to mortality of persons who moved will cause their moves to be overlooked.³⁹ The average ages of the persons who changed Upazilla and those who did not are identical, while the average years of education is somewhat higher for those who have changed Upazilla.

None of the siblings was born in an urban location, but 33 males and 7 females were living in urban locations at the time of the survey. This group has higher average years of education, particularly the males, with 9.4 years. Surprisingly, only 3 of the males living in urban locations have no years of secular education. The occupational profile of the urban-males is 36% engaged in construction and manufacturing, 58% engaged in service and government, with one being a student. The small group of female siblings living in urban areas is also distinct. They have an average of six years of education. Three women from the Sayedpur area are engaged in manufacturing, while 3 from other regions work in their urban homes, and one is a student. Thus, allowing for the nature of the sample, there is a clear pattern of higher levels of education and secondary and tertiary sector employment for siblings who moved to urban areas.

A similar analysis of respondent children is presented in Table 9.2. In this instance, the structure of the sample is more easily interpreted. The sample represents respondent reports of where their children, age 20 or older, currently

39. Several articles have been written with respect to the implications of migration classification and measurement with net migration rates. Goldscheider describes many of common migration patterns which are measured inaccurately by analysis of cross sectional data (1971:54-56). DaVanzo and Morrison spell out research implications of several of these measurement issues (1981).

reside. Like their parents, none of the children was born in an urban area. Most of the children were born in the four survey villages. The table indicates that among these off-spring, 49% of daughters and only 18% of sons have changed Upazilla. However, 83% of the sons who changed Upazilla are living in urban areas, whereas only 12% of the migrating daughters are living in urban areas. Sons move much less often than daughters, but are far more likely to move to an urban destination.

Table 9.2 Children Lifetime Residential Change

	Male		Female		Total
	Urban	Rural	Urban	Rural	
Same Upazilla	0	80	0	61	141
Mean Age	-	29	-	28	28
Mean School Years	-	4.3	-	2.5	3.5
Different Upazilla	15	3	7	52	77
Mean Age	31	30	32	30	30
Mean School Years	10.7	6.0	9.4	3.2	5.3
Total	15	83	7	113	218

The analysis reveals an identical association of higher education with any inter-Upazilla change of residence, and particularly higher education for those who now reside in urban areas. Some of these off-spring acquired their

education prior to moving, while others moved in the process of acquiring their higher education.

5. Life-course Migration Patterns

Migration is influenced by age, birth cohort and the time period under study. Age stands out in most research as a significant predictor of the tendency to migrate in a wide variety of cultural settings. Closely related to age is the identification of an individual within a birth cohort. Knowing age and birth cohort we can study differences in migration patterns between cohorts. That is, did people who were 20 years old in 1950 show the same tendency to migrate as people 20 years old in 1970?

A third aspect of longitudinal analysis is the effect of the events occurring in a particular historical period. In Bangladesh there have been two very significant political transitions in the past 50 years. They are the 1947 partition with India and the 1971 independence war with Pakistan. In the latter war, the greatest refugee movement in the world's history occurred, with approximately 10 million persons temporarily displaced into India. These period effects may occur independently of cohort and age influences, but may also interact with them. Do people of different ages respond in the same manner to major period events, such as wars and floods? A related dimension is gender. If the tendency to move is associated with life-course, and if life-course pattern is sexually prescribed, then it is expected that some differences in age and cohort migration will appear between the sexes.

Figure 9.5 Female Life Course Migration Rates

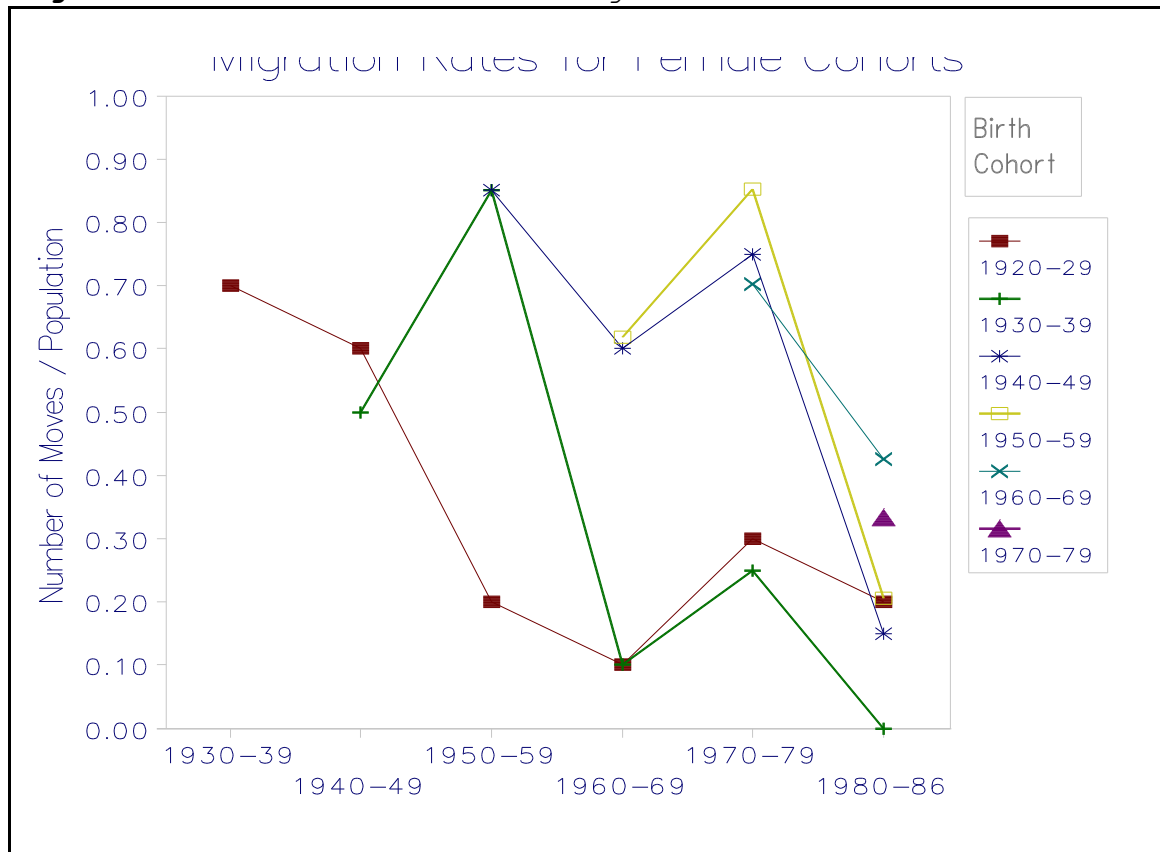
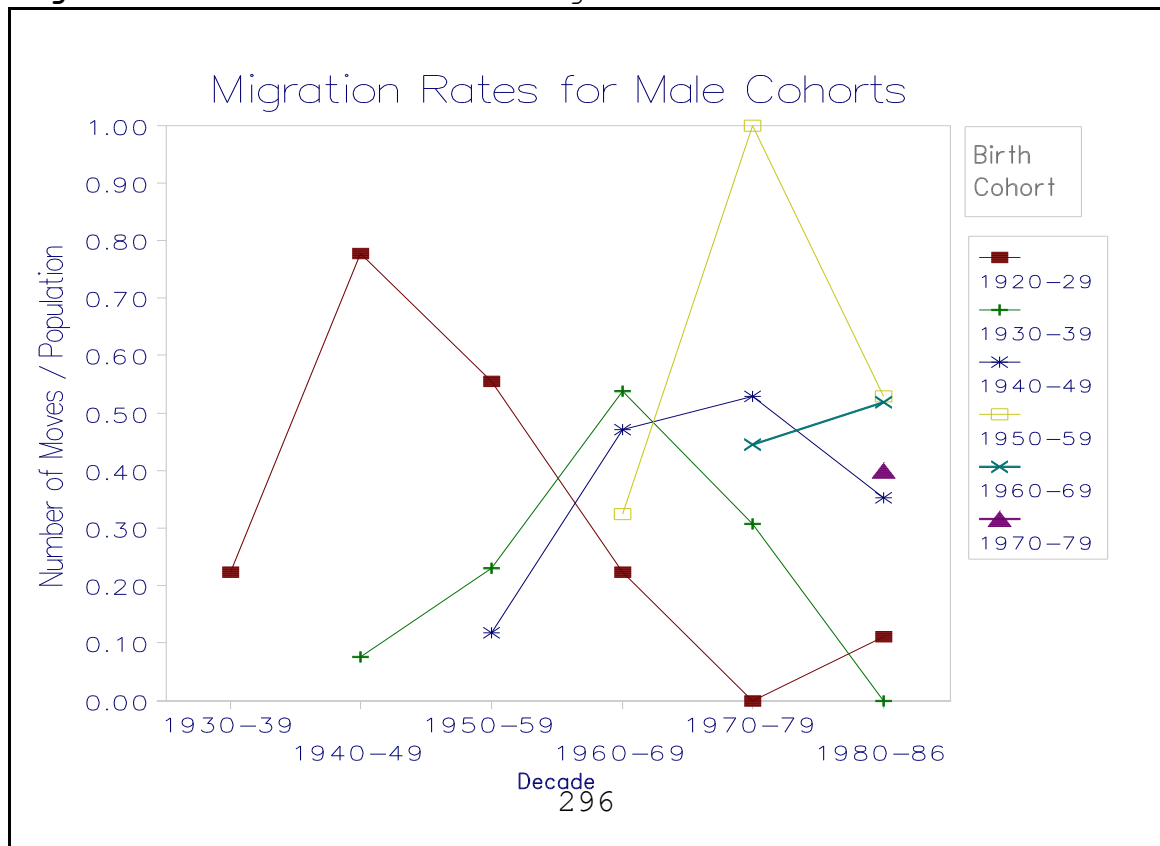


Figure 9.6 Male Life Course Migration Rates



Figures 9.5 and 9.6 summarize cohort migration for respondents by gender. Each line represents a different birth cohort, with the line originating in the decade following the birth decade and continuing to the present. The birth decade is not included principally because respondents could not, and were not asked to furnish accurate accounts of migration at very young ages. The height of each point is a ratio of the number of moves during the decade by persons in a cohort divided by the total number of persons belonging to the cohort.

Irrespective of birth cohort, the pattern for females is a high rate of migration in ages 10 to 29, followed by declining rates for older ages. This may reflect early marriage for women and the relatively low rates of migration after marriage. All of the female cohorts show an additional migration bulge in the 1970-79 decade. A significant proportion of that movement can be accounted for by the 1971 war of independence and resulting internal and international refugee movement.

The life-course pattern for male migration is visibly different from female migration. The males in this sample appear to concentrate more of their moves in the twenty to thirty year age bracket. The pattern holds true regardless of the birth cohort. The later age of migration pattern may reflect later age of marriage and the tendency for young married couples to remain in the husband's parent's home for several years after marriage. There is also a tendency for labor migration to continue into later age brackets than marriage migration. The 1970's bulge in migration for females is not apparent for males.

Three cautious conclusions may be drawn from the graphic patterns presented above. First, migration probabilities are related to the individual's age, but not

in a linear pattern. For both genders, rates rise then fall with age, but not in precisely the same pattern. The most visible deviations from the age migration pattern occur in the 1970's, in part due to refugee movements associated with the 1971 independence war. Second, the pattern is remarkably stable across cohorts, given the caveats of residential history data and the small sample size. Third, the age-migration pattern is distinct for males and females. The differences are likely to be related to the distinct ways in which life-course transitions relate to migration and gender roles. The male-female distinction demands careful comparison throughout the micro analysis of why people move.

The longitudinal sample represents a select group of the total rural to urban migrating population in Bangladesh, as all respondents are living in the rural survey villages.

No persons currently living in urban locations were interviewed. The 280 respondents made a total of 404 moves. Of those, 25 or 6.2% of the moves were to urban areas. Because the numbers are small, only a few traits of this group will be highlighted.

The most frequent urban destinations were Dhaka (9) and Mymensingh (7). Sayedpur, which is closest to Dhaka, and Boilor, which is closest to Mymensingh, produced the highest numbers of rural-urban-rural return migrants. Hilalnagar has the smallest number of respondents who have moved to urban areas and returned, possibly explained by the relatively isolated location and religious minority status.

A break-down for all four villages is included in Table 9.3.

Table 9.3Frequency of Respondent Moves to Cities

VILLAGE	Frequency of Moves To Cities	Percent of Moves by Village	Percent of all moves to cities
SAYEDPUR	11	10.68%	44.00%
M.BHANGA	3	3.33	12.00
H.NAGAR	2	1.45	8.00
BOILOR	9	12.33	36.00
TOTAL	25		100.00

Respondents who have moved at some time to cities are distinct from rural-rural migrants. Twenty percent of the urban moves are classified as repeat, or frequent oscillations between rural and urban places. The migrant has established a residence in the urban center, but also returns frequently to his/her rural residence. The moves occur with such frequency, such as seasonal changes, that individual event recording is impossible. This contrasts with only seven percent for the rural destination moves having repeat patterns.

Seventy six percent of the moves to urban places occurred since 1970, while sixty one percent of the rural destination moves occurred in that time period. Males dominate in rural-urban moves, with 76% of the total. In contrast, females account for 57% of the rural destination moves. The age distributions of urban and rural destination movers are similar.

6. Stated Reason for Moving

Respondents were asked why they moved for each change of residence. The responses for 408 moves were then categorized into 25 groups which are summarized in Table 9.4. The most frequent reason for past migration reported by women was marriage (60%), followed by war 15%. A majority of men stated that their past migration was related to finding work and losing work (59%), followed by war time movement (17%).

Sixty two percent of all moves were to new Upazilla with the remainder being to new households within the Upazilla. Economically motivated moves were more likely to be to new Upazilla (69%), as opposed to family/community motivated moves (46%). Ninety-one percent of war motivated moves crossed Upazilla boundaries, with (81%) going to across the Indian border.

Table 9.4 Stated Reasons for Moving

Reason	Male	Female	Total
Employment Related	59%	2%	28%
Economic Loss	5	5	5
Education	8	1	4
Marriage and Divorce	1	60	33
Other Family Issues	6	11	9
Community and Other	5	5	5
War	17	15	16
Total	100%	100%	100%
N	186	222	408

Statements of why respondents moved were also classified as emphasizing place of destination "pull" or place of origin "push". Sixty-five of all moves were thus classified as pull motivated, and 35% were classified as

push motivated. Push motivated movers were more likely to cross Upazilla boundaries 72%, than pull motivated movers (56%). This difference disappears when refugees are removed from the "push" category, with both groups having 56% crossing Upazilla boundaries.

The push-pull dichotomy has limitations. Most changes of residence involved both push and pull factors. Marriage is classified as pull motivated, though most marriages were arranged and daughters often needed some push from their parents to accept the change of residence. Respondents finding new work in other locations were pull-motivated, though their underemployment clearly pushed them to seek new work. War was classified as a push factor, though the safety of a refugee camp in India was a pull factor.

7. Future Migration Intentions

Respondents were also asked if they would like to migrate at some time in the future. Migration intentions are only one of many influences on eventual migration. Prediction of future migration based solely on intentions is likely to be inaccurate. For instance, only 1.4% of respondents list poverty as their motivation for wanting to leave the survey villages, yet deprivation historically has played a very significant role in stimulating migration in Bangladesh. The attitudes and intentions of respondents about future migration are at best one of many considerations which will have an impact on future migration behavior.

A clear example of differences between stated intentions and future behavior is the process of arranged marriage. Nearly all unmarried female respondents will in fact move in the near future, though they never openly expressed an intention to migrate. In Bangladesh arranged marriage customs included an expectation that young women

will not express a desire to marry and move away. This too points to the risk of attempting to analyze information on intentions.

The results from this interview are consistent with the generally stable residential patterns of rural Bangladesh. Seventy-two percent of the respondents stated that they do not wish to move at any time in the future, while 28 percent stated that they are at least considering it. The most common reasons for wishing to move in the future are related to employment and education.

Age and marital status are clearly related to migration intentions. People classified as single-never married are the most likely to state a desire to move (50%), followed by married (25%), and divorced-widowed-separated (10%). The average age for members of each group increases from 19 years for singles, to 35 years for those married, and then to 51 years for divorce, widowed and separated.

Table 9.5 Reasons For Wanting to Move in the Future

Reason	Male	Female	Total
Employment Related	87%	19%	58%
Economic Loss	4	9	6
Education	9	16	12
Marriage and Divorce	0	9	4
Other Family Issues	0	22	9
Community and Other	0	25	10
War	0	0	0
Total	100%	100%	100%
N	46	32	78

Table 9.5 disaggregates the 78 respondents who do state an intention to move by gender and their primary reason for

intending to move. For males, the primary incentive for wanting move is employment (87%), with education (9%) and economic loss (4%) trailing well behind. For females the distribution of responses is more disbursed with family (22%), community (25%), employment (19%) and education (16%) being most noted. Only 3% of all respondents, or 12% of those intending to move, emphasized push factors. This small group is predominantly female and has an average of less than two years of education. Persons stating pull factors are predominantly male and have over four years of education on average. The small number of respondents stating migration intentions limits the reliability of these results.

C. People-oriented Development and Migration

The purpose of the next three sections is to illustrate ways in which changes in individual and community development affect migration. Section C. discusses how individual status and changes in individual status, called individual development, are related to migration. Section D. discusses how changes in the community status, or place development influence migration. Section E. synthesizes the affects of person- and place-oriented development on migration and migration intentions.

The principle forms of people-oriented development intervention noted in earlier chapters are programs for investing in human capital and private-movable assets. Person-oriented program benefits move with the participants, while place-oriented benefits remain spatially fixed. Included in the person-oriented category are programs for health, education and small loans targeted to trades in the secondary and tertiary economic sectors.

1. Health

The analysis of the relationship between health intervention and migration will be brief. The programs which were the primary focus of this research did not emphasize health promotion, and health programs encountered did not appear to be effective by any measure. As in other analyses of development intervention and migration, both direct effects of health intervention on migration, as well as indirect patterns of intervention affecting health, which in turn affects migration are considered.

In the conceptual model health programs were expected to play an indirect role in influencing migration. Good health was expected to promote education and income generation which in turn would encourage migration. People in poor health were expected to have fewer resources for migration.

At the micro-demographic level, the relationship between participation in curative health programs and actual health often appears to be negative. That is, the subpopulation of persons who participate in curative health programs is likely to suffer from more health problems than those who do not participate. Analysis which ignores this common pattern may erroneously conclude that health intervention causes illness. Analysis of preventative programs with voluntary participation are affected similarly.⁴⁰ Thus it is difficult with all but the most

40. BRAC research staff were stunned to find that village women who employed BRAC's method of oral rehydration for treatment of infant diarrhea were reporting higher rates of infant mortality than mothers who claimed to use no method or traditional methods for treatment. The problem appears to have arisen as the result of the timing of treatment. Mothers delayed treatment until their children's illness reached critical severity. Children then treated were often beyond hope. Other children not treated were likely to have had milder attacks and recovered without treatment.

intensive data collection methodologies to relate participation in health programs to changes in health. Relating changes in health to migration is complicated by numerous intervening factors and alternatives to migration.

The direct relationships between health-care delivery and migration turned out to be more interesting than originally expected. Inadequate health care facilities did in several cases directly motivate rural-urban temporary migration. The chapter describing individual development introduces the forms of health services available in rural areas. Generally speaking, traditional care is affordable and readily available, but frequently ineffective. Modern, Western medical treatment is sought often at the point where traditional care breaks down. While many of the respondents believed that modern care was more effective, the cost and distance of travel required were prohibitive. Even so, several households in the survey moved to Dhaka and other major urban centers for the sole purpose of providing an ill family member with hospital care. In this instance, the lack of adequate rural health care facilities appears be directly responsible for rural-urban migration. Health and education are the only two public services which were mentioned by respondents as important "pull factors" to major urban areas.

Even when income plays no part in the motivation for migration, it continues to play a selective role. All of the families that moved temporarily to urban areas were financially strong enough to withdraw from their village activities and finance medical treatment. Poor people do not have many options for urban health care, even when the care itself is highly subsidized. In no instance was there health-care related migration by the impoverished or even marginal respondents.

The indirect effects of health-care programs on migration through maintenance or improvement in health are more difficult to isolate, yet almost certainly affect more people in more profound ways than direct health-care seeking migration patterns. In several instances, the untimely loss of life due to inadequate health care appears to have altered the life-courses of the survivors and, in some cases, precipitated migration. The untimely loss of a husband, particularly before sons have reached working age, places women at a high risk of entering the lowest economic strata. The probability of entering widow status is increased by large age differentials in rural marriages. The two most common responses for women in widowhood were either to remain with their ex-husbands' property, earning an income through land-lease arrangements and irregular paid domestic employment, or to return to their own father's homes eventually to be remarried.⁴¹ Other women migrate to urban areas where they have better work opportunities through domestic employment and begging.

Another health-migration pattern which emerged was the hardship and ill health suffered by persons uprooted during the 1971 independence war, especially among those who fled to India. The consequence of a move during wartime was often the loss of several family members to starvation and illness. Families which did not flee to India reported less hardship, but perhaps had greater financial and food reserves enabling them to stay on in Bangladesh.

2. Education and Occupation

41. Among the Hindu respondents, remarriage did not appear to be an option. Muslim men and women and Hindu men all appear to have greater flexibility in remarrying after divorce or death of their spouses.

Analysis of inter-Upazilla moves by level of education, presented in Tables 9.1 and 9.2, reveals a clear, positive association between years in school and likelihood of living outside the Upazilla of birth. The pattern is especially pronounced in comparisons of urban versus rural destination.

Table 9.6 Sibling and Child Urban Migration By Education

Siblings	None	Primary	Secondary	College
Frequency	4	10	16	10
Percent	1%	4%	13%	43%
Total	479	275	127	23

Children	None	Primary	Secondary	College
Frequency	0	4	11	7
Percent	0%	6%	22%	78%
Total	89	70	50	9

Note: Only persons 20 years or older are included in this analysis.

Table 9.6 illustrates the significance of educational attainment in choice of urban residence. The proportion of family members who currently live in an Upazilla other than where they were born is lowest for those with lower primary education, rising from 24% to 61% for persons with some college education. Explanations for this pattern have been advanced by Todaro (1969), Sjastaad (1962), Becker (1964) and others. That is, people move to locations where they can maximize their returns on human capital investments. Primary and secondary secular education in Bangladesh emphasize urban, non-agricultural skills.

Koranic education is not oriented to occupational skills. There is no statistically significant difference in choice of residence between persons who have only Koranic education with persons with no education. Fifteen persons are recorded as having no education other than BRAC's functional education program. Not one of these persons has ever migrated. Given the small number, no conclusion can be drawn.

Female family members, sisters and daughters, have moved in small numbers to urban areas, and approximately half continue housework as a primary occupation. A few women have joined the labor force, working in manufacturing and services. Three out of seven sisters of respondents who are living in urban areas, worked in manufacturing, while only one out of four hundred and three living in rural areas was engaged in manufacturing. Although the number of women employed outside of the home is too small to draw firm conclusions, the evidence points to greater participation in the formal economy.

Brothers and sons living in urban places worked primarily in manufacturing, construction and service industries, with none working in the primary sector. Their rural counterparts worked largely in the primary sector, with virtually no manufacturing and small numbers employed in service occupations. Migration is thus related to higher levels of education, especially for persons living in urban locations. Occupations are also related, with migrating women and men having greater involvement in the paid workforce and higher rates of employment in secondary and tertiary industries.

3. Movable Capital

Programs for rural development are adjusting to the reality of land scarcity with numerous income-generating

projects in non-agricultural enterprises. The discussion of development impacts on migration and commuting will now address the potential impacts of programs which provide people with movable capital. Commuting is given special emphasis, as moveable capital is often used in mobile occupations.

In order to meet the goals of a more diversified economy in rural communities, both governmental and non-governmental organizations are encouraging activities which range from small marketing (trading) operations to moderately large manufacturing facilities. Participants in programs promoting rural, non-agricultural development are assisted through labor opportunities, credit, training and occasionally outright grants. Most of these investments are location-specific and will be discussed later. A subset of activities are not fixed in space, or at least not for extended periods of time. The most significant cases of tangible, "movable assets" assistance in the four survey villages were credit programs which participants used to acquire tools, operating capital and inventory.

The number of movable capital schemes noted in the survey villages was limited. The most common examples were financing for small-scale manufacturing, such as print making and apparels, inventory for itinerant trade, and transportation equipment in the form of bicycle rickshaws, animal carts and three-wheeled "baby taxis". The distinguishing characteristic of these assets is that they can be moved, and are potentially more profitable when employed in urban areas.

Several migratory patterns appear to be associated with possession of movable assets. The majority of respondents who have received loans are working in their home villages.

All but a few of the female respondents stayed very close to home. The only women whose work could be classified as

truly ambulatory were elderly women who lived by begging.⁴²

In Hilalnagar commuting was restricted entirely to walking or paddling. Of 114 working household members, only three persons in Hilalnagar were working outside of its Union at the time of the survey. The other villages were close enough to paved roads that commuting by bus or rickshaw to large towns was feasible. Table 9.7 presents commuting patterns by village.⁴³

Table 9.7 Commuting to Work by Village

(Col Pct)	SAYEDPUR	M.BHANGA	H.NAGAR	BOILOR	TOTAL
MOVE WITH- IN UNION	77 72%	92 85%	111 97%	80 73%	360 82%
MOVE OUT OF UNION	30 28%	16 15%	3 3%	30 27%	79 18%
TOTAL	107	108	114	110	439

42. Begging is not as clearly defined in developing countries as most observers would expect. One of the respondents interviewed in Boilor walked from village to village selling clay pots. Her trade was not very profitable, and one may even question whether there was much demand for clay pots. Her freedom of movement was absolutely startling when compared with her peers. Many of the purchasers were no doubt motivated as much by good will as need to own clay pots. The woman who maintained this trade was extremely proud of her business and is exemplary of the tremendous potential that women may someday realize in Bangladesh.

43. Commuting will here be defined as working outside of the UNION of residence. UNIONS average 12.4 square miles in size and roughly 20,000 persons in population for the country as a whole, though the rural UNIONS under investigation have lower population sizes.

As expected, commuting outside Union boundaries is most common in Sayedpur and Boilor. Both are located close to paved roads and frequent bus service to Dhaka and Mymensingh respectively. Sixteen percent of the workers in Sayedpur travel further, crossing District lines to work. Mohish Bhanga has a somewhat lower incidence of commuting. Mohish Bhanga is also located within a thirty minute walk of a paved road, but the limited opportunities for work in Natore and Rajshahi may discourage daily commuting. An alternative explanation, that location of the villages near Union borders or perhaps the size of the Unions would affect the likelihood that the journey to work cross a Union boundary, appears to have limited relevance in this case. Hilalnagar is located on the border of its Union, Upazilla, and District, but travel to the borders is infrequent.

a. Occupation and Commuting

The occupational mix of persons working outside of their Unions is distinct from that of local workers. Ninety-eight percent of farmers and 100% of fishermen work within their Union of residence. In contrast, 64% of traders, 56% of manufacturers and 31.5% of persons in service occupations work in their Union of residence.

Where transportation is available, there is every reason to expect people in trade, manufacturing, and services to travel further from their homes in search of work. Do longer home to work commutes stimulate better income? Thirty-two percent of workers in the large surplus category work outside of their Union. The percentage drops to 19% for small surplus, 17% for marginal and 11% for workers living in poverty. The pattern is apparent, but conclusions about causality are risky. The introduction of better transportation services would not insure that other community members will be able to increase their incomes

significantly. On the other hand, making higher income work available in commuting range can benefit villages with infusions of cash from commuters.

Participation in BRAC has little influence on home-to-work commuting, both overall and within occupational groups.

The occupational mix of BRAC participants is very similar to that of the non-participants. BRAC members represent between 12% and 18% of most occupational groups. The notable exceptions are for less common occupations such as fishermen, BRAC members representing 44% of the total and artisans with BRAC members representing 23.5%. There is no significant interaction between participating in BRAC and working outside of the Union of residence. Of 153 working persons in BRAC households, 13.7% work outside of their residential Union, and 20.3% of the 286 workers in non-BRAC households work outside of their residential Union. Lower rates of commuting are consistent with the earlier finding of lower rates for persons in low economic status. A slight increase in travel for BRAC members over non-BRAC persons in agricultural occupations reflects BRAC's economic screening procedure which favors landless laborers for membership over land owners.

b. Credit and Commuting

Persons taking loans display small, but significant, increases over non-borrowers in travel. Sources of credit appear to be related to commuting in a systematic way. The questionnaire was structured in order to investigate how taking a loan might affect individual migration. The data suggest that bank lending may increase the distance people travel to work. Development programs have an even stronger effect.

The formalization of credit markets certainly would seem to be related to increased monetization and a greater

reliance of workers upon cash incomes. Unlike loans taken from local lenders, family, friends and associates, bank and development program loans are clearly defined by principle, interest and term. Informal sector loans, even with their much higher interest rates, are more often loans of food and are less defined with respect to a payback schedule. Some of these loans are ultimately paid back in crops or labor.

Formal sector loans are more likely to be stipulated for particular purposes. In most cases bank and development program officers require that the borrowed funds be used to pursue productive or income-generating activities. These activities include small-scale retail trade, transportation and small-scale manufacturing, activities which tend to earn better profits in urban locations.

Local lending is more often associated with emergency consumption needs. Borrowers have an immediate need for food and are willing to pay extremely high interest rates in order to meet those needs. The returns on productive investments are rarely sufficient to justify borrowing at annual interest rates over 100%. However, the debts accumulated through consumption borrowing often have the effect of encouraging entrance into occupations which pay in cash.

Table 9.8 Loan Source and Commuting

Source of Loan	Households Borrowing	Percent of All Households	Percent Commuting
NO LOAN	102	36%	25%
LOCAL LENDER	95	34%	22%
BANK	57	20%	21%
DEVELOPMENT PROGRAMS	66	24%	29%
BRAC	44	16%	25%

Table 9.8 compares a cross-section of the 280 survey households at the time of the interview asking whether any member of the household took a loan from a particular source, and whether any member of the household was working outside of their Union of residence. The proportion of borrowers who commute does not vary much between lenders, nor even with the group that has not borrowed money. Development organizations, other than BRAC, show a slightly higher number of commuters. These development agencies, such as the BRDB, do not stipulate low income eligibility limits. Their pool of potential borrowers is composed of persons who are better educated and more likely to be employed outside of their residential communities.

D. Place-oriented Development and Migration

The clear relationship between education and occupation in the selection of urban residence suggests that rural areas lack diversification of occupational opportunities. In many cases individuals have acquired skills which no

longer match the local mix of opportunities. Place-oriented development strategies attempt to redress the disparity between human capital and local opportunities by diversifying the local, in this case rural, economy. While BRAC's rural credit and training program places a heavy emphasis on human capacitation, BRAC and other agencies have also supported projects tied to a rural location.

Place-oriented development has been characterized as having three planks. Intensification refers to increasing production of traditional goods and services, as expansion into new land is all but impossible. Diversification refers to production of new goods and services and organization of new processes for production. External integration is the formation of closer relationships between rural communities and other geo-political units, especially cities. Internal integration refers to increased participation of community members in joint activities and decision-making. Each aspect of community development is expected to have qualitatively different impacts on migration. Intensification and diversification are expected to increase local opportunities and reduce out-migration. Internal integration may be expected to reduce out-migration, while greater external integration can have the opposite result.

The following discussion will emphasize the migration impacts of land, shelter, infrastructure, and organization development. Each of these development activities is tied to the place of implementation. Transportation infrastructure is an exception. While other programs can be considered point-oriented, roads and rail lines are linear and connect rural areas to cities. A special note will be made of the implications of place-oriented development for commuting, temporary and repeat migration.

1. Land

Agriculture is the most significant traditional industry in the survey villages. When households possess between .25 and 2 hectares of land, they can be expected to cultivate it intensively. Families with less land often have to seek opportunities to sharecrop, rent, or work as laborers on other's land. Larger land owners generally hire labor or enter into sharecropping arrangements.

Agricultural intensification has come to be closely associated with Green Revolution technology. Land is irrigated and fertilized, permitting the use of hybrid seed and narrow planting distances. High yield technology is still evolving in Bangladesh with every possibility of more than doubling average yields per unit of land in the future.

Land distribution in the four villages has become less equitable over the past fifty years. Landlessness is increasing. Two factors appear to be most important in determining the pace at which households become landless, traditions of inheritance and concentration into the hands of relatively wealthy community members. These two factors are interrelated, as larger families are simultaneously pressed to borrow funds to meet consumption needs and to divide what land they own into many smaller parcels for inheritance.

Islamic tradition prescribes that land should be willed in so that sons receive equal shares and daughters receive half-shares. Daughters are frequently pressured into giving up their half-shares to their brothers.⁴⁴ Declining infant mortality, partly a sign of expanded rural health care, can lead to larger family sizes. Larger numbers of children is likely to have accelerated the

44. In the event of divorce or widowhood, women often rely upon their brothers for a place to live and temporary financial support. Turning land over to brothers gives women a better chance at receiving substantial assistance.

process of fragmentation and increased the proportion of persons who are functionally landless.

The process of concentration of land has been discussed in chapter VII. Land has become so scarce that persons owning more than two acres are often considered "large land owners". In the four villages surveyed the major landholders could not be considered "latifundistas" on the scale of Latin American land distribution. While larger land holders were better off than most landless families, there did not appear to be much room for a major land redistribution policy. Considerable attention was also given to the process by which land is transferred from the small owners to the larger owners. The most common mechanism was non-institutional lending at very high interest rates.

Land ownership has a major influence on whether sons will remain in their birth homes. One of the weaknesses of Todaro's income-based migration hypothesis is an inadequate conceptualization of the value of land. Land ownership is highly correlated with economic status, and is used as a proxy for wealth. The ownership of land has a second important value as collateral in seeking short-term credit.

Many respondents reported difficulties meeting basic consumption needs on a continuous basis. When crops are not yet to the harvest stage, families often run out of basic staples. Short-term informal loans, even at usurious rates, do provide important access to emergency supplies.

In the long run, frequent consumption-oriented borrowing with land as collateral has resulted in loss of that land. Local money lending cannot be overemphasized as a process by which households are eventually channeled into poverty. Landless households have no choice when food runs out. Either they receive assistance locally or they leave, at least temporarily. A qualitatively interesting number of

respondents have adapted to slack seasons in the local labor market by engaging in repeat, temporary migration. This practice will be discussed shortly.

Development intervention has had little impact on the process of land fragmentation through traditional inheritance practices. To the extent that family planning programs contribute to declines in family size, an impact can be anticipated in the future. In the four survey villages, the impacts are small and often too late to ward off landlessness. On the other hand, development intervention has played an important role in altering the process of concentration through usurious lending. In particular, BRAC's credit programs have displaced a significant amount of informal credit, at interest rates 75% lower than informal rates. While loans have not been used to purchase land, some have been used to rent and lease land for agricultural investment. Households and inter-household groups within BRAC have used BRAC loans to compete with local elite for lease of government Khas land, where available.⁴⁵

This study produced no statistically significant evidence that participation in BRAC has led to increased land ownership. Since BRAC participants are generally landless at the time they join, participation cannot be expected to affect the pace of losing land. Thus BRAC's primary influence on land use by BRAC members has been in temporary land rent and lease arrangements. KHAS land in particular is more intensively used. This level of

45. KHAS land is very often land that remains underwater for several months every year. The government auctions land-leases for dry season rice and jute planting.

Of the four survey villages, Hilalnagar was located in the most heavily flooded region and consequently has access to the largest amount of KHAS land. Competition between factions for leases is fierce and often leads to injury.

participation allows for the possibility of higher near-term incomes, but provides little long-term security. As long as temporary land tenure options are maintained, BRAC's efforts can be expected to reduce out-migration of the participants.

If land tenure is lost, then few long-term benefits should be anticipated.

2. Shelter

While not a primary focus of this research, emphasis of many development programs on improving shelter for the poor merits a brief discussion of how such programs may be expected to influence migration. For many families in this study, shelter consists of little more than bamboo poles and dried grass or thatch. Shelter provides meager protection against the violent storms that sweep in from the Bay of Bengal. Shelter seldom includes services such as water, sewerage, electricity or even protection from insects. Housing quality rises with the addition of mud walls, and rises again with the use of tin walls and roofs. In all but Hilalnagar there was at least one, and never more than three, houses that were solidly constructed of cement with cement floors and tin or corrugated tile roofs. Hilalnagar had no high quality housing, and much of the tin in use was badly corroded.

Housing improvements are a popular objective among survey respondents. Many suggested that BRAC should make commit more financial support to programs for improving participants' homes. From a medium-term perspective some improvements do result in cost savings. For example, a straw roof may cost one third as much as a tin roof, but it will not function as well and requires much more frequent replacement. One problem confronted by lending and development agencies is the means by which loans will be repaid. Income-generating loans are in theory self-

financing. Consumption-saving loans do not provide a comparable source-use association.

BRAC's principle foray into housing assistance was their 1971 relief effort in Sylhet region. The housing assistance program had a strong impact and fifteen years after implementation the residents of Hilalnagar still consider this to be one of BRAC's best efforts. The back edge of the sword has been the negative effect of relief programs on self-help motivation. After offering highly subsidized roofing tin and bamboo to the participants, BRAC's move towards self-help programs meant no more hand-outs. Instead, BRAC offered assistance in organizing and provided some market rate loans. From the participant's perspective, this was a significant reduction in assistance. The participants were no longer simple beneficiaries, but were expected to contribute both labor and leadership from within.

Despite having switched direction from relief to development over ten years prior to this survey, the respondents still called for housing assistance. There can be no question about the intensity of the felt-need for improved shelter. In the three survey villages where BRAC never offered extensive relief programs, the most common request is for low or market rate loans for the purchase of housing materials, particularly tin. Formulation of a housing assistance policy was being given serious consideration by BRAC. One tentative step towards a housing policy was BRAC's proposal to assist participants when the participants demonstrated excess financial capacity. That is, if the participant saved a significant proportion of the required housing improvement costs, say 50%, then BRAC would loan the other 50% at market rates. This appears to be a sound, if conservative, policy from BRAC's perspective, as

borrowers would have demonstrated their capacity to pay back the loan through savings.

Several problems remain. BRAC's mission to serve the very poor is not directly served when only the better off members, those who are able to save money, are allowed to participate. The money that the participants save for housing has an opportunity cost associated with it. That money might have been used in agricultural or income-generating activities. BRAC's own resources, both human and financial, would have to be transferred to housing credit operations. Small loans do not require equally small amounts of staff time to administer.

Housing assistance is expected to reduce migration out of the villages for several reasons. In emergency situations, such as the independence war, families returned to their villages after several months as refugees. They had no food, no shelter and in many cases no legal claims on the land that they once plowed. Under those circumstances, efforts to address crisis level needs in the villages encouraged people to make a similar commitment towards that location. Housing alone might not have been sufficient to stem migration, but under post-catastrophe circumstances it was an important component of a relief effort.

Housing assistance, under less dramatic though still dire circumstances, is probably responsible for holding some people in their home villages. Many of the poorest respondents pointed to their houses and stated categorically that they owned no other possessions, including land. Having no possessions other than a small, thatch house, and having no sources of economic support other than unstable agricultural labor and equally poor extended family network, the respondents would appear to have few reasons for staying.

Security in whatever form appears to be of paramount importance. For many of the respondents, especially women, travel to a new location, particularly a major city, was a frightening prospect. Responses to the question of whether the respondent would consider moving to a city ranged from "What would I do in a city?" to "I can't read or write", and "It is dangerous in cities.". Security is a very difficult concept to quantify, as is the level of security that people might gain from better housing. Economic security is fostered with ownership of corrugated tin which can be resold during hard times. The psychological value of better shelter in the respondent's home village is also likely to be significant, especially when the realistic alternative of cardboard squatter housing in Dhaka's annual flood zones is posed.

Home ownership was nearly universal in the survey villages. Rental markets are well developed in urban locations, but account for only a small amount of shelter in rural areas. Table 9.9 indicates respondent statements of desire to migrate in the future by home tenure. Respondents were least likely to state a desire to move when they or their spouses owned the home. The small number of renters, most of whom provided labor in exchange for shelter, were the most likely to want to move. In the middle are respondents living in homes belonging to their parents, children, siblings or spouse's family. The higher percentage wanting to move is partially accounted for by the life course stage of these respondents and how they define their relationship to their home.

Table 9.9 Migration Intentions and Home Ownership

	RESPONDENT	SPOUSE	OTHER FAMILY	RENT	TOTAL
YES	23 24%	20 21%	29 36%	6 75%	78 28%
NO	72 76%	76 79%	52 64%	2 25%	202 72%
TOTAL	95	96	81	8	280

Housing quality at the high end is positively associated with familial connections to the major cities, in some instances a result of remittances. There is a weak, bimodal relationship between housing condition and number of past moves. The respondents living in "good" housing averaged 2.0 lifetime moves while those in fair and partially damaged housing averaged approximately 1.3 moves.

The respondents living in dilapidated housing averaged 1.8 moves. The differences between the two extreme housing conditions and the two middle housing conditions are of borderline significance with 95% confidence while the respondents living in good and those living in dilapidate housing do not have a significantly different total number of previous moves.

Better housing is also associated with higher levels of education, better economic status, and more frequent migration to urban areas. Better social and economic status may be responsible both for better housing and stronger connections to urban areas. Under these circumstances, intervention of development organizations in improving housing quality will probably not encourage out-migration,

and may encourage population retention. If an impact is registered, then it is likely to be manifested in a reduction of moves among the population living in dilapidated housing. Arguments might also be made that credit programs for housing will push households further into the cash economy, at times forcing migration in search of paid work. As there were no housing credit programs in the survey villages, no data support or refute such a pattern. Fundamental changes in social and economic status in the long run are likely have more significant migration effects.

3. Infrastructure

This section highlights three forms of infrastructure improvement and how they relate to three forms of community development and migration. Irrigation serves as the clearest example of investment for intensification of traditional goods. Electrification represents another widespread intervention which promises to aid in diversifying rural production. Finally, the extension of elevated, year-round roads is instrumental in integrating communities within a larger urban hierarchy.

a. Intensification and Irrigation

Infrastructure, defined broadly, can be expected to have several relationships to development and migration. Facilities which contribute directly to traditional production, such as irrigation, are an important component of intensification of production. Much of the land in Bangladesh can produce two and three crops each year with irrigation. Greater intensification of production is generally expected to raise the carrying capacity of a community and discourage out-migration. Some exceptions, such as intensification which requires the substitution of

capital for labor, would have an opposite effect, but this sort of substitution is not evident in the survey villages.

Rashid, in An Economic Geography of Bangladesh, describes positive effects of irrigation on in-migration. Regional net migration from south eastern to north western districts is attributed to growth in carrying capacity in the northwest resulting from power-pump irrigation. In this study, the data are not quantitatively adequate to confirm Rashid's hypothesis.

However, there are several cases where irrigation clearly played a role in respondent decisions to migrate or not to migrate. A frequent criticism in the literature on the Green Revolution, which requires irrigation, has been its disproportionate benefit to larger farmers. Throughout the interviewing process, two criticisms were heard. Respondents in Mohish Bhanga complained that power-pump irrigation had lowered water tables and dried-up shallow bucket and hand-pump wells. The second complaint was that power pumps provided through government development programs went primarily to the wealthier land owners who then sold water to smaller farmers. Despite these criticisms, no respondent suggested that irrigation was bad. Even landless laborers favored irrigation schemes, as the local demand for labor increases significantly.

Many of the male respondents have migrated temporarily to other villages, often a great distance away, in search of work. To our surprise, even landless residents of the survey villages argued in favor of programs which increased the amount of land under irrigation and flood control. With more irrigation, they argued, they would not have to range as widely nor as often in search of temporary work. Critics of the Green Revolution cannot be dismissed without a more thorough analysis, but from the grass roots perspective it

seems that the demand for jobs outweighed concerns about the long-term inequities.

Two government programs which are designated specifically to assist in agricultural development in Bangladesh are the Bangladesh Rural Development Board (BRDB) and the Bangladesh Agricultural Development Council (BADC).⁴⁶ Cross tabulating respondent reports of BRDB and BADC presence in past or current places of residence suggests no statistically significant relationship with migration nor with future intentions to migrate. This lack of measurable relationships may be due either to the lack of a substantial relationships between agricultural intervention and migration or, more likely, the lack of substantial contact between survey respondents and extension agents. Ninety respondents (32%) reported BADC to be active in their villages, and 165 respondents (59%) reported BRDB to have been active in their villages. However, only 15 respondents (5%) reported working with BRDB and 1 of 280 respondents reported working with BADC agents at any time in the 1980's.

b. Diversification, Electrification and Water Supply

Electrification and water supply influence quality of life and capacity to diversify production in a community. Electricity is essential for rural economic diversification. Without it manufacturing is limited to cottage industries,

46. The Third Five Year Plan discusses the confusion that has resulted in agricultural extension that resulted from having 13 different agencies operating in the field. These agencies have been consolidated under one umbrella in the Ministry of Agriculture, called the Department of Agricultural Extension (GOB, 1985:168). In the villages most of the respondents were unaware of the activities of extension agents, but did report some intervention by BADC representatives.

services are limited by darkness, and commerce is limited by the lack of refrigeration, lack of electronic equipment, inadequate communications, and so on. Even agriculture is restrained by competing demands for daylight activities, and difficulty in controlling pests in grain storage and animal rearing areas.

The short run impacts of electrification and water supply for household consumption may be to encourage some households to stay. Less immediate impacts on productive activities are also expected to discourage out-migration. The data are not conclusive. There is insufficient variation in access to water, 89% use water from hand pump wells and none have taps in their homes, to test impacts of access on desire to move. Two of the four survey villages have recently gained electrification in a minority of houses while the other two have not received any services. Respondents were asked whether they had electricity in the communities and/or in their households.

Comparisons can be made of households in the two villages which currently have partial electrification. The results are not consistent with the hypothesis that electrification will retain the rural population. Forty percent of respondents from households with electricity state a desire to move in the future, almost invariably to a larger town or city, compared with 20% in households lacking electricity. One likely explanation is that the first families to have electricity in their households are the wealthiest and best educated. This same group may also be the most likely to plan migration out of small villages. Of respondents in villages with electrification, 44% of surplus respondents have electricity in their homes, whereas 16% of marginal and poor households have electricity. In these villages, the average level of education in households with

electricity is 3.5 years as opposed to 2.3 years for households without electricity.

The four survey villages do not provide a strong case for electrification and water supply stimulating economic diversification. The most common power machines used in the villages are rice mills, water pumps and sewing machines. These technologies are easily implemented using hand and gasoline power. Electrification has reduced the cost of operating power equipment, but has not stimulated new products or services. The lack of economic diversification may be explained by the very recent arrival of electricity.

The road to Sayedpur presented a more impressive example of the potential of electrification for economic diversification. The interaction of basic services, government support, access to Dhaka, and local entrepreneurship, has resulted in the rapid growth of small and medium scale garment factories. Many of the factories were still under construction and some appeared to be frozen at that stage. The demand for labor both in construction and later as shop workers was tangible, even though only one respondent reported working for a garment factory at the time of the interview.

c. External Integration and Transportation

The third infrastructure group, transportation, is expected to facilitate rural external integration into the regional and national economy. External integration is expected to encourage permanent out-migration, temporary migration, repeat migration and commuting from the survey villages. In the case that a village is located within a short commute of a major urban center, improved access might encourage in-migration as part of the urban growth process.

The distance to all of the survey villages, and the

sluggish growth of the major cities, reduced the likelihood of this pattern prior to and during the survey period.

While few of the respondents commuted regularly to urban areas, the importance of such access is significant. The four villages have very different levels of access to major cities. Sayedpur is closest to Dhaka, followed by Boilor, Mohish Bhanga and a distant fourth is Hilalnagar. Transportation times from Sayedpur and Boilor are less than three hours by bus. Mohish Bhanga requires a ferry crossing causing considerable variation in travel time, ranging from four to eight hours. The trip to Hilalnagar requires multiple modes of transportation and takes between ten and twenty hours. Both Boilor and Mohish Bhanga have good access to secondary cities, Mymensingh (one hour) and Rajshahi (2 hours) respectively.

Travel time to major cities is positively associated with the percentage of family members living in cities. Table 9.10 presents respondent siblings and children, 20 years or older, living in urban locations at the time of the survey. Sayedpur has the highest percentage of siblings (10%) and children (29%) living in cities. Hilalnagar respondents have the lowest percentages of siblings and children in urban residences. Much of Hilalnagar's out-migration occurred in the exodus of Hindus during the 1971 independence war and subsequent emigration to India. Boilor occupies a middle ground with the smallest absolute number of out-migrants, but the second highest percentage now residing in urban areas.

Table 9.10 Sibling and Child Urban Residence By Village

	SAYEDPUR	M.B. HILALNAGAR	BOILOR	Total	
SIBLINGS	25	4	2	9	40
	10%	2%	1%	4%	4%
CHILDREN	15	3	0	4	22
	29%	4%	0%	8%	10%

While development programs cannot affect the spatial distance between villages and urban centers, programs which improve paths, roads and highways are likely to increase access and migration to urban areas. Stronger linkages may also encourage investment in rural areas. For many villages there is an initial growth of road-side commerce, designed to serve passing vehicles, and later becoming the principle commercial district for the village. Among the survey villages only Boilor had any commerce of note. The road side was not the center of business, but did appear to be growing. A competing market was in its initial phase along the highway in a neighboring village.

Another connection between access and development is the flow of remittances. A significant sources of money for the villages came in the form of remittances from family members living in nearby cities. While respondents were reluctant to disclose the value of remittances received, they were consistent in saying that gift giving during visits was a major component. Such visits are of course facilitated by better transportation. Respondents that received remittances also pointed to a decay, over time, of the flow.

Proximity to the source of remittances may act to slow that decay. Sayedpur, the best connected village, also had the highest percentage of respondents currently receiving remittances, 17%. This figure declines to 11% for Boilor, and only 4% for Mohish Bhanga and Hilalnagar, the least connected villages. Mohish Bhanga is unique in that there are more remittances going out to family members than coming in. Under-reporting of remittances is probable, especially for funds received.

4. Organization

The final form of place-oriented development, building local organizations, has the least intuitive connection with out-migration. While land, housing and infrastructure are physical and immobile, human organization as a fixed asset can become entangled with vocational and leadership skills that are a part of organizing. Participants in BRAC's adult literacy programs simultaneously gained individual skills which might help them in urban environments, but also built multi-stranded relationships with the other participants which were most useful in the village. Organizing is expected to increase household integration into the community and discourage out-migration.

Several interview questions were designed to indicate participation in BRAC and other organizing programs. Because participation in some programs occurred in the past and in villages other than the survey locations, there was no option but to have respondents evaluate their participation and comment on any gains or losses experienced. Past participation can be compared with migration behavior and current participation with desire to migrate. Participation was then classified into groups such as consumption, attending literacy classes, working on a

project for wages, borrowing for economic investment and so on.

The results are generally inconclusive. In a series of crosstabulations comparing a variety of forms of participation in group activities, little relationship can be found with migration or desire to migrate. In several cases the number of participants in a particular endeavor was insufficient to produce a reliable statistical test. Only a very small percentage of respondents, even among those affiliated with development programs, listed activities associated with organizing as an important aspect of their participation. Most responses focussed on financial participation through loans and paid work.

The low level of responses on questions about organizing may be indicative of a lack of interest in this much publicized aspect of rural development intervention. Alternatively, organizing may be perceived by respondents as a process necessary for acquisition of needed tangible assets. The design of the MIGDEV interview emphasized tangible benefits, and may have biased respondents away from noting intangible and process-oriented benefits. Other research sponsored by BRAC has emphasized the role of organizing in development (Chen, 1983). That research indicates a number of benefits to the strategy. Unfortunately, BRAC's more focussed research on participation does not measure migration.

E. Multivariable Migration Intentions Model

Extension of the path model of individual development to include migration outcome proved infeasible. The residential history format, applied to this population, did not produce sufficient cases of participation in development programs prior to migration. A larger sample, higher participation rates, higher migration rates and the

inclusion of more non-migration life-course events all would have increased the feasibility of a complete multivariate path model. DaVanzo's critique of residential history analysis is applicable to this case (1982).

A model measuring the impacts of current individual and community characteristics and participation in development programs on expressed migration intentions is presented below. An advantage of using migration intentions is greater comparability of respondents in a cross-sectional format. One disadvantage is the potential gap between stated desire to move and actual future migration. Because life course patterns and stated reasons for migration differed considerably between male and female respondents, combined and gender specific models are compared.

The model follows the general design set forth by Bilborrow, et al. (1987). The model is expressed as:

$$M_{ijk} = f(X_{ijk}, X_{jk}, X_k)$$

Migration intentions of individual "i" in household "j" and village "k" are a function of individual, household and community or areal characteristics. Like Bilborrow, et al., this application incorporates data on all three levels.

However, in this study only one representative of each household was interviewed, making intra-household comparisons of migration intentions somewhat problematic.

Individual-level variables and their bivariate relationships to migration intentions are presented in Table 9.11. Chi-square tests of interaction for categorical data and t-tests of interaction for interval data show were performed, and the levels of significance for each test are presented in parentheses. At the bivariate level some interesting relationships emerge, particularly when comparing by respondents gender.

Table 9.11 Migration Intentions: Individual Level

Variable	ALL	MALE	FEMALE
<u>Proportions Desiring to Move</u>			
Overall Proportion	(.062) 28%	33%	23%
Marital Status	(.000)	(.123)	(.000)
Single	50%	43%	73%
Married	25%	31%	20%
Widowed/Divorced	10%	0%	12%
Home Owner	(.003)	(.119)	(.030)
Respondent/Spouse	23%	28%	19%
Other Family/Rent	39%	40%	38%
Occupation	(.000)	(.001)	(.019)
Agriculture/Domestic	23%	26%	20%
Manufacturing/Service	56%	59%	50%
Has enough work	(.028)	(.852)	(.018)
Yes	33%	33%	32%
No	21%	32%	15%
<u>Means of Interval/Ordinal Data</u>			
Age	(.001)	(.000)	(.000)
Want to move	27.0	27.0	26.9
Don't want to move	37.2	37.6	36.8
Education	(.000)	(.094)	(.000)
Want to move	4.0	3.9	4.2
Don't want to move	1.8	2.8	1.0

* Levels of significance for X² and t in parentheses.

Gender shows borderline significance, with males somewhat more likely to desire moving. Male BRAC participants are only slightly more likely to state a desire to move than female participants. Intentions to move are positively associated with not owning current residence,

particularly for female respondents. Women living with in the home of their parents and, perhaps more importantly, the home of their husband's parents, were twice as likely to express a desire to move. Home ownership is not significantly related to migration intentions for male respondents.

Occupation of the respondents is significant accross the board, with persons employed in non-agricultural occupations being more than twice as likely to express migration intentions. However, women who expressed concerns about not having enough (remunerative) work in the future were actually less likely to state migration intentions. This finding was unexpected, but is consistent with a number of earlier findings, that many of the better of members of the survey villages have the most active migration histories. This relationship did not materialize for male respondents.

Finally, age and education had the expected relationships with migration intentions. The underlying pattern suggests that younger, better educated respondents were the most likely to state a desire to move. Interestingly, average years of secular education for women who expressed intentions to migrate was more than 4 times that of women not desiring to move. One must be cautious in drawing conclusions from bivariate relationships, but the pattern suggests that secular education may play an expecially important role in fostering female rural-urban migration for this sample.

Marital status emerges with significant interaction with migration intention for females, but not for males. However, as was noted earlier, there is a very high correlation in this sample between marital status and age. Consequently, marital status is not included in the following multivariable logit models. Future analyses, with

a larger sample, should investigate whether there are significant differences in migration intentions by marital when status controlling for age. In this sample marital status is not significant in explaining migration intentions when controlling for age.

Table 9.12 Migration Intentions: Household Level

Variable	ALL	MALE	FEMALE
<u>Proportions Desiring to Move</u>			
Possess Bike or Radio	(.001)	(.256)	(.000)
Yes	45%	42%	46%
No	23%	31%	14%
Electricity in Home	(.063)	(.313)	(.118)
Yes	40%	42%	37%
No	26%	31%	21%
BRAC	(.446)	(.117)	(.611)
Participants	31%	43%	20%
Non-Participants	27%	29%	24%
Has BRAC Loan(s)	(.190)	(.075)	(.976)
Yes	35%	48%	23%
No	26%	30%	23%
<u>Means of Interval/Ordinal Data</u>			
Economic Status	(.002)	(.337)	(.006)
Want to move	2.6	2.6	2.5
Don't want to move	2.2	2.5	2.0

* Levels of significance for X² and t in parentheses.

Household level variables, presented in Table 9.12, are very close in scope to individual variables in Table 9.11. They can be distinguished from individual variables if they meet the following test. The question should refer to the entire household unit and in principle should receive the

same answer from any member of the household. Household covariates also show interesting differences for male and female respondents. Possession of a radio or bicycle appears to be related to migration intention for females, but not males. These assets are intended to indicate wealth status of the household. The indication is that women from higher status households may be more likely to desire to migrate. The economic status variable appears to support this pattern, with better-off women more likely to want to migrate.

Family membership in BRAC is not significantly related to migration intention at the bivariate level. However, males who report BRAC loans to their households were marginally more likely to want to move. Females show no relationship between BRAC loans and migration intentions. Finally, electrification in the home appears to have borderline interaction with migration intentions for the total sample, but the difference disappears within gender groups. The loss of power when analyzing the small, subpopulations may be sufficient to explain the drop in significance. The pattern, however, is consistent for males and female. Electricity in the home is positively related to migration intentions.

Community-level data incorporated in this analysis include respondent reports on the percentage of land under irrigation, non-agricultural production, retail activities and land-transportation access in their villages. These variables are respondent perceptions of community features whether or not the reports are factually correct. Migration intentions are entwined with perceptions, and perhaps as much informed by perception as fact. As was argued in Chapter 2, even the most visible forms of development intervention, such as large scale infrastructure, are not universally acknowledged. The programs can in fact be so

ineffective as to effectively not exist for many residents.

The variation in reports of community level data are used here as an opportunity to understand better how the perceptions of programs affect the lives of residents.

Table 9.13 Migration Intentions: Community Level

Variable	ALL	MALE	FEMALE
<u>Proportions Desiring to Move</u>			
Village Road Access	(.849)	(.281)	(.213)
Motor Vehicle	28%	38%	27%
Non-Motor Only	27%	29%	18%
Textile Manufacturing	(.140)	(.104)	(.574)
Yes	33%	42%	25%
No	25%	28%	21%
Food Processing	(.022)	(.650)	(.039)
Yes	18%	29%	14%
No	32%	34%	29%
Shops	(.406)	(.226)	(.981)
Less than three	30%	37%	23%
Three or more	25%	28%	23%
<u>Means of Interval Data</u>			
Percent Land Irrigated	(.382)	(.711)	(.104)
Want to move	44%	46%	41%
Don't want to move	48%	44%	52%
* Levels of significance for X ² and t in parentheses.			

Community-level variables, in Table 9.13, do not show strong relationships with migration intentions. Road access, textile manufacturing (handloom weaving, sewing and net-making), village shops and irrigation do not appear to be related significantly with migration intentions. The

exception is food processing, which appears to be negatively associated with desire to move.

Food processing is labor intensive, providing low returns to the primarily female workers. At the individual level, the recognition of food processing activities is associated with participation in those activities. At the village level, food processing is most common in the relatively isolated villages. Taking these points together, persons engaged in low wage food processing in relatively isolated villages are also least likely to have migration intentions. Methodological problems may interfere with this simple, one stage approach to analyzing areal affects using micro-level data. Even given the considerable variation in individual perceptions of community features, there is still likely to be a large amount of consistency in responses by members of the same village. Unanimity of opinion would produce no variation with groups and would create significant problems with multicollinearity between independent, community-level variables. A large number of levels, or communities, would reduce the impact of multicollinearity. This study presents only four areal levels, and as such must be interpreted cautiously..

The logit model, in Table 9.14, is generally consistent with the bivariate analysis in tables 9.11, 9.12 and 9.13. Individual level variables tended to remain significant. Younger age, higher education, and non-agricultural employment contribute positively to expressing a desire to move out of the survey villages. The model is somewhat more successful for females than males, with lack of home ownership and level of education passing threshold tests of significance and contributing to migration intentions.

The effects of age and education are consistent with the migration literature in general and with hypotheses expressed in this study. Secular education is clearly a

stimulus for wanting to move and actually moving out of the survey villages. Age is an indication of life course stage, with older persons being more likely to want to stay, and younger persons looking at more alternatives for the future.

Household level variables were generally less significant in the multivariable context. For females, having modern possessions, and having BRAC loans contributed marginally to a desire to migrate. For males, only BRAC loans held even marginal significance, with borrowers expressing somewhat more interest in migrating,

Some variables which were significant at the bivariate level drop out in the multivariable analysis. Most notably, economic status and whether the respondent anticipated having sufficient work in the future no longer appear to influence migration intentions, *ceteris paribus*. Again, the general loss of degrees of freedom may account for variables losing significance. Another possibility with economic status and shortage of work is that they are derivative of other variables in the model.

Table 9.14 Logit Analysis of Desire to Migrate

	ALL	MALE	FEMALE
INTERCEPT	2.331 **	2.893 **	2.924
INDIVIDUAL LEVEL X_{ijk}			
GENDER (FEMALE)	0.046	--	--
AGE	-0.068 ***	-0.083 ***	-0.062 **
EDUCATION	0.160 ***	0.071	0.348 ***
HOME OWNER	-0.085	0.283	-0.760 **
NON-AGRICULTURE	0.561 **	0.716 **	1.391 **
HAS SUFFICIENT WORK	-0.139	0.143	-0.229
HOUSEHOLD LEVEL X_{jk}			
MODERN POSSESSIONS	0.418 **	0.100	0.637 *
ECONOMIC STATUS	-0.092	0.037	-0.185
BRAC PARTICIPATION	0.042	0.050	-0.283
BRAC LOAN	0.662 **	0.723 *	1.065 *
ELECTRIFICATION	0.394 *	0.399	0.075
COMMUNITY LEVEL X_k			
LAND % IRRIGATED	-0.509	-0.295	-0.640
VILLAGE ROAD ACCESS	0.057	0.225	0.006
TEXTILE MANUFACTURE	0.363 **	0.293	0.691 **
FOOD MANUFACTURE	-0.318	-0.046	-0.772 **
SHOPS IN VILLAGE	0.168	0.442	-0.186
SUMMARY STATISTICS			
LIKELIHOOD RATIO	246.420	135.350	89.590
PROBABILITY	0.761	0.229	0.991

*=p<.10, **=p<.05, ***=p<.01

Community level variables are also generally not powerful in the logit models, and where significant are difficult to interpret. Irrigation, road access and village shops are all non-significant. The presence of textile manufacturing emerges as significant and positively

associated with desire to migrate in the logit analysis, though it was not significant in the bivariate table. The positive relationship may indicate the impact of greater economic integration of the village with urban markets, though this is purely speculative. Hilalnagar, the village with the highest proportion of respondents reporting textile manufacturing also has among the lowest percentage of persons wishing to migrate. Food processing is more consistent with expectations. The relationship is negative and significant for female respondents. Food processing is an indicator of all three forms of development coming into sync. Intensification of production, diversification of work and integration within the village economy are all promoted by local food processing. Mohish Bhanga has the highest proportion of respondents reporting food processing activities and among the lowest percentage of persons wishing to migrate.

Participation in BRAC does not prove significant in either bivariate or multivariable analysis of migration intentions. In the bivariate table, male participants in BRAC were somewhat more likely to report a desire to move than non-participants, whereas female BRAC participants were somewhat less likely to express a desire to move. Having a BRAC loan emerges as significant and positively related to a desire to move, even for women for whom there was absolutely no bivariate relationship. This finding is consistent with the argument that loans given to individual or households for manufacturing and service employment, provides individual development opportunities which are transferable to urban locations. The hope that loans will build on local resources, promote rural development and retain rural populations requires further scrutiny. The numbers in this analysis are not large. Only 26 women and 25 men in the

study had BRAC loans at the time of the survey, a larger study is required to draw stronger conclusions.

F. Summary

Four hypotheses relating migration to development were posed.

1. Most forms of individual development increase the likelihood of migration. These include attainment of education, skills and capital.
2. Intensification, diversification and integration of the local economy decrease the likelihood of out-migration.
3. Integration of the local economy with other areas, such as through improved transportation systems, will have the opposite effect, increasing commuting, temporary, repeat and long-term out-migration.
4. Gender and life-course stage are important factors in predicting the timing of migration. They interact with both participation in development programs and with migration.

The first objective of this chapter has been to describe past and current migration patterns in Bangladesh and among interview respondents. Regional patterns indicate a movement of people from the more populated central and southeastern regions to the northwest during the past century. Regional population exchange appears to be declining. Another trend, which is accelerating, is the movement of people from rural areas to the major urban centers.

Within the survey villages, data indicate that migration is greatest for women at the time of marriage and for men seeking work. The former pattern is dominated by rural-rural movement while the latter includes a significant rural-urban flow. Marriage is practically universal, while employment related moves appear to be associated with socio-economic characteristics of the migrants. Better educated and higher social and economic status youth are among the

most likely to leave rural areas for urban environments. Future migration intentions show similar patterns, with male work-oriented migration and female marriage-oriented migration.

The second part of this chapter emphasized the influence of particular forms of individual and community development on migration. At the individual level emphasis has been given to education, health and movable capital. Development programs can act in these areas in ways directly associated with migration. For example, loans are extended to participants wishing to engage in sales of agricultural products and for the purchase of bicycle-rickshaws. In both of these cases, the projects funded are migration and circulation inducing.

Health programs examined in this study were not clearly associated with migration. Better health care in some parts of rural Bangladesh can be credited with lowering morbidity and mortality. Better rural health care can decrease the need for families to incur long distance moves and large debts in seeking treatment. The four villages in this study lacked primary care facilities, being served primarily by privately run pharmacies which often lacked trained staff. Complex health care needs, when addressed, required moving both patient and family to one of a few major cities, most often Dhaka.

The data indicate that education, more than any other factor, is clearly associated both with past migration and migration intentions. Migration to urban locations is especially education-selective. Schools in the four villages provided only primary education, with secondary education generally within a 45 minute walk. Secondary education is associated with occupations that are often better paid in urban locations.

Place-oriented development programs have had mixed impacts on migration among the survey respondents. Four forms of place-oriented development are discussed, land, shelter, infrastructure and organization. Land and shelter share the common attribute that they are private goods and are fundamental in defining the wealth and income of the household. Land is a principle source of security, both because it is cultivated, and also when used as a source of collateral for credit. In a few instances, loss of adequate shelter to river-bank erosion prompted migration. Respondents living in marginal or impoverished households were the least likely to state a desire to move, but had residential histories that included migration in order to meet their basic needs.

Among surplus households migration was elevated. Work opportunities were most attractive to the better educated, financially secure households. Surplus household were better able to send children to higher education and manage land from a distance.

In the middle are farmers who own small tracts of land and are neither forced to leave nor have the resources to place their land in the hands of sharecroppers. This is the group which appears least likely to migrate. However, small landholders are at great risk of losing their land through inheritance fragmentation and high interest rates on locally supplied credit.

Infrastructure investments on the part of the Government of Bangladesh and non-governmental organizations are not statistically associated with migration nor migration intentions. Qualitative data suggest that intervention programs which increase availability of employment, such as irrigation, are favored, even by landless farm laborers. Some mismanaged irrigation programs have created problems for non-participants. These are more

a function of poor program management than an effect of the irrigation as such. Where BRAC has been involved, for instance, the role of landless farmers as providers of irrigation services has been an important new source of income.

Programs for diversifying local economies have been largely ineffective in the survey villages, though probably moderately successful in some other locations. Data on diversification, such as manufacturing growth, do not indicate much change. Again, qualitatively there are visible impacts of diversification of opportunities on migration. Good examples are apparels mills and a brick manufacturing project sponsored by BRAC, both located near Sayedpur. These start-up industries were located outside of the study villages, but provided work within a reasonable commute.

Integration of the community into a larger regional economy, especially in the form of improved transportation infrastructure, appears to have the expected effects. Permanent, temporary, repeat migration and commuting all appear to be stimulated by better access from the villages to other regions and urban centers. Villages that are bisected by highways often experience a major structural change in their spatial and economic orientation. The business centers of adjacent villages move to waysides for passing busses and trucks. Local labor markets are opened to casual labor offered by passing entrepreneurs. However, the presence of road access to the four survey villages did not significantly affect migration intentions.

Integration of the individual into the community through local organization activities was expected to decrease out-migration and intentions to migrate. An important obstacle to studying the impacts of development in Bangladesh has been the very different ways in which the

respondents interpret the activities of BRAC and other organizations. What is patently "developmental" to the interviewer may be a misguided and ineffective sham from the perspective of the respondent. Despite efforts to understand the meaning of development from the respondent's perspective, responses to community-level questions about the effectiveness of intervention programs were not adequately elicited nor recorded.

Participation in BRAC programs has mixed effects on out-migration. Much of the migration measured in this survey occurred prior to BRAC intervention, and cannot be attributed to participation. The pace of migration has not subsided overall since BRAC arrived, but there may be some selective effects. The desire to migrate appears to be positively associated with BRAC participation, particularly for men. Participation in BRAC's adult literacy program has not increased literacy skills dramatically. However, the impact of organizing on participants, particularly women, appears to be liberating.

X. CONCLUSION

A. Purpose of the Study

The primary objective in the design, implementation and presentation of this research has been to inform persons active or interested in rural development about relationships between rural development intervention, actual development and potential impacts on migration. A secondary, but still quite important objective has been to advance the methodology of such research at the levels of data collection, analysis and presentation. The results of this venture are numerous. Taken together, the process and product provide incremental and hopefully valuable knowledge.

This concluding chapter will be used to review the more significant findings of this research as well as some related policies. The chapter follows the general outline of the entire study, beginning with a brief review of the conceptual model. This will be followed by a description of methods employed in carrying out this research. The section following recounts some important aspects of the research context. The hypotheses will then be restated along with summary statements as to relevant empirical findings. Policy implications of this research are discussed. The chapter concludes with a brief discussion of shortcomings of this study and suggestions for future research into migration and development.

B. Conceptual Model

A model relating development intervention, participation, individual and community development, and migration was used to organize every aspect of this study

from the literature review through four chapters of data analysis. The pieces within the model are hardly new. A great deal of research in many contexts has been dedicated to understanding how development intervention affects individuals and communities. Another, smaller body of research exists which considers the impacts of individual and community change on migration. A third analytic approach in the literature uses direct paths between intervention and migration, rather than indirect models such as this. The contribution of this study is not one of introducing brand new relationships that have somehow gone undiscovered, but rather to pull various lines of investigation into a systematic and intuitively appealing model.

The critical intersection of intervention with changes in the lives of individuals and in the organization of communities is participation. Without participation on some level, development cannot occur. Participation is considered on three levels: consumption of benefits, production oriented work, and local control over allocation.

Higher levels of participation are not always the goal of participants. Much to the disappointment of field workers in many developing and industrialized nations, participants may select short-term consumption of direct aid over long-term sustainable control of programs. BRAC recognizes this problem and provides leadership and organizational training directly to association members.

Participation in development programs is expected to have impacts on individuals through economic mobility and changes in the life-course. Intervention is expected to have impacts on communities as well. Community development is taken broadly to include processes of growth and intensification, diversification of activities and

integration of members within the community and the community within larger regional systems.

The relative outcomes of individual and community change in turn are expected to influence migration to and from villages. While individual development is expected to be conducive to out-migration, most forms of community development are expected to have the opposite effect, discouraging out-migration.

In practical terms, policies which focus on development of the individual, here described as person-oriented policies, are expected to fuel rural-urban migration. Most policies favoring community development, here called place-oriented policies, are expected to retain rural populations.

Simple as this set of relationships sounds, the methodological challenges are considerable. The rise of integrated development programs make rigorous empirical testing of this conceptual model complicated indeed.

C. Methodology

The juxtaposition between development and migration is perhaps most interesting at the household level. Here we can explore both motive and behavior. People who are poor, people in need of assistance, and people who move have complex lives which they live with a purpose. Analysis through aggregates masks complex and individualized lives, leaving inadequate our understanding of development and migration, and weakening our efforts to intervene. If development agencies are going to resolve problems of poverty and inefficiency, a better understanding of the target population is essential.

In this study data have been presented which reflect the lives of 280 randomly selected individuals, their households and communities in four Bangladesh villages. Residential histories were collected and analyzed in an

effort to reflect past and current conditions. Descriptive, graphical and inferential analyses were performed in order to summarize relationships of program participation, development and migration.

D. Research Context

The survey villages, like many in Bangladesh, are dynamic, changing environments. Population is rising and creating the conditions for severe economic hardship. Scarcity of basic food, clothing and shelter is everywhere visible. At the same time women are emerging as a major resource for rural development. They are assuming responsibilities which until recently were limited only to men. Non-agricultural industries are on the rise in some instances, and offering some hope for new sources of employment and income.

A large proportion, perhaps even a majority of Bangladesh's villages, are visited by representatives of rural development agencies. On occasion the villages appear to be genuinely affected by these well intentioned programs.

The four survey villages were selected as representative of their regions and of the moderate to advanced stages of intervention by the Bangladesh Rural Advancement Committee (BRAC). With the exception that all four have housed BRAC associations for three to fourteen years, they are quite typical. All have small, partially functioning primary schools, but none has a secondary school. All have reasonable access to larger market towns, but none is a market town. Employment in all is concentrated in agriculture and fishing and none has within it manufacturing or service enterprises beyond the scale of cottage industries. All four have been visited by representatives of government programs such as IRDP and public health, but none has participated profoundly in them.

The only remarkable difference between the survey villages and most villages in Bangladesh is the commitment of time and resources made in conjunction with BRAC activities. At this point the divergences between BRAC villages and non-BRAC villages and, more importantly, BRAC participants and non-participants emerge. The survey villages are different both in their composition and the level of intervention from BRAC.

Hilalnagar emerges as the most distinct village. The people are Hindu in a predominantly Muslim country. They are very poor, even by Bengali standards, living in an expanse of productive land between December through June and a fresh water sea during and after the monsoon season. Hilalnagar is gradually being consumed by the adjacent river and may someday be erased from the map. The extreme flooding conditions also contribute to Hilalnagar's isolation.

BRAC's integrated programs in Hilalnagar are also distinct from Rural Credit and Training Programs in the other survey villages. During their fourteen years of involvement in Banyachong, BRAC has experimented with several development strategies, ranging from relief efforts to community wide participatory development. The process of program experimentation has become an internationally recognized model for application of the principles of social learning.

In contrast, BRAC's program in the three RCTP villages has been standardized. Intervention in the RCTP areas was initiated with a one to two year period of outreach where local resources were mobilized and basic education services provided. Following the outreach phase, RCTP activities have emphasized loans for income generation and skills training. The social learning process is still alive, and

there will certainly be major changes in rural development strategies in the future.

Three programs were under trial during the research period. Larger loans were being offered to groups to set up middle sized rural enterprises. The brick field in Monohordi is the best example of this. Another experiment was with promotion of BRAC Association members for political office. Since offices are traditionally dominated by persons firmly in the upper income classes, the efforts of BRAC associations to place a landless member into office is significant. Political representation is a significant step up in participation in development activities, taking the landless, poor from their traditional role as project labor to sharing control over major decisions. The third experiment was an expansion of legal services into the villages. Legal services are especially important in resolving land disputes. All three new programs exemplify the process of experimentation used by BRAC to learn and adapt to local needs. These last three programs were all too new to measure with respect to tangible benefits.

E. Hypotheses

Four concepts have been analyzed in four Chapters VI through IX. They are Participation, Individual Development, Community Development and Migration. Each of the concepts includes a number of hypotheses. These hypotheses are presented below with a summary of related findings.

A. Participation is a function of development intervention and individual characteristics.

1. Individuals who are impoverished and functionally landless are more likely to participate in non-governmental and relief programs.

The focus of most non-governmental programs has shifted significantly since their inception. Early efforts to work with entire communities were often thwarted by local political power groups which sought to take control. Efforts beginning in the mid to late 1970's were targeted to the poor and the poorest of the poor.

The evidence from this survey supports the general success of programs to reach their target population. Mechanisms such as village associations, non-traditional work for women and careful control by field workers have generally prevented elite take-overs. In short, targeting assistance for the poor is possible.

2. Individuals who are middle and upper income and who own some land are more likely to participate in formal credit markets and government development programs.

In contrast to non-governmental efforts, public sector programs have heavier representation from the village power brokers and upper class. Bank and government loans go disproportionately to wealthier residents, even when the track record for repayment is abysmal (Ahmad, 1983). Traditional programs for rural credit are now balanced by a growing number of credit programs designed specifically for the poor. Two notable examples are the Grameen bank and BRAC.

3. Individuals who owned fixed assets in the community, such as land, are more likely to participate in place-oriented programs.

This hypothesis is similar to hypothesis A-2. Place-oriented programs are more likely to fit into the trickle down model of development. Irrigation and public works programs benefit land owners directly while laborers benefit

indirectly if and when land owners pay better wages or expand the employment base. Place-oriented programs, such as the Government's Integrated Rural Development Program, continue to be dominated by powerful village leaders.

But, a number of place-oriented programs in Bangladesh do not conform to this expectation. For instance, BRAC and CARE have sponsored irrigation programs in which the landless gain control of a power pump. Laborers who own no land sell irrigation packages to farmers. Organizing, itself a place-oriented process, is becoming more common for the landless.

4. Individuals who are below working age or are engaged in person-oriented occupations, such as farm labor, trade and transportation, are more likely to participate in person-oriented programs.

The most significant government program in all four villages in this study was primary education. Despite severe constraints on classroom size and teaching materials a growing number of children are getting some educational exposure. The most interesting finding in this regard is the dramatic rise in the participation of young girls in primary education, reaching toward equality with boys in primary school years. Participation among the wealthier children is significantly higher than for children of poor families.

Adult education is not as widespread nor as successful in Bangladesh as primary education. Programs are generally introduced within the context of village associations. BRAC's village associations are typical, with most participants coming from very poor families. Adult literacy programs serve as an organizational tool and very often do a better job organizing than conveying literacy skills. BRAC sponsored adult basic education classes in all four survey

villages. Few of the participants are fully literate as a result, but many reflected positively on the experience.

Health promotion in the four villages was entirely inadequate to meet basic needs of the population. Respondents noted sporadic appearances of inoculation programs in which their children received partial vaccination. Most health needs were met on an emergency basis with private providers, including under-trained pharmacists and traditional healers. Public health clinics were understaffed and lacked basic supplies. Several of our interviews were delayed or canceled due to health care crises for which there were no curative options. Families, confronted by health care crises, were forced further into poverty and landlessness. Some were forced to abandon their rural homes. Families with resources bypassed the public health system altogether.

BRAC credit programs in the four survey villages were targeted to the landless and poor. One cannot conclude that this form of person-oriented development is naturally the domain of the young, or persons engaged in non-agricultural vocations. Targeting development credit in rural Bangladesh requires thorough oversight and constant review. Loans taken for a sanctioned purpose are often converted into consumption or non-sanctioned investments. Thus, credit programs in the four survey villages perform much as hypothesized, but only due to the hard work of BRAC field staff.

B. Individual development is a function of participation in development programs and prior individual characteristics.

1. Individuals who are better educated are more likely to continue ascending on the economic scale. (The educated get richer.)

The evidence is overwhelming that education is associated with broader opportunities and better paying occupations. In the survey villages, persons having better paid, non-agricultural employment were, on average, better educated. Economic strength in the household is also associated with better education for the children, thus perpetuating, to an extent, the link between education and economic development. For many educated families, upward educational and economic mobility has involved moving from the survey villages to larger urban locations.

Women, who are traditionally not permitted to work outside the home, are found increasingly taking outside work.

A bimodal pattern of women's employment has been reported by others. Better-educated women were more likely to take urban jobs, work with rural development programs and teach.

A distinct pattern of female education and employment emerges for women at the bottom of the employment spectrum.

The poorest women, often having no secular education, are also increasingly working outside the home, largely because they have no other means of support. Their work is physically demanding and poorly paid. They seldom earn enough to permit sending children to school.

2. Individuals who are wealthier are more likely to continue ascending on the economic scale. (The rich get richer.)

A transition matrix for economic status indicates a trickle of relatively well-off persons gaining status and a flood of persons from all levels moving downward. An irony of the downward pressure on well-being in the survey villages is that the better-off have further to fall. The poor cannot drop much below their current level subsistence without starving. Many respondents were in varying stages

of malnutrition and starvation. Aggregate analyses at times showed the poor staying poor while the better-off slipped into poverty.

While there are numerous cases where respondents have seen their economic status dropping over time, there are a few in which an individual or household status has risen. A few households were prospering as a result of remittances from relatives working in the Middle East, Great Britain and the United States. A few households have gained economically in part because they were unsuccessful in having children. These gains, however, come at the cost of not having financial support of children in older ages. Large numbers of children can spell economic disaster for poor families, especially in the short-term.

3. Participation in development programs has positive effects on individual development.

and

4. Participation in relief programs has little effect on individual development, but contributes to survival.

Lower levels of participation appear to have only weak affects on economic mobility. Consumption-oriented participation is very popular, but appears to have few benefits beyond those directly associated with the good or service received. In some cases consumption-oriented participation stifles initiative and encourages dependency.

Recipients of tin in BRAC's early relief efforts appeared less supportive of subsequent savings and credit schemes than participants in the RCTP villages that never experience BRAC as a relief agency.

Work in development programs confers deeper benefits, especially in the case of educational programs. Participation in development leadership is associated with

larger benefits, though some of these arise out of illegal practices, such as theft and bribery. In order to assess the benefits of participation, the form of participation must be better understood. In multivariate analyses, participation in relief and development programs was not significantly related to improvements in economic status. The downward pressure in these villages seem to outweigh most efforts for improving conditions.

5. Person-oriented programs have greater impacts on individual development than place-oriented programs.

Several place-oriented programs have played crucial roles in leveling consumption through lean months and in some cases providing sustainable work for participants. Place-oriented programs do not, however, tend to improve the skill level of participants. The employment provided in these programs is unskilled and often depends upon external assistance. When the programs such as Food for Work end, the participants are back where they started. Rural electrification has not led to more diversified economies in the two partially electrified villages. However, electrification and road access, in areas close to one village, were promoting small- and medium-scale manufacturing.

Some person-oriented programs provide lasting benefits to participants. Health programs reduce the risk of chronic and debilitating disease. Educational programs, though not always well structured, often expand the horizons of their participants. Despite criticism that educational programs impart inappropriate skills, there was a consistent association between higher education and better employment.

Leadership training and group organizing by BRAC and other non-governmental organizations produced tangible changes in

the attitudes and behaviors of participants. To the observers engaged in this research, the changes in women's attitudes were dramatic and positive.

C. Local development is a function of development intervention and participation in the development programs.

1. Many of the benefits of person-oriented development are diffused out of the villages.

While person-oriented programs do have lasting benefits for participants, many of the participants direct their efforts out of the village. A large percentage of women marry outside of their parent's village and contribute little to the places they leave behind. Siblings and children of the respondents left their home villages to further their education and to seek employment. This analysis supports the finding that education and village out-migration are closely linked. The loss of skilled and entrepreneurial persons from rural Bangladesh is a concern for development programs, particularly when they see their own investments drained-off by out-migration. This study does not quantify the extent of such losses. However, this consequence of out-migration deserves further study.

In some instances out-migration represented a complete separation of the migrant from the village, while in others there remained a flow of remittances to families left behind. Remittances were reported as an important source of income by only a few families in this study. However, reporting of remittances was inconsistent and probably avoided by some respondents. Approximately as many respondents reported sending remittances to support family members in other locations as reported receiving support.

2. Place-oriented development programs increase employment opportunities, albeit unevenly across segments of the population.

Even integrated development programs fall well short of the goal of creating a rising tide of economic activity. Two parts of an integrated program, say irrigation and medical assistance, benefit different people in different ways. There were few cases, in this study, where the same respondent had more than one significant encounter with one aspect of an integrated program.

Development programs in Bangladesh are often implemented along factional lines. The local BRAC Association competes with the local CARITAS Association, or a family organization, or both. Like families, when BRAC puts together employment generating activities, first priority goes to employing BRAC members. The same can be said of most programs.

Some place-oriented schemes are large enough to affect virtually every person in the village. Large scale infrastructure projects, such as embankments, promote ease of movement for all who live along them. The direct employment effects of these projects are often short lived, and the long term benefits difficult to measure. In all four villages, respondents reported corruption in Food for Work schemes.

3. Participation in place-oriented programs contributes to community integration.

There is only limited support for this hypothesis in the data from Bangladesh. Traditional village structures for managing local political and legal conflicts have existed far longer than any development intervention. Development programs visited during this research have most

often fallen in line with traditional forms of organization, complete with supporting and opposing camps. NGO-organized associations differ in important ways from traditional factions. Most importantly, they endeavor to avoid domination by local elite.

The most dramatic case for intervention leading to greater community integration in the four survey villages was the rise of women's associations. Women, who were in many ways isolated from each other and from village affairs have gained considerable influence over external and internal resources. Women who were members of organizations were more aware of community infrastructure, assistance and development programs. Women's access to credit increased their bargaining power within the home as well.

4. The development of transportation infrastructure increases integration of villages with each other and with urban centers.

Transportation access varies significantly between the four villages, though Hilalnagar stands out as the most isolated location. The other three villages take advantage of nearby roads as transit links and commercial centers. The data indicate that transportation and proximity to large urban centers is associated with more extensive employment networks and commuting. Better roads have permitted workers to range more widely in search of work. Commuting is on the rise, along with seasonal and permanent migration. However, road access to the villages was not significantly related to reporting future intentions to move.

Another indication of the increasing integration of rural and urban areas is the rise in commodity and financial flows between the two. Better roads have enabled farmers to produce crops which reach national and international

markets. Even perishable vegetables are exported from the accessible local markets. The rise in trade has increased sales prices for local products.

D. Migration is a function of individual and community development.

1. Most forms of individual development increase the likelihood of migration. These forms include attainment of education, skills and capital.

Education appears to be the single most consistent predictor of migration to urban areas and migration intentions. However, not all education is alike. A large number of persons passed through local Koranic Schools, called Maktab, without increasing the likelihood of migration to urban centers. In fact they were less likely to move than persons who had not attended any school. Madrassa, a more organized system of Koranic and secular education, produced students who were more likely to move than un-schooled counterparts. Secular public schools had the most significant relationship with migration. Students left the villages to attend more advanced secondary schools and in search of work. Adult literacy participation was not significantly associated with migration nor migration intentions.

2. Intensification, diversification and integration of the local economy decrease the likelihood of out-migration.

Several specific changes in village economies have population retaining potential, but many more had little detectable impact. Irrigation was recognized as crucial by both land-owning and landless respondents. Irrigation increased employment and more importantly provided greater

stability in the demand for labor during previously fallow periods.

None of the villages studied can be said to have widely diversified activities. Efforts by BRAC and other organizations have created numerous small enterprises. In the survey villages these enterprises included agriculture, fishing, cottage industries, brick manufacturing, transportation, and various services. Loan schemes ranged in outcome from the creation of profitable enterprises to failure and financial hardship for the borrowers. The corporate-responsibility model for repayment of loans supported group cohesion, but also led to acrimonious arguments when one or more members could not repay debts to the BRAC association. Village food processing activities combine intensified agricultural production, diversified work and greater integration of activities. There are clear limits to processing raw, agricultural products. In the four survey villages, even in the face of declining employment in rice husking, there appeared to be room for new forms of employment associated with food and other agricultural processing before goods are sold. In the logit regressions on migration intentions, recognition of village-level food processing activities reduced likelihood of desiring to move.

3. Integration of the local economy with other areas, such as through improved transportation systems, will have the effect of increasing commuting, temporary, repeat and long-term out-migration.

The evidence on this question is more convincing. Access of urban areas increases all forms of migration. An argument can be made that short-term migration and commuting substitute for longer-term migration. Long-term out-migration of siblings and children of respondents, however,

is also positively associated with better access to urban areas. Transportation access to the villages, on the other hand, did not contribute significantly to migration intentions.

Trade occupies an important juxtaposition between integrated economies and migration. In all of the villages a number of respondents earned at least part of their household income through long distance trade. Better transportation linkages allow longer trading sojourns. Some of the respondents traveled for days in order to collect goods which were transported to more lucrative markets.

4. Gender and life-course stage are important factors in predicting the timing of migration. They interact with both participation in development programs and with migration.

Most factors influencing migration are in some way interacting with the respondent's life-course status. The age patterns of migration by gender have remained remarkably similar over different cohorts in this sample. While the rate of migration has risen somewhat, excluding the peaks during the 1947 partition and the 1971 war, the age profiles of the migrating population have not changed dramatically.

The primary reason for female migration in this study is marriage. Another important reason for migration is attendance in secondary and higher education. Migration in these four villages is dominated by a generally younger population of women moving only once for marriage and a more widely distributed male population moving for education and work. This rural sample is likely to be quite different from an urban born population.

Development programs are often targeted to young adults. The impacts of these programs on migration are confounded by the effect of life-course stage, which for

young, unmarried adults is clearly associated with migration and migration intentions. When controlling for age, individual development in the form of educational and occupational attainment, are still related significantly to greater likelihood of migration to urban areas.

F. Policy Implications

The demands on relief and economic development programs in rural Bangladesh will no doubt increase steadily into the foreseeable future. The population in rural areas is increasing though there is no potential for increasing the amount of land under cultivation. In all likelihood, agricultural growth will continue to lag behind demands for food, fiber and wood. In addition to the normal rise in demands associated with an increasing population, there are numerous new demands, such as better quality building materials and more stable forms of income.

Technological change in agriculture has dramatic effects on land and labor productivity and will play a critical role in meeting future demand for basic staples. Intensification of agricultural production will continue to demand efforts in innovation and adaptation of higher yielding crops. No one technique will suffice, but rather an integrated package which includes control over water, better seeds and better methods for controlling losses to insects, disease, birds and rodents is required.

The impacts of improved inputs will be far greater if educational programs are included. Efforts directed towards improving places, such as integrated agricultural intensification programs, are incomplete without people-oriented efforts. One consequence of agricultural innovation in the absence of popular participation is the concentration of benefits in the hands of the rural elite. The results are nothing less than disastrous for small

farmers who lose their land and have few skills for adapting to alternative forms of employment. The unplanned dislocation of small farmers is not simply a matter of temporary unemployment in Bangladesh. It is a matter of life and death.

But, there are real limits, under known technologies, to the capacity of a crowded countryside to produce agricultural surpluses. In order to meet the rising demand for income-generating activity, rural development programs must consider ways of diversifying rural production. Examples of rural diversification in this study range from small-scale, home-based activities, such as processing of agricultural products, to more larger scale manufacturing enterprises, such as the brick field near Sayedpur.

Small loans are of tremendous short-term benefit to people engaged in cottage industries and local service occupations. Some of the strongest aspects of BRAC's rural credit program are the compulsory educational and organizational components. Lending money in the absence of proper training is an almost certain method for destroying a program. For this reason several government loan programs were squandered and resulted in high rates of default. BRAC and other organizations have assembled effective loan packages which encourage individual effort and group responsibility.

The use of small loans may not be sufficient to promote more radical diversification from traditional rural activities. In order to foster more dramatic experiments in rural enterprise some efforts must be made to retain better educated and better endowed persons in rural environments, or to attract urban activities to rural locations.

The small loan strategy for income-generating projects assumes that all participants are in some respects entrepreneurs. The attitudinal data from this survey

indicate that many if not most of the respondents prefer to be employed as workers in a stable environment to being owners of risky ventures. This should come as no surprise nor be rejected as irrelevant. Small ventures are inherently risky to individuals even if the aggregate picture for small loans is good. Programs such as credit for small and medium size rural enterprises can act as a significant catalyst for private sector diversification. Several organizations are now funding pilot projects in rural manufacturing enterprises. Similar programs are going into effect in urban centers as well.

BRAC has moved to larger scale projects through pooling small loans and coordinating efforts with different organizations such as CARE. In some cases BRAC field workers have taken over management functions of projects. The brick field scheme included hiring a manager from outside of the association. Advantages of larger scale investment include greater efficiencies of scale, higher technological sophistication, worker specialization and potentially greater integration of the poor into community decision-making. Disadvantages include inevitable conflicts between the many owners of the enterprise and the much broader impacts on the community of a failed scheme.

The movement to support larger income-generating activities is not intended to replace small loan programs. There will be ample room for both levels of investment as far as the eye can see. There may well be opportunities for coordination of small- and medium-scale activities. BRAC's willingness to experiment with larger scale projects is restricted to village associations which have a proven track record at the smallest scale. The initial loans of \$20.00 and \$50.00 U.S. may in the end turn out to be a training process for bolder initiatives.

Diversification of rural activities requires greater integration of villages with other locations. Access to inputs, including raw materials, water, energy and markets is beneficial for rural enterprises. Not all large-scale technologies, such as power grids, are essential. In some locations local systems for generating electrical power are more practical. For some industries clean water may not be a constraining input. Overall, though, isolated regions which lack these inputs are not competitive locations for secondary and tertiary industries.

Integration has been stimulated in Bangladesh through the construction of transportation networks, including water, rail, and most importantly, reliable, all weather roads. Rural areas which have access to paved roads can produce higher value foods for urban and international markets and in some instances attract manufacturing facilities.

Migration has been modeled in this study as the consequence of individual and community development. The data collected are generally consistent with the conceptual model, though the relationships are more complex and causality between migration and development often unclear. There is relatively little to be done in policy to influence migration directly. In fact, based on this analysis and a general familiarity with the Bangladesh context, my recommendation is to avoid any policies which are intended to control migration. Past efforts in Bangladesh to force people out of the cities have resulted in significant loss of life and well-being.

However, migration will continue to present challenges to urban and rural planners. Urban areas will continue to experience rapid growth, resulting from the movement of people from rural areas, natural increase and the expansion of urban boundaries. Provision of services to fully

occupied, high density squatter areas is a planner's nightmare. Rural planners, on the other hand, are confronted with the loss of a significant portion of their most educated and innovative population and accompanying assets. Rural populations are still rising, but the composition of the populations is not conducive to major development investments.

Urbanization is inevitable, but the pace may be slowed in ways which benefit both rural and urban areas. There is real merit in enacting policies which provide viable alternatives to rural populations which in turn slow the rural to urban tide. At the same time, programs which slow the natural increase of population in Bangladesh can help to provide more openings in urban areas for migrants. If overall population growth in Bangladesh continues above 2% annually, all efforts for economic development will be strained beyond capacity.

This study did not address human reproduction nor policies for family planning. This research was conducted with an organization that was not involved in family planning and was, like any well managed organization, careful not to take on too many causes. Family planning was a controversial topic in the survey villages, as economic and religious values came into conflict. Rumors abounded about the purpose of our coming into the villages, including that we were there to sterilize the children. Any inquiry into use of contraception, activities of family planning programs, or even desired family size, might have shut down our research effort entirely. Because population growth is a critical concern in Bangladesh, most demographic research revolves around human reproduction. The absence of discussion here is not intended to minimize the importance of family planning programs in Bangladesh.

Place-oriented rural development does appear to have advantages in retaining rural populations. Infrastructure which encourages the intensification and diversification of rural activities is likely to reduce the flow of rural-urban migration. Place-oriented programs are not necessarily physical in nature. For example, organizing rural associations for income-generating activities or social functions provides a location specific benefit to participants.

In the absence of expanding rural opportunities, person-oriented development will tend encourage rural-urban migration. However, when people move to urban areas because their productive abilities exceed rural opportunities, they present fewer problems for urban planning than do the desperately poor, rural refugees. As such this study does not recommend eliminating programs which are directed towards human capital. Rather, education and health programs should compliment rural activities, including rural manufacturing enterprises. Integrated rural development appears to be a worthy goal, and should include coordinated person and place-oriented programs. BRAC's strategy for targeting assistance to those who need it most should be employed in integrated development programs whenever possible. Trickle-down approaches are generally resource-inefficient and easily corrupted.

G. Areas For Future Research

This study attempts to bridge theoretical and practical issues of rural development and migration in ways that add to our basic knowledge, but also give us tools for change. There are several extensions to this research which are called for. They include more complete micro-level data on participation in development programs and residential

change, research on the consequences of migration for the places of origin, and perhaps applied research using a participatory-action framework.

Additional work is called for in the analysis of migration, both at the places of origin and places of destination. An ideal data set was described in the discussion of research methods. The data would be microdemographic, longitudinal and fairly precise with respect to both individual and community information over a sufficiently long period of time for both places of origin and destination. Residential change needs to be understood within a broader set of socio-demographic changes.

Many existing theories and hypotheses relating migration and development are expressed as individual decision-making processes. For lack of adequate micro data, these ideas are tested using aggregate data and, as in this case, data which are retrospective and subject to respondent recall error, rationalization and interviewer bias.

On the other hand, a large panel study would be extremely difficult to manage in any developing country. Tracing people after they move is time-consuming and often impossible. High attrition rates would threaten the validity of the sample. The results of such research would not be available for decades, failing to meet important current needs for information. Analytic techniques are also lacking which permit us to pose longitudinal questions without losing perspective of the richness of context. Thus, the call for an ideal data set must be tempered with realistic assessment of what can be accomplished.

The consequences of rural out-migration on sending communities is very difficult to gauge using aggregate data.

The impacts of the loss of local entrepreneurs and leaders on rural communities are more complex than simply a decline in average income or a shift in land utilization. Analysis

of social and economic networks within and between villages is a promising direction for grasping the direct and indirect consequences of out-migration. A related issue which deserves attention is the impact of program attrition, via migration, on the effectiveness of rural development associations. Much of the interesting fieldwork that exists in this area is the product of anthropologists. An interdisciplinary approach involving anthropologists, sociologists, economists, demographers and political scientists could greatly enhance the breadth and applicability of findings.

There is a trade-off between breadth and depth in micro-demographic analysis. Much of the analysis presented in this study is based upon a small survey of 280 households conducted in four villages. Readers accustomed to large samples and powerful multivariate analyses may be skeptical of both the internal and external validity of this research.

Such skepticism is warranted and can be addressed through additional research. The inclusion of more villages, representing distinct regions of the country, distinct phases of development intervention, and distinct migration patterns, is an important next step. At the same time there is much to be gained through more intensive analysis, perhaps through biographical and genealogical studies of village and urban families.

There is a growing body of migration and development literature, both empirical and theoretical. The search for a middle ground which is neither too general nor too specific may lead us to a closer examination of development and migration at the community-level. Economic development intervention is often organized to assist communities. Migration is felt most keenly within community boundaries. Still, most research ignores communities and community-level

data in the analysis of migration and development. There is ample room for expansion into this field.

There are many lessons to be learned in observing rural development programs in action. Experimentation and innovation are occurring in the field which go unnoticed by scholars and higher level leaders. BRAC has incorporated the idea of applied research and institutional change in designing effective rural development programs. Closer examination of learning organizations like BRAC is warranted.

In order to carry out applied research on economic development in developing countries, there is a need for direct exposure to activities in the field. Persons conducting research should not be satisfied until they have spent a significant period of time immersed in the environment. Research, as a participatory and action-oriented process, has great potential for promoting understanding of development at the grass-roots. We need to understand more about the dynamics of group leadership and education. The use of community associations provides new opportunities for productive ventures and community cohesion, but also presents risks of large scale losses. The impact of community organizations on adoption of development programs is still poorly understood.

As fertility rates around the world continue to drop, population movement and distribution will take on additional importance in setting local, regional and national policy. This study attempts to illuminate some basic relationships between development programs and migration in rural Bangladesh.

XI. APPENDICES

A. SURVEY VARIABLES

B. INTERVIEW FORM - ENGLISH TRANSLATION

APPENDIX A. SURVEY VARIABLES

Variable	Description	Periods*	Type*
<u>OBSERVATIONS</u> = Respondents at time of interview.			
1 INTVEWR	Person taking interview.	1	N
2 HHID	Respondent identifier	1	N
3 INT_LOC	Village of interview.	1	N
4 INT_DATE	Interview date.	1	I
5 SEX	Respondent's gender	1	N
6 RELIGION	Respondent's religion	1	N
7 HH_SIZE	Number of structures in HH	1	N
8 WALLS	Wall material	1	N
9 ROOF	Roof material	1	N
10 COND	Condition of structure	1	O
11 INTEREST	Willingness of respondent.	1	O
12 INTERFER	Presence of others at interview.	1	I
13 NUM_PER	# of persons in HH/Family list	1	I
14 TOTCOL	# of columns for respondent	1	I
15 TOTALMIG	# of migrations	1	I

<u>OBSERVATIONS</u>			
Household and family roster at time of interview			
Household members - all those sleeping and eating most meals with respondent.			
Family - Relations within one generation of respondent (eg. parents, siblings, spouses, children)			
16 RELATION	Relation to respondent	1	N
17 GENDER	Gender of member	1	N
18 HOME_HH	Residence rel. to respondent	1	O
19 HOME_UP	Upazilla of residence	1	N
20 AGE	Age	1	I
21 BIRTH_HH	Birth rel. to respondent	1	O
22 BIRTH_UP	Upazilla of birth	1	N
23 EDUCATE	Years of education, maktab, etc.	1	O
24 LITERACY	Literate, semi, or illiterate	1	O
25 OCCUP_1	Primary occupation	1	N
26 OCCUP_2	Secondary occupation	1	N
27 REMITS	Sends or Receives remittance	1	N
28 HOW_MUCH	How much is remitted	1	I

Variable	Description	Periods	Type
OBSERVATIONS = Respondents at each event recording. (eg. youth, marriage, migration, and present time)			
29 TYPEMV	Type of migration	L	N
30 WHENMV	Year when migration occurred	L	I
31 LNSTAY	Duration of stay in months	L	I
32 WHEREMV	Destination and boundary crossed	L	O/N
33 WHYMV	Respondent's reason for move	L	N
34 WHOWTH	People accompanying respondent	L	N
35 RESULT	Reported status after move	L	N
36 HH_POP	Number living in household	L	I
37 HH_KID	Number living in HH, AGE<15	L	I
38 HH_HEAD	Head of household	L	N
39 P_WAGE	Principal wage earner in household	L	N
40 POLRANK	Political rank of community	L	O
41 TRANSP	Transport reaching villages	L	N
42 HH_H2O	HH Source of water	L	N
43 EL_ECTR	Household & community supply	L	N
44 MADMAK	Type of local Islam school	L	N
45 SCHOOL	Existence of prim., sec. school	L	O
46 SERVE	Index of CLINIC, IRDP, BADC, SOC_SEC.	L	N
47 CLINIC	Existence of a health clinic	L	N
48 IRDP	Existence of IRDP association	L	N
49 BADC	Existence of BADC programs	L	N
50 SOC_SERV	Existence of social services	L	N
51 HHOWN	Home tenure arrangement	L	N
52 LxDECI	Quantity of land used	L	I
53 LxOWN	Tenure of cultivated land	L	N
54 LNDH2O	Quantity of land irrigated	L	I
55 H2OCST	Price per crop for irrigation	L	I
56 POZESS	Index of other assets	L	N
57 REL_x	Relation of earner to resp. (1->3)	L	N
58 OCC_x	Occupation of earner	L	N
59 LOC_x	Location of earner's work	L	N
60 ECSTAT	Resp. reported economic status	L	O
61 IRRIG	Report % of village w/irrigation	L	I
62 CRPMKT	Report crop markets	L	N
63 MANUF	Report manufactures in village	L	N
64 SHOPS	Report # of shops in village	L	I
65 SELL	Report class of items sold	L	O
66 CREDIT	Report sources of credit	L	N
67 ASSPRG	Report dev. program in village	L	N
68 WHENPT	When respondent participated	L	I
69 WHYPT	Why respondent participated	L	N
70 WHATPT	Form of respondent participation	L	N
71 HOWLNG	Months respondent participated	L	I
72 WATRES	Reported results of participation	L	N

Variable	Description	Periods	Type
<u>OBSERVATIONS</u>	= Respondents each event recording (continued)		
73 NUM_DEBT	Number of reported debts (0->3)	L	I
74 Dx_WHEN	When debt was incurred	L	I
75 Dx_WHO	Source of credit	L	N
76 Dx_WHY	Reported reason for borrowing	L	N
77 Dx_AMT	Amount borrowed	L	I
78 Dx_INT	Annual rate of interest	L	I
79 Dx_TRM	# months for debt to be repaid	L	I
80 Dx_SEC	Collateral for loan	L	N
81 Dx_RES	Reported result of loan	L	N

<u>OBSERVATIONS</u>	= Respondent's participation in up to four different activities with BRAC.		
82 BRACHEAR	How first learned of BRAC	1	N
83 Px_WATPT	Involved in what project (1->4)	L	N
84 Px_WHYPT	Reported reason for project	L	N
85 Px_RESLT	Result of project	L	N

<u>OBSERVATIONS</u>	= Respondents at time of interview		
86 FWNTEDMV	If never moved, ever wanted to move	1	N
87 FWHYNOT1	If not, why never wanted to move	1	N
88 FNOWWANT	Want to move in the future	1	N
89 FWHYNOT2	If not want, why not	1	N
90 FWHYWANT	If want, why want	1	N
91 FWHEREGO	If want, where go	1	O/N
92 FKNDPLAC	If want, destination political rank	1	O
93 FWHYKIND	If want, why this kind of place	1	N
95 FWHAT_DO	What expects to do in future	1	N
96 FWHER_DO	Where expects to work in future	1	N
97 FENUFWRK	Expects to have enough work	1	N
98 FPROBLEM	What problems expects in the future	1	N
99 FAS_NEED	Reported future assistance needs	1	N
100 FBRACHLP	Reported, how BRAC can help	1	N
101 COMMENTS	Interviewer comments	1	N

* PERIODS TYPE
 1=One period I=Interval
 L=Longitudinal O=Ordinal
 N=Nominal

APPENDIX B. INTERVIEW FORM IN ENGLISH

MIGRATION AND DEVELOPMENT SURVEY

Section 1: Interview Identification

1.1 Interviewer Initials - _____ 1.2 Household Id. - _____

1.3 Location - Village, Union, Upazilla - _____

1.4 Interview	Date	Time	Completed	Not Home	Refused	Other
Call #1						
#2						
#3						

1.5	Date	Reinterviewed	Edited	Coded	Keypunched	Verified
Initial						

1.6 Comments - Remarks on interview - _____
location, environment, etc. _____

Section 2: Initial Observations

2.1 Respondent's Sex - M F

2.2 Respondent's Religion - Muslim Hindu Christian Other

2.3 Respondent's Home - Answer below

2.3.1 Size - Bari has how many structures - _____

2.3.2 Walls - Wood Bamboo Mud Straw Cement Tin

2.3.3 Roof - Straw Bamboo Tin Other

2.3.4 Condition - Good Fair
Partly Damaged Dilapidated

2.3.5 Comments - Commend on housing - _____
locations, conditions, etc.. _____

2.4 Respondents interest in interview - Refuses Not interested
Accepts Interested

2.5 Initial interference of others - Many present Few others

One other

No one

2.6 Comments: Any other comments on -
the interview, environment,
interuptions, etc.

SECTION 3: Life Events and Present

Number of Persons Below _____

	Name	Relation to Resp.	Place of Residence	Age	Birth Place	Educa- tion/Lit	1rst & 2nd Occpation	Remittance In	Out
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

23											
24											
25											

SECTION 4 - Describe major historical events

Types of events	Age	Respondent's Comments

4.1 Wars		
1941-1945 WWII	___ /	_____

1947 Partition	___ /	_____

1971 Independence	___ /	_____

4.2 Political Events		
Mujibur Rahman	___ /	_____

Ziaur Rahman	___ /	_____

H.M. Ershad	___ /	_____

Other events	___ /	_____

4.3 Floods	___ /	_____

4.4 Draught	___ /	_____

4.5 Other events	___ /	_____

4.6 Comments - Is the respondent - _____		

sure about time?

- * Ask about the impacts of these events on the individual and the community. (eg. migration, loss/gain of land or other property, loss of family)

SECTION 5 - Transient Events

(note: These columns are much wider in the actual interview. Forms can be appended to allow up to eight columns per interview.)

5.1 MIGRATION

1 2 3 4
Youth Marriage

- 5.1.1 When have you changed residence?
Use date or historical event.
- 5.1.2 Where did you move? - Village, Union,
Upazilla or Same for same village.
- 5.1.3 Why did you move? - (eg. looking
for work / marriage / job transfer /
loss of land / studies)
- 5.1.4 With whom did you move? - (eg. Son /
husband / all children)
- 5.1.5 What result? - What did you
accomplish? (eg. found a job /
college / no job / returned home)
- 5.1.6 Difficulties - What problems did you
encounter 1) leaving old location
2) travel between locations
3) new location

5.2 HOUSEHOLD SOCIAL FEATURES

1 2 3 4
Youth Marriage

- 5.2.1 Total number of family and
non-family living in same household
- 5.2.2 Number of members (Age < 15)
- 5.2.3 Head of household - relation to
respondent
- 5.2.4 Principal wage earner - relation
to respondent
- 5.2.5 Comments - Was there confusion

over HH membership?
Are conflicts concealed?

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5.3 COMMUNITY SOCIAL FEATURES

1 2 3 4
Youth Marriage

- 5.3.1 Political rank of community
- 5.3.2 Transportation - What forms of transportation reach the village? (land and water)
- 5.3.3 Services & Ammenities - What facilities available? Water source
- Electricity
- Maktab & Madrasha
- Schools
- Health clinic
- KSS, BSS, MSS (IRDP/BRDB)
- Fisheries, poultry, animal Husb (BADC)
- Social Service/Social Welfare
- 5.3.4 Comments - Is the village distinct in any way? Are there other services?

5.4 HOUSEHOLD WEALTH

1 2 3 4
Youth Marriage

- 5.4.1 Home ownership - (own, rent, sharecrop, etc.)
- 5.4.2 How much land planted?
- 5.4.3 Land ownership - (Own / rent / sharecrop / etc.)
- 5.4.4 Irrigation on owned land?
- How much land irrigated?
- What cost for irrigation?

5.4.5 Other possessions (e.g. tools,
cow, trade goods)

5.4.6 Comments

5.5 HOUSEHOLD OCCUPATION AND ECONOMIC STATUS

1 2 3 4
Youth Marriage

- 5.5.1 Relation to respondent
 Occupation / Location
- Relation to respondent
 Occupation / Location
- Relation to respondent
 Occupation / Location
- 5.5.2 Comments - Mention any other
 sources of income which are not
 included in the above categories.
- 5.5.3 Household economic status

5.6 COMMUNITY ECONOMIC FEATURES

1 2 3 4
Youth Marriage

- 5.6.1 Major Crops - What crops were
 grown in the village?
- 5.6.2 Irrigation - What percent of
 location's land was irrigated?
- 5.6.3 Markets for crops - Where
 were crops sold?
- 5.6.4 What goods were produced? (eg.
 shoes / cloth / wood or bamboo
 items / processed foods)
- 5.6.5 How many shops were there?
- 5.6.6 What did they sell?
- 5.6.7 Credit sources - What sources of
 credit, known to the respondent,
 were available locally?

5.7 HOUSEHOLD DEBTS

1 2 3 4
Youth Marriage

- 5.7.1 When were loans taken? 1
2
3
- 5.7.2 Who gave the loans? 1
2
3
- 5.7.3 Reasons for borrowing? 1
(eg. food / rent / agricul- 2
ture / wedding / small trade) 3
- 5.7.4 How much was loaned? 1
2
3
- 5.7.5 Interest on loans? 1
2
3
- 5.7.6 Term - time allowed? 1
2
3
- 5.7.7 Security - What is lost if 1
the loan is not paid back? 2
3
- 5.7.8 Was the loan paid back 1
promptly? 2
3
- 5.7.9 Comments - Does the respon-
dent borrow frequently? Is
the respondent presently in
debt?

SECTION 6 - Economic Development Programs

1 2 3 4
Youth Marriage

- 6.1 Name the development or assistance programs where you lived?
- 6.2 When did you participate in them?
- 6.3 Why did you participate in the program?
- 6.4 What did you do?
- 6.5 How long did you participate?
- 6.6 What results - Did you gain anything from the experience? Lose?

SECTION 7 - BRAC Projects

- 7.1 How did you first hear of BRAC?
- 7.2 What have you done with BRAC?
(eg. attend classes / plant rice)
- 7.3 Why did you participate (eg. BRAC offered me a loan / I'm poor / etc.)
- 7.4 What results - Have you benefited from projects? Have you lost?
- 7.5 Comments - Any other comments by the respondent regarding BRAC?

Prj 1	Prj 2	Prj 3	Prj 4

SECTION 8 - FUTURE

- 8.1.1 Have you ever wanted to move? - _____

- 8.1.2 If no, why not? - _____

- 8.2.1 Do you still want to move? - _____
- 8.2.2 If no, why not? - _____

- 8.2.3 If yes, why? - _____

- 8.5 Where will you go? - _____

- 8.6 If don't know, what kind of places? - _____

- 8.7 Why this kind of place? - _____

- 8.8 What will you do this year - (eg. farm / look for work / go to city) - _____

- 8.9 Will you have enough work? (eg. a little / none / a lot) - _____

- 8.10 What problems lie ahead - general statement of future problems? - _____

- 8.11 What assistance do you need? - _____

- 8.12 How can BRAC help you? - _____

8.13 Comments - How does the
respondent feel about the future?

9 Final comments - Was the interview
interrupted? Were many others present?

XII. BIBLIOGRAPHY

Abdul, Rauf Muhammad The Islamic Doctrine of Economics and Contemporary Economic Thought. Washington, DC, Enterprise Institute, (1979)

Abu-Lughod, Janet; Hay, Richard (eds.) Third World Urbanization. New York, Methuen, Inc. (1977)

Adnan, Shapan "Class Structure and Fertility in Rural Bangladesh: Reflections on the Political Economy of Population Growth", In International Union for the Scientific Study. Economic and Demographic Change: Issues for the 1980's. Helsinki, International Union for Scientific Study of Population (1979)

Ahmad, Razia S. Financing the Rural Poor: Obstacles and Realities. Dhaka, University Press Limited, (1983)

Ali, Hazrat Involvement of the Rural Poor in Development Through Local Organizations- A Bangladesh Study. Kotbari, Bangladesh Academy for Rural Development, (1980)

BRAC Bangladesh Rural Advancement Committee. Dhaka, BRAC, (1983)

BRAC Half Yearly Report on Outreach Phase-II. Dhaka, BRAC, (1985)

BRAC Rural Credit and Training Program Report. Dhaka, BRAC, (1985)

Bangladesh Bureau of Statistics Statistical Pocket Book of Bangladesh. Dhaka, Government of Bangladesh, (1985A)

Bangladesh Bureau of Statistics Statistical Pocket Book of Bangladesh. Dhaka, Government of Bangladesh, (1989)

Bangladesh Bureau of Statistics Statistical Year Book. Dhaka, Government of Bangladesh, (1985B)

Bangladesh Bureau of Statistics Upazilla Statistics (1979-80 to 1982-83). Dhaka, Government of Bangladesh, (1985C)

Baxter, Craig Bangladesh: A New Nation in an Old Setting. Boulder, Westview Press (1984)

- Becker, Gary Human Capital: A Theoretical and Empirical Analysis With Special Reference to Education. New York, National Bureau of Economic Research, (1964)
- Begum, HA; Chowdhury, AK "Reporting Bias in Marriage Age Among Rural Bangladesh Females", Demography India. (January-June, 1985)
- Begum, Saleha; Greeley, Martin "Rural Women and The Rural Labour Market in Bangladesh: An Empirical Analysis", Brighton, U.K., Institute of Development Studies, (December, 1979)
- Berry, B. J. L; Kasarda, J. D. Contemporary Urban Ecology. New York, The MacMillan Company, (1977)
- Bertocci, Peter Bangladesh History, Society and Culture: An Introductory Bibliography of Secondary Materials. East Lansing, Michigan State University, (1973)
- Bilsborrow, Richard Collecting and Analyzing Migration Data from Households in Developing Countries: Some Methodological Problems and Issues. Chapel Hill, Carolina Population Center, University of North Carolina, (1980)
- Bilsborrow, Richard Survey of Internal Migration in Low-Income Countries: Issues of Survey and Sample Design. Geneva, UNFPA: World Employment Programme Research, (1981A)
- Bilsborrow, Richard Surveys of Internal Migration in Low Income Countries: The Need for And Content of Community Level Variables. , International Labor Organization Working Paper 104, (1981B)
- Bilsborrow, Richard; Delargy, Pamela (eds.) Impact of Rural Development Projects on Demographic Behavior. New York, United Nations Fund for Population Activities #9, (1985)
- Bilsborrow, Richard; McDevitt, Thomas; Kossoudji, Sherrie; Fuller, Richard "The Impact of Origin Community Characteristics on Rural-Urban Out-Migration in a Developing Country", Demography. Vol. 24, No. 2, (1987)
- Bilsborrow, Richard; Oberai, A.; Standing, G. Migration Surveys in Low Income Countries: Guidelines For Survey and Questionnaire Design. London, Croom Helm, (1984)

- Blair, Harry "Participation, Public Policy, Political Economy and Development in Rural Bangladesh", World Development. Vol. 13, No. 2, (1985)
- Blair, Harry "The Elusiveness of Equity: Institutional Approaches to Rural Development in Bangladesh", In Uphoff, Norman (ed.) Rural Development & Local Organization in Asia. Delhi, MacMillan India Limited, Vol. 1, (1982)
- Bogra Workshop Group Based Savings and Credit for the Rural Poor. Geneva, International Labour Organisation, (1984)
- Bogue, Donald "A Migrant's Eye View of the Costs and Benefits of Migration to a Metropolis", In Brown & Neuberger (eds.) Internal Migration. New York, Academic Press, (1977)
- Boserup, Ester Population and Technological Change: A Study of Long Term Trends. Chicago, University of Chicago Press, (1981)
- Bradley-Birt, F. B. The Romance of an Eastern Capital. London, John Murray, (1906)
- Brown, Alan; Neuberger, Egon (eds.) Internal Migration: A Comparative Perspective. New York, Academic Press, (1977)
- Brown, Lawrence; Sanders, R.L. "Towards a Development Paradigm of Migration with Particular Reference to Third World Settings", In Dejong, G.F.; Gardner, R.W. (eds.) Migration Decision Making. New York, Pergamon Press, (1981)
- Cain, Mead Economic Class, Economic Mobility, and the Development Cycle of Households: a Case Study in Rural Bangladesh. Dhaka, Bangladesh Institute of Development Studies, (1977)
- Cain, Mead; Khanam, S.R.; Nahar, S. "Class Patriarchy, and the Structure of Women's Work in Bangladesh", Population and Development Review. Vol. 5, No. 3, (1979)
- Caldwell, John C. "Towards a Restatement of the Demographic Transition Theory", Population and Development Review. (1976)

- Carlson, Elwood D. "The Impact of International Migration on the Timing of Marriage and Childbearing", Demography. Vol. 22, No. 1, (1985)
- Chambers, Robert Rural Development: Putting the Last First. London, Longman Press, (1983)
- Chambers, Robert "Rural Poverty Unperceived: Problems and Remedies", World Development. Vol. 9, (1981)
- Chaudhury, Rafiqul Huda "Determinants and Consequences of Rural Outmigration: Evidence From Some Villages in Bangladesh", In International Union for the Scientific Study, Economic and Demographic Change: Issues for the 1980's. Helsinki, International Union for the Study of Population, (1979)
- Chen, Martha A Quiet Revolution: Women In Transition in Rural Bangladesh. Cambridge, MA, Schenkman Publishing Company, (1983)
- Chen, Martha et al. Who Gets What and Why: Resource Allocation in a Bangladesh Village. Dhaka, BRAC, (1979)
- Choguill, Charles L. "Migration and Its Implications for Urban Development", Regional Development Dialogue. Vol. 4, No. 1, (1983)
- Choguill, Charles L. New Communities for Urban Squatters: Lessons from the Plan That Failed in Dhaka, Bangladesh. New York, Plenum Press, (1987)
- Choudhury, Madudul Alam Contributions to Islamic Economic Theory: A Study in Social Economics. New York, St. Martins Press, (1986)
- Cohen, John; Uphoff, Norman Rural Development Participation: Concepts and Measures for Project Design, Implementation and Evaluation. Ithaca, Cornell University Press, (1977)
- Connell, J; Dasgupta; Laishley; Lipton Migration Form Rural Areas: The Evidence From Village Studies. Delhi, Oxford University Press, (1976)
- Coombs, Philip H. (ed.) Meeting the Basic Needs of the Rural Poor. Elmsford, Pergamon Press, (1980)
- DaVanzo, Julie Techniques for Analysis of Migration-History Data. Santa Monica, Rand Note, (1982)

- DaVanzo, Julie; Morrison, Peter "Migration Sequences: Who Moves Back and Who Moves On?", The Rand Corporation: National Institute of Child Health. Santa Monica (1982)
- DaVanzo, Julie; Morrison, Peter "Return and Other Sequences of Migration in the United States". Demography. Vol. 18, No. 1, (1981)
- Davis, Kingsley "The Effects of Outmigration on the Region of Origin", In Brown and Neuberger (ed.) Internal Migration. New York, Academic Press, (1977)
- DeJong, Gordon; Gardner, Robert (eds.) Migration Decision Making: Multidisciplinary Approaches in Microlevel Studies in Developed and Developing Countries. New York, Pergamon Press, (1981)
- Duncan, O. D.; Schnore, L. F. "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization", American Journal of Sociology. Vol. 65, (1959)
- Findley, Sally "Community Level Variables and Migration: A Proposed Theory and Strategy for Analysis", Proceedings from the Annual Meetings of the American Population Association, Pittsburgh, (1983)
- Findley, Sally Migration Survey Methodologies: A Review of Design Issues. Liege, International Union for the Scientific Study of Population, (1982)
- Findley, Sally "Planning for International Migration: A Summary of the Issues", International Union for the Scientific Study of Population, Paper No. 20, Leige (1982)
- Findley, Sally "Rural Development Programmes: Planned Versus Actual Migration", In United Nations Population Distribution Policies in Development Planning: 144-160. New York, United Nations, (1979)
- Flammang, Robert "Economic Growth and Economic Development: Counterparts or Competitors", Economic Development and Cultural Change. (1979)
- Freire, Paulo Pedagogy of the Oppressed. New York, Herder and Herder, (1970)
- Friedmann, John Urbanization, Planning and National Development. Beverly Hills, Sage, (1973)

- Frisbie, W. Parker "Data Methods in Human Ecology", In Micklin, Michael; Choldin, Harvey (eds.) Sociological Human Ecology. Boulder, Westview Press, (1984)
- Gardner, Robert "Macrolevel Influences on the Migration Decision Process". In DeJong, Gordon; Gardner, Robert (eds.) Migration Decision Making: Multidisciplinary Approaches in Microlevel Studies in Developed and Developing Countries. New York, Pergamon Press, (1981)
- Geertz, Clifford Agricultural Involution: The Process of Ecological Change in Indonesia. Berkeley, University of California Press, (1963)
- Goldscheider, Calvin Population, Modernization and Social Structure. Boston, Little and Brown, (1971)
- Goldstein, Sidney "Repeated Migration as a Factor in High Mobility Rates", American Sociological Review. (1954)
- Gordon, Davis Theories of Poverty and Underemployment. Lexington, Mass, D.C. Heath and Co., (1972)
- Government of Bangladesh Rural Development in Bangladesh: Policy, Programme and Activities. Dhaka, Government of Bangladesh, (1983)
- Government of Bangladesh The Third Five Year Plan 1985 - 90. Dhaka, Planning Commission, Ministry of Planning, (1985)
- Harbison, Sarah F. "Family Structure and Family Strategy in Migration Decision Making", In DeJong, Gordon; Gardner, Robert (eds.) Migration Decision Making. New York, Pergamon Press, (1981)
- Harris, John; Todaro, Michael "Migration, Unemployment and Development: A Two-Sector Analysis", The American Economic Review. Vol. 60, No. 1, (1970)
- Harris, Marvin Cultural Materialism: The Struggle For A Science of Culture. New York, Random House, (1979)
- Hartmann, Betsy; Boyce, James A A Quiet Violence: View From A Bangladesh Village. London, Zed Press, (1983)
- Hugo, Graham "Circular Migration in Indonesia", Population and Development Review. Vol. 8, No. 1, (1982)
- Imam, Izzeddin Peasant Perceptions: Famine, Credit Needs, Sanitation. Dhaka, BRAC, (1984)

- Jannuzi, F. Tomasson; Peach, James T. The Agrarian Structure in Bangladesh: An Impediment to Development. Boulder, A. Praeger Publisher, (1980)
- Jansen, Eirik G. Rural Bangladesh: Competition for Scarce Resources. Oxford, Oxford University Press, (1986)
- Jayasuria, J.E. "Population Change and Educational Development", Bulletin of the UNESCO Regional Office for Education in Asia. Vol. 23, (1982)
- Jellinek, Lea "The Life of a Jakarta Street Trader", In Abu-Lughod, Janet; Hay, Richard (eds.) Third World Urbanization. New York, Methuen, (1977)
- Jenkins, Andrew et al. The Net: Power Structure in Ten Villages. Dhaka, BRAC, (1983)
- Johnston, Bruce; Clark, William Redesigning Rural Development: A Strategic Perspective. Baltimore, Johns Hopkins University Press, (1982)
- Kabir, M.; Chowdhury, K. "The Pattern of Age Reporting Errors in the Districts of Bangladesh", Rural Demography. Vol. 8(2), Dhaka, (1981)
- Kaplan, David; Manners, Robert A. Culture Theory. London, Prentice-Hall, (1972)
- Khan, Abdur Rob "Rural Development in Bangladesh: Major Issues Revisited", Bangladesh Institute International and Strategic Studies. Vol. 5, No. 4, (1984)
- Korten, David "Management for Social Development: Experience from the Field of Population", In Stifel, Lawrence and others (eds.) Education and Training for Public Management in Developing Countries. New York, Rockefeller Foundation, (1977)
- Korten, David (ed.) Population and Development Management: A Challenge for Management Schools. Caracas, Population and Social Development Management Center, (1979)
- Lappe, Frances Moore Food First: Beyond the Myth of Sacrifice. Boston, Houghton-Mifflin, (1977)
- Ledent, Jaques "Comments on Article by Choguill", Regional Development Dialogue. Vol. 4, No. 1, (1983)

- Lee, Everett S. "A Theory of Migration", Demography. Vol. 3, (1966)
- Leff, N. H. "Dependency Rates and Savings Rates", American Economic Review. Vol. 59, (1969)
- Lewis, W. Arthur "Economic Development with Unlimited Supplies of Labour", In Agarwala, A.N. & Sing, S.P. (eds.) The Economics of Underdevelopment. New York, Oxford University Press, (1958)
- Lucas, Robert "Migration Amongst The Botswana", The Economic Journal. (June, 1985)
- Lurie, Theodora "Increasing Income and Employment in Bangladesh", The Ford Foundation Letter. Vol. 19, No. 4, (1988)
- Mabogunje, A.L. "A Systems Approach to a Theory of Rural-Urban Migration", Geographical Analysis. Vol. 2, No. 1, (1970)
- Mannan, Muhammad Abdul Islamic Economics: Theory and Practice. Boulder, Westview Press, (1986)
- Micklin, Michael; Choldin, Harvey M. (eds.) Sociological Human Ecology: Contemporary Issues and Applications. Boulder, Westview Press, (1984)
- Muqtada, M. (ed.) The Elusive Target: An Evaluation of Target-Group Approaches to Employment Creation in Rural Asia. Geneva, International Labor Organization, (1989)
- Myrdal, Gunnar An International Economy: Problems and Prospects. New York, Harper and Row, (1956)
- Myrdal, Gunnar Rich Lands and Poor: The Road to World Poverty. New York, Harper and Row, (1957)
- National Academy of Science Rapid Population Growth: Consequences and Policy Implications. Baltimore, Johns Hopkins Press, (1971)
- Nesman, Edgar G. Peasant Mobilization and Rural Development. Cambridge, Schenkman Publishing Co., (1981)
- Neuberger, Egon "Internal Migration: A Comparative Systemic View", In Brown, Alan A.; Neuberger, Egon (eds.) Internal Migration: A Comparative Perspective. New York, Academic Press, (1977)

- Padmanabhan, K.P. Rural Credit: Lessons from Rural Bankers and Policy Makers. London, Intermediate Technologies Publications, Ltd., (1988)
- Paiva, J.F.X.; Bahrin, Tunku Shamsul Rural Migration Policies and Development. Kuala Lumpur, Asian Pacific Development Centre, (1984)
- Peattie, Lisa The View From The Barrio. Ann Arbor, University of Michigan Press, (1968)
- Peattie, Lisa Thinking About Development. New York, Plenum Press, (1981)
- Peterson, William "A General Typology of Migration", American Sociological Review. Vol. 23, (1958)
- Rahman, Mahbubur Participatory Action Research: A Social Science Research Paradigm for Rural Development. Dhaka, Bangladesh Rural Advancement Committee, (1984)
- Rashid, Haroun Er An Economic Geography of Bangladesh. Dhaka, University Press Limited, (1981)
- Rashid, Haroun Er Geography of Bangladesh. Boulder, Westview Press, (1978)
- Ravenstein, E. G. "The Laws of Migration", Journal of the Royal Statistics Society. Vol. 48, (1885)
- Reul, Myrtle R. Territorial Boundaries of Rural Poverty: Profiles of Exploitation. Ann Arbor, Center for Rural Manpower and Public Affairs, (1974)
- Richardson, Harry W. "Polarization Reversal in Developing Countries", Papers of the Regional Science Association. Vol. 45, (1980)
- Rostow, W. W. The States of Economic Growth, A Non-Communist Manifesto. London, Cambridge University Press, (1961)
- Rostow, W. W. "The Take-off into Self-Sustained Growth", In Agarwala, A.N. & Sing, S.P. (eds.) The Economics of Underdevelopment. New York, Oxford University Press, (1958)
- Rothman, Jack "Three Models of Community Organization Practice, Their Mixing and Phasing", In Cox, F.M. and others (eds.) Strategies of Community Organization. Itasca, IL., F.E. Peacock Publishers, Inc., (1979)

- Rowland, D.T. "The Purpose and Potential of Residence Histories", In Pryor, Robin J. (ed.) Residence History Analysis: Studies in Migration and Urbanization. Canberra, Australian National University, (1979)
- Sattar, M.A. Bangladesh Rural-Urban Migration: Problems and Possible Solutions. Dhaka, Ministry of Health, Population Control and Family Planning, Government of Bangladesh, (1981)
- Schendel, Willem van Peasant Mobility: the Odds of Life in Rural Bangladesh. Assen, Van Gorcum and Co., (1981)
- Shanin, Teodor The Awkward Class; political sociology of peasantry in a developing society: Russia 1910-1925. Oxford, Clarendon Press, (1972)
- Sjaastad, L.A. "The Costs and Returns of Human Migration", Journal of Political Economy. Vol. 70, No. 5, (1962)
- Sly, David "Migration And The Ecological Complex", American Sociological Review. Vol. 37, (1972)
- Som, Ranjan Kumar Recall Relapse in Demographic Inquiries. New York, Asia Publishing House, (1973)
- Stark, Oded Rural-To-Urban Migration in LDCs: A Relative Deprivation Approach. Cambridge, Center for Population Studies Discussion Paper 1, (1983)
- Stark, Oded; Taylor, J. Edward "Testing for Relative Deprivation: Mexican Labour Migration", Migration and Development Program. No. 26, (1986)
- Taylor, J. Edward Differential Migration, Networks, Information and Risk. Cambridge, Center for Population Studies, Discussion Paper 11, (1984)
- Thadani, Veena; Todaro, Michael Towards a Theory of Female Migration in Developing Countries. New York, Population Council Working Paper No. 21, (1978)
- Thorp, John P. Power Among Farmers of Daripalla: A Bangladesh Village Study. Dhaka, Caritas Bangladesh, (1978)
- Tilly, Charles; Brown, Harold "On Uprooting, Kinship and the Auspices of Migration", International Journal of Comparative Sociology. Vol. 8, (1968)

- Todaro, Michael P. "A Model Of Labor Migration and Urban Unemployment", American Economic Review. Vol. 66, (1969)
- Todaro, Michael P. City Bias and Rural Neglect: The Dilemma of Urban Development. New York, The Population Council, (1981)
- Todaro, Michael P. Economic Development in the Third World. New York, Longman, (1977)
- Todaro, Michael P. Internal Migration in Developing Countries. Geneva, International Labor Office, (1976)
- Todaro, Michael P. Urbanization in Developing Nations: Trends, Prospects and Policies. New York, Population Council Working Papers No. 50, (1979)
- U.N.D.P; U.N.C.H.S; Urban Development Directorate Population and Labour Force District Projections. Dhaka, National Physical Planning Project, (1984A)
- U.N.D.P; U.N.C.H.S; Urban Development Directorate Population and Labour Force: National Projections and Corrected District Data Base. Dhaka, National Physical Planning Project, (1984B)
- Uhlenberg, Peter "Noneconomic Determinants of Nonmigration", Rural Sociology. Vol. 38, (1973)
- Uphoff, Norman (ed.) Rural Development & Local Organization in Asia Vol. 1. Delhi, MacMillan India Limited, (1982)
- Vic, George; Wilding, Paul Ideology and Social Welfare, Radical Social Policy. London, Routledge and Kegan Paul, (1976)
- Weisman, Steven R. "In the Hills of Bangladesh, a Conflict Gathers Fury", New York Times. (October 23, 1986)
- Werner, David; Bower, Bill Helping Health Workers Learn. Palo Alto, The Hesperian Foundation, (1982)
- World Bank World Development Report 1983. New York, World Bank - Oxford University Press, (1983)
- Yang, Xiushi; Bilsborrow, Richard Differences in the Determinants of Intentions to Migrate Versus Actual Migration: An Analysis Based on Ecuadorian Survey. Cincinnati, Presented at the American Population Association 1993 Annual Meeting, (1993)