

# **Understanding Rural Change: Socio-Economic Trends and People's Participation in Water Resources Management in Bangladesh**

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## **ABBREVIATIONS AND ACRONYMS**

<b>ADAB</b>	<b>Association of Development Agencies in Bangladesh</b>
<b>ADB</b>	<b>Asian Development Bank</b>
<b>ASFA</b>	<b>Aquatic Sciences and Fisheries Abstracts</b>
<b>BADC</b>	<b>Bangladesh Agricultural Development Council</b>
<b>BARC</b>	<b>Bangladesh Agricultural Research Council</b>
<b>BBS</b>	<b>Bangladesh Bureau of Statistics</b>
<b>BCAS</b>	<b>Bangladesh Centre for Advanced Studies</b>
<b>BIDS</b>	<b>Bangladesh Institute for Development Studies</b>
<b>BRAC</b>	<b>Bangladesh</b>
<b>BWDB</b>	<b>Bangladesh Water Development Board</b>
<b>CABI</b>	<b>Commonwealth Agricultural Bureau International</b>
<b>CC</b>	<b>Chowk Committees</b>
<b>CPP</b>	<b>Compartmentalisation Pilot Project</b>
<b>CWMC</b>	<b>Compartment Water Management Committees</b>
<b>DFID</b>	<b>Department For International Development</b>
<b>EGISII</b>	<b>Environment and GIS Support Project</b>
<b>FAP</b>	<b>Flood Action Plan</b>
<b>FCD</b>	<b>Flood Control and Drainage</b>
<b>FCDI</b>	<b>Flood Control, Drainage and Irrigation</b>
<b>FPCO</b>	<b>Flood Plan Coordination Organisation</b>
<b>FUG</b>	<b>Forest User Group</b>
<b>GOB</b>	<b>Government of Bangladesh</b>
<b>GPP</b>	<b>Guidelines on People's Participation</b>
<b>IDA</b>	<b>International Development Association</b>
<b>IPM</b>	<b>Integrated Pest Management</b>
<b>ISPAN</b>	<b>Irrigation Support Project for Asia and the Near East</b>
<b>LGED</b>	<b>Local Government Engineering Department</b>
<b>MPO</b>	<b>Master Plan Organisation</b>
<b>NGO</b>	<b>Non-Government Organisation</b>
<b>O&amp;M</b>	<b>Operation and Maintenance</b>
<b>PRA</b>	<b>Participatory Rural Appraisal</b>
<b>RNRRS</b>	<b>Renewable Natural Resources Strategy</b>

<b>SCWMC</b>	<b>Sub-Compartment Water Management Committees</b>
<b>SPARRSO</b>	<b>Space Research and Remote Sensing Organisation</b>
<b>SRP</b>	<b>Systems Rehabilitation Project</b>
<b>SWC</b>	<b>Soil and Water Conservation</b>
<b>UNCED</b>	<b>United Nations Conference on Environment and Development</b>
<b>UNDP</b>	<b>United Nations Development Programme</b>
<b>WUG</b>	<b>Water User Group</b>
<b>WRI</b>	<b>World Resources Institute</b>

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## EXECUTIVE SUMMARY

1. This review forms part of the Department For International Development's (DFID) Renewable Natural Resources Research Strategy (RNRRS) research project, "Sustainable Local Water Management Strategies in Bangladesh - Meeting Needs and Resolving Conflicts" (ZE0034), funded as part of the High Potential Systems programme. It forms one of three components of the project development work, providing a synthesis of previous work in relation to the socio-economic trends and the growth of participation in the water sector in Bangladesh. Through the review it is hoped to:
  - have an overview of rural socio-economic trends and their implications for water resources management; and
  - analyse past and existing approaches to participatory development in Bangladesh.
2. The conceptual starting point for this analysis is rooted in the livelihoods literature and existing approaches and practices of participatory development in Bangladesh. Within this context, a wide range of analytical issues are discussed, including: population structure and rural livelihood systems, rural economy, rural poverty, rural social structure and trend of agrarian changes, approaches to rural development, government and NGO efforts, conflicts over water resources and trends of people's participation in water sector activities.
3. The population of the country is about 126 million at present. Though the growth rate has declined in the recent years, the total population of the country is increasing at the annual rate of 2.17 and it will be about 140 million by the turn of the century. The population structure is pyramidal and the dependency ratio is very high. Most people in rural areas are employed in agriculture.
4. Livelihood refers to the means of gaining a living. It includes all forms of access to goods and services through which households and individuals survive, including those from private and common resources, cash income, payments in kind and subsistence production or gathering. The livelihood strategy of individual household depends on the opportunities that are available within their particular rural situation. These opportunities are dependent upon the productivity and distribution of land, the level of technology adoption, the density of population, access to alternative economic activities and to markets, labour opportunities and the nature and quantity of common property resources and its availability.

5. Recent economic trends show a very slow but steady growth and the most economic indicators suggest, over the past few decades, Bangladesh has achieved macro-economic stability. Agriculture was traditionally the dominant component of GDP, contributing 50 percent in 1980 (compared to 16 percent for industry and 34 percent for services), but its dominance has declined and its contribution in 1995 was 31 percent. The contribution of the industrial sector is still low, at about 18 percent, but is growing, whilst services, at 50 percent of GDP in 1995, is now the largest sector (World Bank 1997). Within the agriculture, the crop sector is most prominent which accounts for the three-quarters of the agricultural sector's output in the early 1990s

Agricultural productivity has increased substantially in the last 20 years (and especially in the last decade) due to the use of modern agri-technology combined with HYV cultivation and the development efforts undertaken both by the government and farmers, but there are concerns that the growth and output in this sector cannot indefinitely keep pace with the growth of population. The fragmentation of land is still a problem, with the inheritance law, combined with population growth and the lack of alternative sources of income, leads to the increasing fragmentation of holdings into small plots.

6. There had been competition for scarce resources, particularly land, in rural Bangladesh. Social organisations and processes constitute an important part of the framework within which the competition for scarce resources takes place. Factors such as multiple inheritance, individual property rights, scarcity and unequal distribution of land, scarcity of employment and other sources of income and livelihood, lack of access to resources by the poor and marginal, and lack of social security and political protection lead to an unequal competition for resources and power, exploitation, domination, social tension and unrest, poverty, unemployment and unequal development in rural areas. Though - vertical patron-client relationships dominate rural social life, it has been predicted that there will most probably be relationship of a horizontal nature among the rural people. Thus, a major part of the rural poor will find themselves in a new structural position in the decades to come.
7. Poverty has been the single most important challenge for Bangladesh over the two and half decades since independence in 1971. About fifty percent of rural people live in absolute poverty. Increasing population pressures, ineffective resource mobilisation, low levels of human resources development, the under utilisation of development potentials and the formidable social, economic and institutional barriers the poor face in any attempt at advancement have resulted in underdevelopment and endemic poverty in rural Bangladesh. Generally, poverty refers to lack of material well-being, assets and income, but in rural situation, it has a multidimensional reality.

Poverty alleviation programmes should strengthen home-based agriculture, which include livestock and small fisheries. The target group programmes of the NGOs have much success but these programmes need to be supplemented with safety nets for the most vulnerable of the rural poor. Further, poverty alleviation programmes, undertaken by both the government and NGOs, mainly address the landless groups. It should



include marginal farmers and traditional artisan and service groups, but real changes to the position of the poor will only come through structural changes to the range of livelihood opportunities the poor possess.

8. The prime needs for rural development in Bangladesh could be identified as productive employment and income generating programmes in both farm and non-farm sectors along with appropriate technological interventions. The primary vehicle for such development activities has been conceived to be local level institutions with the principal of participatory development and these programme would aim at benefiting poor and disadvantaged sector of rural population creating wage and self-employment opportunities and thereby income potential.
9. All the past and present governments have had programmes on population control, mass education, poverty alleviation, health services and rural infrastructure development, but their impact has been limited; in part a reflection of the whole structure of government within Bangladesh. These general characteristics of rural development, programmes can be seen in the dominant approaches to water sector planning in Bangladesh in recent decades; an approach which is currently undergoing significant changes. The past approaches reflected a centralised, technical paradigm, but this is gradually being replaced by one which emphasises integrated water resources management through participatory processes.
10. The NGO movement started in Bangladesh soon after the independence and have been able to demonstrate their relevance and effectiveness through their rural development and poverty alleviation programmes. NGOs have activities over all the 64 districts of Bangladesh. There are national, local and foreign NGOs working in different fields including poverty alleviation, rural development, mass-education, health and sanitation, forestry and natural resources management.
11. The large NGO community have become real partners of social development and a number of national and local NGOs have achieved laudable success in rural development and poverty alleviation because of their pro-people activities and sincere works. One of the motive forces behind the success of NGOs in rural development is their pro-people activities and understanding the local needs.
12. Water resources have particular characteristics in scarcity terms. The roots of these scarcities lie in many factors, with several usually found in any one place. Growing demand for water resources from expanding agricultural and other production, the effects of urbanisation and population growth, increasing consumption levels, more diverse uses, growing expectations which come from greater prosperity, the increased integration of regions: these and other factors all contribute to the emerging scarcities which are the challenge which any policy for managing water resources must seek to address.
13. These dynamic processes of conflict over and co-operation around water resources scarcities, and their social and institutional expressions, are a dominant feature of life

in rural Bangladesh. They are poorly-understood and little researched, and have to date been largely ignored at project and policy levels, but are vital to the future of water resources management and, through this, livelihoods maintenance and the prospects of sustainable poverty alleviation in one of the poorest and most resource-impooverished communities.

14. There had been no real participation in water sector activities in Bangladesh. In most cases, people are involved during operation and maintenance and they are to shoulder all the defects of feasibility and design and also the faults of implementation. They are simply asked to play role in operation and maintenance. To ensure a genuine participation of stakeholders, representative local government, community leaders where people are to be involved at every levels from problem identification, needs assessment, feasibility test, project designing, implementation and operation and maintenance.
15. A recent development is that government is trying to involve people into the planning of projects, particularly in the water sector, so that they would have greater say in its design and hence a greater sense of ownership. To this end, the Ministry of Water Resources is making a major effort to amend the Guidelines on People's Participation. These developments are also reflected in the First Draft National Water Policy, which was published in the autumn of 1997. This new policy clearly sets out a significantly new direction for water resources management in Bangladesh.

## **CHAPTER 1: INTRODUCTION**

### ***1.1. Background***

This review forms part of the Department For International Development's (DFID) Renewable Natural Resources Research Strategy (RNRRS) research project, "Sustainable Local Water Management Strategies in Bangladesh - Meeting Needs and Resolving Conflicts" (ZE0034), funded as part of the High Potential Systems programme. It forms one of three components of the project development work, providing a synthesis of previous work relation to socio-economic trends and the growth of participation in the water sector in Bangladesh.

There is a considerable body of knowledge on social and economic trends in rural Bangladesh, both in terms of the general analysis of trends in rural and agrarian change and in the more specific context of work on changing patterns of use of and participation in water resources management. Ullah (1996) analysed the ownership pattern of land and agrarian change in rural Bangladesh, whilst Ahmed (1994) outlined national perspectives in relation to the development and utilisation water and other resources. Sobhan (1997), in his pioneering work, analysed the economic trends of 1990s and presented a wealth of information on the development process of the country. Jansen (1986) described and analysed the various economic strategies the rural people pursue and the complex nature of relationship in context of rural social structure, while Wood (1994) addressed the process of agrarian structural change and issues of class formation in rural Bangladesh. Jahangir (1989) examined rural social structure, focusing on kinship, power relation, social stratification and class practices in rural Bangladesh. Norbye (1990) also analysed the development strategies and problems facing the country in the context of agrarian systems.

Blair (1989) critically analysed the development process during the 1980s, giving emphasis to decentralisation and local resources mobilisation for rural upliftment. Chowdhury (1986, 1990) examined the alternative path of rural development through people's participation, particularly by the NGOs in Bangladesh, while Rahman Anisur (1994) showed the strength of collective local initiatives for self development. Both Hye (1996) and Rahman Zillur (1996) analysed the poverty situation particularly in the rural context and also focused on the future policy implications of their findings. Rahman viewed poverty as a multidimensional reality and highlighted the many facets of poverty, both as a state and as a process while Hye described the historical context of rural poverty and attempted at developing a theoretical framework to explain mass poverty in Bangladesh.

Haggart and Huq (1994) critically reviewed the FAP process and its impacts on people, society and environment, while Adnan (1992) gave a comprehensive view of flood, water and people and critically looked in the origin of FAP process. Rahman (1994) examined

the issues of natural resources management including water in the context socio-economic development process of the country. These works can be related to the wider body of literature on different aspects of livelihood systems and rural transformations in the Developing World, much of which is concerned with issues of equality, participation, social change and empowerment. These works can be related to the wider body of literature on different aspects of livelihood systems and rural transformations in the Developing World, much of which is concerned with issues of equality, participation, social change and empowerment.

These ideas first gained wider popularity in the 1980s, with authors such as Chambers (1983, 1989) and Richards (1985) identifying the gap between the existing development paradigms and the needs, aspirations and potentials of local communities. At the same time, Sen (1981, 1992) was developing the conceptual base for explanations of poverty and inequality through the exploration of rights and entitlements, whilst Ostrom (1990), Blaikie and Brookfield (1987) and others engaged in a discourse on the nature of common property, management which challenged the apocalyptic vision of Hardin (1968) and others. These works have been widely developed, with authors such as Bernstein *et al* (1992), Tiffin *et al* (1994), Wisner (1988), Scoones *et al* (1996), Leach and Mearns (1996) and Woodgate (1994) integrating notions of livelihoods and the clearer understanding of property relationships to explain the nature of people-resource relationships in rural areas of the Developing World. These developments provide a much clearer conceptual base on which to base the analysis of these relationships and are reflected in the approaches developed in this paper.

Through the review it is hoped to:

- have an overview of rural socio-economic trends and their implications for water resources management; and
- analyse past and existing approaches to participatory development in Bangladesh.

The institutional issues and the organisational set-up of local water management systems can be best understood in the context of the wider social settings and dynamics of rural Bangladesh. By comparative analysis, it is hoped to identify the institutional and policy settings which are best suited to the implementation of an integrated and sustainable water resources management strategy.

The conceptual starting point for this analysis is consequently one rooted in, firstly, the livelihoods literature identified above and, secondly, the integrated water resources management (IWRM) approach which has, in recent years, emerged as the dominant way of thinking about the relationships between water resources (in their many forms) and the multiplicity of uses of those resources (Soussan *et al*, 1998, IDB, 1997). This approach emphasises the central importance of the social and institutional context of water resources management in mitigating conflicts, allocating scarce resources and understanding the relationships between water resources and other dimensions of livelihood systems and resource relationships.

## CHAPTER 2: POPULATION STRUCTURE AND DYNAMICS

### 2.1. General

Bangladesh has a population of about 126 million at present within a total surface area of 147,570 sq. km. The annual growth rate of population is 1.8 percent, which has gradually declined in the recent years. The density of population is 850 per sq. km, which is one of the highest in the world. The fertility rate, which is above 4 per woman, is high but is gradually declining. The sex ratio is 106: 100 male/female. About 40 percent people are below the age of 15, and as a result the dependency ratio is also very high. The population structure is pyramidal and the economically active population is only about 35 percent (45 million) of the total population. The average literacy rate is 34 percent, which is again lower in rural areas (BBS, 1996). Projections suggest that the population of the country would be more than 140 million by the turn of the century (*Table 2.1 a*).

**Table 2.1 a: Population Projection for Bangladesh (in millions)**

Year	BBS	United Nations	World Bank
1985	100	101	101
1990	113	115	114
1995	126	130	127
2000	140	146	141

**Source:** (Ole, 1993)

The average national growth rate of population has declined gradually over the last four decades (*Table 2.1 b*). The growth rate of population as computed by BBS was 2.26 in 1961 which increased in the mid 1970s (2.48 percent) and again it declined in 1981 and 1991 which were 2.35 percent and 2.17 percent respectively. Of the 126 million people, about 80 percent live in rural areas. Dhaka District has the highest number of population, where Barisal has the lowest number. Again, Dhaka district shows the highest density of population which is 3,989 per sq. km. (hardly surprising, given that it is by far the largest city).

**Table 2.1b: Inter-Census Growth Rates of Population over Four Decades**

Census Year	Total Population	Growth Rates
1961, February	5,52,22,663	2.26
1974, March	7,63,98,000	2.48
1981, March	8,99,12,000	2.35
1991, March	11,14,55,185	2.17

**Source:** (BSS, 1994)

The growth trends show that moderate increase in density for all the divisions until 1951 and after that sharp increase is noticed for all the divisions. Dhaka and Raj shahi divisions show a higher density than the national density whereas the other divisions showed a lower density than the national average. This has been due to migration to Dhaka from other regions. The density of population in the last ten decades is shown below in the *Table 2.1 c*.

**Table 2.1 c: Density of Population per Square Kilometre, 1901-1991**

1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	1997
196	214	225	241	285	284	345	484	590	720	750

**Source:** (BBS, 1994)

The population structure is pyramidal where under-aged groups (below 15 years), occupy about 45 percent of the total population (*Table 2.1 d*). The economically active population is only about 35 percent of the total population. The average literacy rate is 34 percent which is again lower in the rural area. The regional scenario is not so good. The literacy rate in Tangail district is 33 percent which has been lower than the national average.

**Table 2.1d: Percentage Distribution of Population by Age-Group**

Age Groups	Number of Population	Percentage
0-4	17492854	16.5
5-9	17590293	16.5
10-14	12914759	12.1
15-19	8933162	8.4
20-24	8817412	8.3
25-29	9054070	8.5
30-34	6592716	6.2
35-39	5986031	5.6
40-44	4613327	4.3
45-49	3562365	3.4
50-54	3105517	2.9
55-59	1949721	1.8
60-64	2270142	2.1
65-69	1092919	1.0
70+	2339704	2.2

**Source:** (BBS, 1994)

The occupation structure in rural Bangladesh is dominated by involvement in agriculture. The majority of people in rural areas who are above 10 years of age are directly and indirectly employed in agriculture, which include crops, fisheries, livestock and forestry. After agriculture, an important employer is various service industries (many of which are linked to agricultural production or service the agrarian population).

There are gender gaps between male and female in term of life expectancy, literacy, employment and occupation, resulting in a high degree of male domination in socio-economic life where women are mostly 'trapped' in the homestead. They give substantial inputs to the household productive system and economy in rural areas, but these are usually not properly calculated in economic terms.

One recent development has been the rapid growth of woman in the workforce. Growing landlessness, uncertainty in agricultural production and prices, the lack of alternative sources of income and the break-up of large families are forcing women to become involved in income-generating activities. Many of them have migrated to urban areas and are engaged as garments workers. Consequently, the rate of wage labour has sharply increased in the rural area in the recent years.

Norbye (1990) held that the fast growth of population not only worsen the short term resource situation, it also undermined in the various ways the potential for future economic growth by shaping the age structure in a way that brings more consumers and less producers and therefore increases the society's dependency burden. In this regard, Islam (1997) said Bangladesh's population size has reached the point where there is no other alternative than to reducing its growth rate, but recent trends indicate that this is in any case occurring; a phenomenon found in many other parts of the Developing World. Bangladesh has registered remarkable success in the raising of contraceptive prevalence, leading to decline total fertility level to about 3.5 percent, which is impressive by the Third World standards.

The total population of Tangail District, the project's main field research area, is 34 million. The density of population is 890 and the annual growth rate is about 1.9, which is slightly higher than the national growth rate. The average household size is about 5.3 which is slightly lower than the national average. The literacy rate in Tangail District is 33 percent; significantly lower than the national average (BBS, 1996).

## CHAPTER 3: LIVELIHOOD SYSTEMS AND THE RURAL ECONOMY

### *3.1. Livelihood Systems*

Livelihood refers to the means of gaining a living. It includes all forms of access to goods and services through which households and individuals survive, including those from private and common resources, cash income, payments in kind and subsistence production or gathering. The concept of a livelihood system explains how these forms of access are structured through the labour relations, capital holdings, property rights and other forms of entitlements of different households or other forms of collective production and consumption (Sen 1981, Bernstein *et al* 1992, Scoones *et al* 1996, Johnson 1997).

People attempt to secure an adequate stocks and flow of goods including food, produce and capital to meet their basic needs, offset risk, ease shocks and meet contingencies. In rural Bangladesh, agriculture is the major source of livelihood. Employment can also provide livelihood. Sustainable livelihood refers to a living which is adequate for the satisfaction of basic needs and secure against anticipated shocks and stress (Chambers, 1996). This issue of vulnerability and security is central to the approach, and can be linked to the analysis of sustainable development potentials and barriers at the local level (Conway and Barbier, 1990, Barraclough *et al*, 1997).

The livelihood strategy of individual household depends on the opportunities that are available within their particular rural situation. These opportunities are dependent upon, the productivity and distribution of land, the level of technology adoption, the density of population, access to alternative economic activities and to markets, labour opportunities and the nature and quantity of common property resources available (Ullah, 1996, Leach *et al*, 1997). In other words, the understanding of livelihood strategies can best be understood through the analysis of the structure of rights and entitlements of individual households, the nature of decision-making on the allocation of resources within the households and the social and other institutions through which these rights and entitlements are controlled and mobilised to generate flows of goods and services to meet the needs of individual households (Sen 1981, Leach *et al* 1997, Tiffin *et al* 1994, Johnson 1997).

Earning a good and sustainable livelihood in rural Bangladesh is a very tough thing and people are competing each other to get access and control of resources for survival and sometimes for savings. They often combines various sources of income so that they can maximise their earning and savings. This is achieved through intensification and diversification of crop-production, shifting of farming activities from crop to non-crop



activities like poultry and livestock and renting of agri-equipment. To enhance the process of accumulation, members of the household may migrate to urban areas, other regions and sometimes to foreign countries. People also try to reduce seasonal unemployment through petty trading, switching employment from agriculture to non-agriculture activities like, rickshaw/van pulling and construction work.

In other words, the livelihood of many rural households in Bangladesh, and especially of resource- (in particular land-) poor households, is a complex nexus of own production and selling labour, agriculture and off-farm income, commercial and subsistence production and using private and common resources. This mosaic of sources of the means of survival has many parallels in the contemporary Developing World (Scoones 1995, Leach and Mearns 1996, Woodgate 1994, Tiffin *et al* 1994, Campbell *et al* 1990, Exo-1990, falconer 1991) and is the basis upon which the analysis of resource management relationships is increasingly founded.

### ***3.2. Structure of the Rural Economy***

The recent economic trends of the country show a very slow but steady growth. The economy experienced only slow progress in the period after its independence in 1971. It grew at 2.1 percent per annum during 1970-1975 and during 1976-1981 at 2.5 percent (ADB 1994). The growth rate during the 1980s remained almost the same, but it increased in the 1990s to about 4.6 percent during 1990-95 (World Bank 1997). The recent improvements in economic performance mean that the *per capita* GNP has increased by an average annual rate of 2.1 percent between 1985 and 1995, but there are limits on the extent to which this has been evenly distributed. Bangladesh being an agrarian country, the rural economy of the country is largely dominated by agriculture including cultivation, fisheries and livestock which support the livelihood systems of the majority people of the rural people. The agricultural growth rate, averaging 2.7 percent between 1980 and 1990 but only 1.1 percent 1990-95, has been significantly less than that of the industrial (4.9 percent 1980-90 and 7.3 percent 1990-95) and service (5.7 percent 1980-90 and 5.4 percent 1990-95) sectors and, unlike the rest of the economy, the rate of growth has declined significantly in recent years (all figures World Bank 1997).

Agriculture was traditionally the dominant component of GDP, contributing 50 percent in 1980 (compared to 16 percent for industry and 34 percent for services), but its dominance has declined and its contribution in 1995 was 31 percent. The contribution of the industrial sector is still low, at about 18 percent, but is growing, whilst services, at 50 percent of GDP in 1995, is now the largest sector (World Bank 1997). Within the agriculture, the crop sector is most prominent which accounts for the three quarters of the agricultural sector's output in the early 1990s.

Another trend in the rural economy is increasing landlessness due to population growth in the past few decades and consequently concentration of land in the hands of a few households in many villages. This, along with the changing structure of production which

concentrates a greater proportion of wealth in the growing urban areas, has produced a classic pattern of unequal distribution of income. In 1992, the poorest 20 percent of the population received 9.4 percent of income, whilst the richest 20 percent received 37.9 percent and the richest 10 percent 23.7 percent of income (World Bank 1997). Although less unevenly distributed than many comparable African or Latin American countries, this skewed distribution of wealth reflect great and growing inequalities within Bangladesh's economy; inequalities which find expressions at every level of society. Poverty and inequality are an everyday reality in rural areas of Bangladesh and are reflected in unequal access to resources, income opportunities and the institutions which structure rural life.

Although dominant, agriculture is not the only source of livelihoods in rural areas. There are a wide range of small-scale service and artisanal activities (Herbon *et al* 1992, Jansen (1987). Many of these are long-established and are traditionally the dominant means of livelihood for distinct communities, but others have emerged or grown in recent times and do not have the formidable entry barriers which characterise traditional occupations (Ullah 1996, Rahman and Hossain 1995). This includes manufacturing activities such as potters, weavers and carpenters, service activities such as boatmen, shopkeepers, irrigation pump owners and rickshaw pullers and groups like the traditional professional fishermen who manage common property resources (Ali 1997, Tsai *et al* 1993). As such, whilst farming is the dominant feature of the rural economy, it is far from the only one and many households have multiple livelihoods which include both farming and off-farm sources of income (Herbon *et al* 1992).

### **3.2.1. Agricultural Practices**

Agriculture is the main economic activity in rural Bangladesh which gives livelihoods to 100 million people. Agricultural productivity has increased substantially in the last 20 years (and especially in the last decade) due to the use of modern agri-technology combined with HYV cultivation and the development efforts undertaken both by the government and farmers, but there are concerns that the growth and output in this sector cannot indefinitely keep pace with the growth of population (Rogers *et al* 1994). The increase of rice production, through HYV cultivation and use of modern technology in agriculture, has been significant in allowing the country to achieve self-sufficiency in food production, but again there are limits to the extent that this can be maintained (Ullah 1996, Rahman 1994).

As the dominant sector, agriculture contributes about 31 percent of GDP, of which 23 percent is derived from crops and 18 percent from rice alone. Though the contribution of livestock and fisheries is still relatively small (about 3 percent), these sectors are growing in importance and have the potential to expand to meet the growing protein demand of the vast population of the country. Rice is the dominant crop in most areas, grown wherever conditions allow and multi-cropped where possible (Howes 1985, Jansen 1987). It is the crop which is most widely marketed and which receives the vast majority of external inputs. The need for sufficient and controlled water means that one of the main

concerns of farmers in Bangladesh is access to and the management of water supplies; an issue which is reflected in the research in the Tangail area.

At the same time, other crops are grown, both in the main fields (especially where the availability or control of water makes rice production risky) and in plots in and around the homestead. The latter areas contain many trees which provide fruits, fodder and other products and there are typically intensively-managed vegetable plots around the home which are used to meet subsistence needs and, for many, to produce a surplus which is marketed locally (Rahman and Hossain 1995).

Sobhan (1997) reported that in the case livestock, poultry and fisheries sector of the rural economy some improvements have been achieved through adoption of semi-intensive farming and technology. Further, NGOs have been playing important role through their micro-credit programmes in this sector directed to the rural poor.

### **3.2.2. Recent Agrarian Changes**

The agrarian structure can be understood in terms of land ownership, tenancy right and inheritance, resource potentials and availability, class relation, market relations including labour force relations and the use of agri-technology. Two of the major characteristics of Bangladeshi agriculture are the small size of most holdings and the low level of inputs into agriculture (Herbon *et al* 1992, Jansen 1987). These are often seen as the main reason for the low productivity which characterises many areas. About 70-80 percent of rural households do not possess enough land to meet their basic subsistence needs, meaning that they are dependent on off-farm resource and income opportunities. The remaining 20-30 percent of households have sufficient land to satisfy their basic subsistence needs, many of whom are also able to produce sufficient to provide a surplus which may be used for higher levels of consumption or further investment (Norbye, 1990).

There is also a trend of the increasing concentration of agricultural lands in the hands of a few locally dominant households. These relatively large farmers are typically better placed to get access to new production opportunities, technologies, inputs, credit, markets and extension services. They are also typically the innovators in production, as their greater (and often more diverse) resources means that they are less vulnerable to the vagaries of markets and weather and are more likely to be 'risk takers'. So, the agriculture of Bangladesh is increasingly characterised by the emergence of two forms of production: small scale peasant farming which is predominantly for subsistence and comparatively large scale commercial farming producing mainly for the market (Ullah 1996).

The subdivision and fragmentation of land has limited the growth in agriculture. The total amount of land of a family is traditionally divided among the sons and daughters where the son gets an equal share but a daughter gets half of a son. The inheritance law, combined with population growth and the lack of alternative sources of income, leads to the increasing fragmentation of holdings into small plots. Land is also fragmented due to sale to take account of economic shocks. As a result, an average holdings of 2.62 acres in

the 1960s, has been fragmented and come down to only 0.35 acres at present. (Saha 1997); a size which is insufficient to meet even the most basic of subsistence needs. Sharecropping has become a dominant feature of tenancy arrangement in Bangladesh; a reflection of the small size of plots and the increasing prevalence of landlessness (Ullah 1996, Rahman and Hossain 1995). The main form of sharecropping is one in which the output is shared between the tenant and the land owner. But the pattern of sharecropping is not universal here and the agreements are mostly verbal where the tenants have no security. This, along with the low level of resources available to them, means that most share-croppers are unlikely to invest in new forms of production or inputs even where it would produce good returns, further entrenching the gap between the larger, more secure farmers and the rest.

The agricultural labour force constitutes an important element of the agrarian production system in Bangladesh, but in some areas the proportion of the population dependent on agricultural labour is declining due to the increase in off-farm activities. The landless and land-poor mainly provide labour and are often linked to larger farmers through well-established patron relationships, but these are tending to erode as part of the wider commercialisation of rural economic relationships. They also supplement their agricultural wages with their own farm production and other forms of off-farm income where it is available. Rates of agricultural wages have increased slightly in real terms over the last decade and hired labour plays an important role in agriculture, particularly large farming where HYV and modern agri-technology are used.

Although rice is still the overwhelmingly dominant crop, there have been some significant changes to cropping patterns in many areas over the last decade (Soussan 1998, Soussan and Datta 1998a). The most notable has been the rapid growth of dry (*boro*) season paddy production based around the dissemination of small tube wells which tap near-surface groundwater supplies. Where such irrigation is available (along with other inputs), the more controlled nature of the production regime makes the output more certain than that of the traditionally dominant *aman* and *aus* crops, which are mainly irrigated through surface flows and are vulnerable to the vagaries of the monsoon. This means that there may be too little or too much water or that it may come at the wrong time.

Such variations have long meant that paddy rice production can be an uncertain business in the wet seasons. The traditional rice varieties are well-adapted to such vagaries but have low levels of outputs, whilst the HYVs are far less tolerant of variations in water inputs and easily fail during the *aman* season in particular. As such, although the costs of production are raised significantly by the need to pay for irrigation water (the price of which can be around one quarter of the crop) many farmers find the more controlled conditions of the *boro* season make production far more predictable and are increasingly reliant upon it. This in turn means that access to dry season groundwater irrigation is a major issue; something which is significantly affecting social relationships of production in rural Bangladesh.

There has been little scope for institutional credit for agriculture in Bangladesh where the marginal and the poor do not have almost any access. But, in the recent time, micro-credit programmes of the NGOs has opened a new avenue of access to credit for the poor and, where they operate, have had a significant impact of the prospects of these marginal sections of the population.

There has consequently been a slow but steady process of change in Bangladesh's agrarian structure. The major forces behind these changes are population pressures, the introduction of HYV cultivation and agri-technology, changes in cropping patterns, opportunities for off-farm activities and micro-credit. One of the important trends of the change is the break-up of the old patron-client relation and instead, a capitalistic mode of production is emerging gradually (Ullah 1996); a process is far from recent (Breman 1989) but which is accelerating in scale and impact as agrarian patterns of production change.

### ***3.3. Trends in Rural Poverty***

Poverty has been the single most important challenge for Bangladesh over the two and half decades since independence in 1971. About fifty percent of rural people of the country live in absolute poverty, however this is assessed. Increasing population pressures, ineffective resource mobilisation, low levels of human resources development, the under utilisation of development potentials and the formidable social, economic and institutional barriers the poor face in any attempt at advancement have resulted in underdevelopment and endemic poverty in rural Bangladesh. Generally, poverty refers to lack of material wellbeing, assets and income, but in rural situation, it has a multidimensional reality.

Poverty is reflected in the lack of certain basic capabilities; the capabilities to live a healthy active life free of avoidable morbidity and premature mortality, the capability to live with dignity, with adequate clothing and shelter, etc. This definition of poverty reflects a complex, multi-dimensional approach to the understanding of poverty, as opposed to uni-dimensional approach which views poverty simply as a matter of low income or nutritional deprivation. Programmes for alleviation of poverty must consider a range of quality of life variables such as nutrition, health and sanitation, housing, personal security, access to state distribution system, participation and institutional capability, crisis-crisis-capacity, etc. (Sobhan 1991).

#### **3.3.1. Indicators of Poverty**

Though, income and nutritional status are two direct measures of poverty, quality of life is another important measure of poverty which relates to the living environment of a household and individuals. This can in turn be assessed by looking at the availability of basic human needs such as housing, clothing, access to safe water and sanitation. Beyond income, the poor are also deprived of good health, education and information. They are

socially and politically passive and in most cases, their lives and livelihoods are insecure. As such, their poverty has an entrenched, structural character to it in which the prospects for significant advancement are limited by the limited skills and assets they possess, the limited range of secure means of livelihoods open to them and the formidable barriers which they face in any attempt at advancement.

Rahman (1996) suggested that poverty is not only a state of deprivation, it is equally importantly a state of vulnerability. For the female half of the population, vulnerability is perhaps a more central dimension of the poverty experience. Very often, this vulnerability translates into personal insecurity, crisis proneness and a limited coping capacity. The insecurity indicator relates to the level and potential for violence and intimation within social and institutional life and the constraints which such an environment imposes on livelihood initiatives by the poor. The crisis and coping indicators reflect the stability of household welfare and thereby illuminate poverty as a process.

The poor earn their livelihood mainly by wage labour and petty self-employment and the whole process of their gaining livelihood operates in both market and non-market contexts. They have little, if any, control over these opportunities and are highly dependent on the goodwill of more powerful groups within their locality. The economic opportunities available to them also have seasonal variations, with the demand for agricultural labour high at peak production times but much lower at other times. The economic transactions are enmeshed in varying ties of dependency and unequal power relations which restricts their freedom of choice. Thus, the vulnerability of the poor has a three dimensional syndrome of structural limitations, variability and insecurity (Rahman, *et al*, 1996). It expresses itself in the endemic hunger, deprivation and poor health which is the lot of many in rural areas of Bangladesh.

Thus, the socio-economic characteristics of the poor reveal that they have not only limited access to land and other resources, they are also disadvantaged with regard to access to new agricultural technology. Many poor households have large number of children below 10 years of age and a lower number in the income-earning age group. Thus, the not only have lower income, they have to bear a proportionately heavier burden of investment on human resource development including nutrition, health, education of children. But in practice, they can not afford to invest much on human development and a vicious circle of poverty and underdevelopment goes from bad to worse.

### **3.3.2. Trends of Poverty**

Over the past two and a half decades, rural poverty has slightly declined. Following a serious deterioration in the poverty situation in the early years of independence, there has been a modest and sustained improvement in the proportion of the population living in absolute poverty from the late 1970s right through to the mid-1980s. However, the consecutive floods of 1987 and 1988 led to a worsening the poverty situation in many areas; illustrating the vulnerability which is a feature of life for many in rural Bangladesh. But the rural economy appears to have recovered gradually from this setback and the rural

poverty situation has improved once again in the 1990s. The major manifestations of this are rises in the wage rates of agricultural labourers (reflecting both changes to cropping patterns and the supply/demand patterns for agricultural labour), the involvement of the poor in off-farm activities, micro-credit and social mobilisation by NGOs and migration of many people from poor households to the rapidly-growing cities.

It has been found that the rural poor do not enjoy substantive single income-sources, but have rather to combine a variety of sources of sustenance. Only a quarter of the household income of the poor come from wage labour. Home-based agriculture, local ecological reserves and non-agricultural self-employment contribute a major portion of their household income. So, these things constitute the priority areas for poverty alleviation in Bangladesh. Strengthening non-agricultural self-employment calls for expanded targeted credit programme, skill development training and expansion of functional education among the poor and marginal groups.

The second area of the poverty alleviation programme should be strengthening of home-based agriculture which include livestock and small fisheries. The target group programmes of the NGOs have much success, but these programmes need to be supplemented with safety nets for the most vulnerable of the rural poor: the destitute and women. In this connection, Rahman (1996) also emphasises that regional issue and seasonality of poverty are to be addressed carefully. Further, as the local ecological reserves and various common property resources support the livelihood systems providing fuel, fodder and protein for the poor, these are to be preserved and incorporated in the strategy of integrated poverty alleviation and rural development programmes.

Poverty alleviation programmes, undertaken by both the government and NGOs, mainly address the landless groups. There is a need to broaden the focus of poverty alleviation programmes to include marginal farmers and traditional artisan and service groups, but real changes to the position of the poor will only come through structural changes to the range of livelihood opportunities the poor possess, the lessening of the variability which characterises these opportunities and the reduction of the insecurity and vulnerability which characterises rural life for many. These changes will in turn be contingent upon the effective empowerment of the poor, including the improvement of their secure access to all types of resources (which reflects their rights and entitlements to these resources).

### ***3.4. Social Structure and Processes in Rural Bangladesh***

Social structure means the inter-relationships among the different elements and components of a society. The major components include: the population and its social categories, the economy and the production system, politics and distribution of power, religious and cultural organisations and the communication systems through which a set of inter-relationships and interactions are established among the individuals, families, and communities in a given social setting.

The rural population can be stratified into different socio-economic categories, with the possession of wealth including land and occupation key determinants of social status. The conventional categorisation of rural people in Bangladesh is: large farmer, medium and marginal farmer, sharecropper, landless wage labour, business and small traders and officials and professionals.

In addition to wealth and occupation, there are two closely associated criteria for social stratification: status and power. Both Jahangir (1989) and Jansen (1987) dealt with this issue in their pioneering works. Once traditional Muslims had two divisions i.e., *ashraf* (meaning high born) and *atraf* (indicating low born). But in present days rural Bangladesh, there is nearly a universal claim to *sheikh* status, one of the four Mohammedian descendants, while the other three are Sayed, Pathan and Mugal. The said four Mohammedian descendants are treated as *atraf* and the rest are *atraf*. Although people distinguish between real 'sheikhs' who work the land themselves, the nature of 'sheikh' status is not a fruitful basis on which to discover the underlying principles of social stratification. One way differences of status are expressed is through the usage by the different patrilineages of names and titles. Some titles have traditionally been regarded as high status title, but the place of a lineage in the stratification system depends both on its traditions and its present economic position (Jansen 1987).

Jahangir (1989) held that gaining status and power in the rural society once depended mainly on the ownership of wealth and position in the lineage group, but in recent decades the emphasis is gradually shifting to education and occupation. He further reported that the institutional base of power in rural Bangladesh is weak and is exercised through the informal shape of *somaj*. Since the institutional base of power within the village is weak, the balance of power is uneven from village to village. The power is not institutionalised, rather it is personalised, which has direct linkage with possession of wealth. Thus, a *murubbi* becomes a *matobbar* and his power is personalised which is often conditioned to his possession of wealth as well as his position in the lineage group. As such, social relations in rural Bangladesh are conditioned by complex sets of patronage relationships. These differ in their roots from place to place but are found in most localities in one form or another.

Within these relationships, the family is the primary unit in the rural society and it is the core of all social and economic activities. Next to family, homestead or *Bari* (typically a small cluster of households who are closely related) is an important social unit which plays a very vital role in the rural society. A cluster of *baris* or part of larger village forms *Garm Somaj* (village community). Within this village community, kinship relations and religious organisations (mosques and temples) play an important role in shaping the economy and social relationships which is now gradually being declining in recent time due to a number of factors. Jahangir (1989) identified the major feature of rural society as: i) the rural communities are densely populated, ii) community organisations are homestead based and patrilineal, iii) each village is divided in to several *para* (neighbourhood) composed of *bari* and often based on patrilineal relations, iv) the member of the village which may consist of



a number of *para* belong to *a soma*, and v) the member of a *somaj* are involved in a number of social actions and rituals.

There may be one or more *somajs* in a village and the basis of a *somaj* is lineage group, religion and sometimes occupations. *Somaj* sometimes acts to provide mediation, but more often acts as a controlling function over its members. In such a system, the influential members, i.e. patrons of the village community, operate and the clients are clustered around the economic means of production and political means of power distribution and control (Choudhury, 1978).

Most of the available literature on agrarian system pointed out that the social relationships in the rural areas are dominated by patron-client ties. In this regard, Norbye (1993) suggests that almost all people in rural Bangladesh are involved and part of patron-client relationships. Many well-to-do peasants are patrons in some relations and clients in other relations i.e., in relation to local politicians, government officials and rich landlords. The clients are often dependent on their patrons for different aspects of their earning, livelihood, security and protection, and in return, they serve the patrons for their economic, political and social gains. Thus, both economic and political factors contribute to make people opt for establishing patron-client relationships in their daily struggle for survival.

The relationship has been changing in the historical context. Once the *Zamindars* and their revenue collectors were the patrons and the peasants were their clients, but nowadays large farmers and rural political leaders and elites are in the position of providing patronage for the poor peasants and landless groups. This complex relationship, though changing, is still functioning and is crucial to the formation of economic class relations in rural areas.

Jansen (1987) suggested that there has been competition for scarce resource, particularly land, in the rural Bangladesh. The social organisations and socio-cultural factors constitute an important part of the framework within which the competition for scarce resources take place. He summarised the dominant factors which determine the economic and social relationships among the rural people as: multiple inheritance, individual property rights, scarcity and unequal distribution of land, scarcity of employment and other sources of income and livelihood, lack of access to resources by the poor and marginal, and lack of social security and political protection. These factors create an unequal competition for resources and power leading to exploitation, domination, social tension and unrest, poverty, unemployment and unequal development in rural areas.

Land is the main economic means in the rural areas. It is unequally distributed among different social strata and the per capita land availability is very low. Ullah (1996) showed a declining trend in the per capita land availability. In 1961, the land-person ratio in Bangladesh was 0.35 acre. It came down to 0.27 acre in 1974 and further declined to 0.25 0.23 acre in 1980s and 1990s respectively. There has been also a process of concentration of land in the hands of an elite few; a process enhanced by emerging market

forces. This has resulted increased landlessness and poverty where only 10 percent of the rural rich people possess over 80 percent of the resources and own the means of production. This gave birth to vertical relationships among the social categories instead of horizontal relationship and interactions. (Jahangir, 1989)

Wood (1994) argued that the failure to develop productive agricultural capital resulted in a form of polarisation during sixties and seventies which involved a dramatic rise both in the number of landless and the level of rural unemployment. The process thereby entailed a decline of the middle farmer categories where the marginal rate of saving is highest and most likely to be diverted into capital formation.

These processes, coupled with population pressure and environmental catastrophe including flood, drought, water logging and river erosion, have been responsible for a fragmentation in the class relation typified by regional variations in the incidence of formal tenancy, the use of non-formal labour, productivity, land values, nature of indebtedness, patterns of migration, scale and direction of diversification agriculture, family size, the lineage structure and receptivity to technology having different capital labour ratio. Thus, there have been mainly a downward mobility among the major economic class and social categories over the past decades. But Van Schandel used long term historical data and concluded that rural households showed both downward and upward mobility in terms of accumulation of wealth and earning livelihood (Ullah, 1996). In this regard, Jahangir (1989) also pointed out the changes and viewed that in rural society the traditional values that clustered around the economic and social status in the past decades are gradually shifting from mere land ownership and traditional lineage status to education, occupation and communication.

As such, the structure of rural society in Bangladesh is complex, variable and dynamic. An understanding of these processes of social interaction, power structures and change is fundamental to an appreciation of the organisation of water resources management, rights and entitlements. The exploration of these issues will be fundamental to the field research process in the main field research areas.

#### **3.4.1. Recent Trends of Social Change**

There have been slow but steady changes in the social, economic and political organisations as well as in the rural social structure over the past decades. There have been changes in the population structure as, though total population has increased, the fertility rate and growth have declined. The economy is experiencing slow but steady progress, with a growth rate of 4.6 percent in the 1990s. Though the share of agriculture to GDP is declining (31 percent in 1995), total productivity in agriculture increased as a result of the spread of HYV cultivation and the adoption of modern agricultural technology, the development of rural infrastructure and marketing network and other mode modern communications. Other agricultural sub-sectors, including livestock and fisheries, are also increasing which created more employment and contributed to the rise of wage rate and to some extent improved the rural poverty situation in recent years.

Ullah (1996) documented some existing processes of change, including the increase of non-agricultural employment and income. At the same time, poor households are locked in an intense competition for survival through seeking opportunities to earn their livelihood from land and non-land sources. Another vital change is that the socio-economic and physical environment of the rural areas, through which local people derive their livelihood, have been changed substantially in the recent time due to changes in technologies and cropping patterns including introduction of HYV crops and irrigation technology and motorised boats in the rural navigation systems.

Regarding social and structural relationship, Jansen (1990) suggested that during the next few decades the social organisations of rural areas could well continue to be dominated by traditional patron-client relationships. In addition to vertical patron-client relationships, there will most probably be relationship of a horizontal nature among the rural people. Thus, a major part of the rural poor will find themselves in a new structural position in the decades to come.

One of the important areas of social change is rural infrastructure development. In the last few years the government, with assistance from donors and development partners, has established a good road communication network in the country which facilitated the overall rural development process expanded the emerging market forces.

There has been much progress in the poverty alleviation and rural development by the NGOs. This is discussed below. Another area of social change is the increased participation of women, and especially poor women, in economic activities. The NGO communities are making a big push in this regard. They are involved in empowering rural poor women to break the traditional chain of dependency, domination and exploitation. Bosse (1992) suggested that breaking their traditional chains would need the empowerment of the poor, which is a process of organisation-building, including highlighting their consciousness about the forces of unemployment, developing their material and increasing their participation so that they assume more control over their life and livelihood.

Changes also happened in the value systems and social organisations due to slow but cumulative growth of literacy and social mobilisation by the NGOs nation-wide. Little change occurred in the political system due to partial decentralisation process and recent move to popular democracy.

## CHAPTER 4: COMPETITION AND CONFLICT: VYING FOR SCARCE WATER RESOURCES

### *4.1. Introduction*

The existence of conflicts of different forms is a characteristic of many societies, irrespective of whether rural or urban. In a seminal study, Jansen (1987) identifies a series of class, gender and other divisions which create such conflicts in rural Bangladesh, and goes on to demonstrate that they often seek expression through disputes over land and other resource rights (Ullah 1996). Such conflicts can be overt or even violent, but are more often suppressed by social, political or economic forces which exclude some to the benefit of others (Howes 1985). The existence of conflicts can be an integral part of the process of social change; providing a catalyst through which the status quo is challenged, but their existence can also reflect the repression of change, as one set of interests seek to preserve their advantage over other interests.

Although the roots of such conflicts take many forms, they frequently reflect competition over access to and the distribution of resources and the benefits which come from resource exploitation (Jansen 1987, Bernstein 1992, Alavi and Harriss 1989, Ghimire 1993). The existence of conflicts consequently denotes that there has been a certain level of competition over access to and the distribution of material and social benefits among social groups and individuals, but what is crucial is the process through which such conflicts are mediated and, from this, whether the outcomes of the mediation process can be judged to advance or retard development.

Competition in turn reflects scarcity. This is particularly true in societies, such as rural Bangladesh, where the key to survival and the maintenance of viable livelihoods is the ability to access the local resource base. Here, as elsewhere in the Developing World, a complex mix of demographic, economic and social changes have increased demands upon and reduced the availability of many key resources (Barraclough *et al* 1997, Bernstein *et al* 1992, Rahman and Hossain 1995, Ullah 1996). They have also led to profound changes to tenure and other access rights and entitlements which have had a differential impact upon different sections of the population; further heightening existing or potential conflicts (Sen 1981, Leach *et al* 1997, Devereux 1993). Prime amongst these resources are water resources; the resources which are fundamental to many rural livelihoods (Ali 1997, Reij *et al* 1996).

Water resources have particular characteristics in scarcity terms. Scarcity is conventionally cited as the underlying factor behind water resources problems (Pickering and Owen 1994, DFID 1997a, Raskin *et al* 1997, McDonald and Kay 1988, Fallenmark and Widstrand 1992, WMO/UNESCO 1991, Jones and Hollier 1997). This can be too

simplistic if taken as meaning only the lack of water as a physical entity, but has a more profound meaning if scarcity is interpreted to be the limited availability of, or limited access to, the many different services water resources provide (Soussan *et al* 1998, Seabright, 1997). For example, in rural Bangladesh, the same body of water may be valued for irrigation, for fish and other products, as a source of domestic water and as a medium for waste disposal. It may also represent a potential flood hazard (Rogers *et al* 1994, Dupriez and Leener 1992, Hossain *et al* 1987). This multiplicity of values can all become scarce where resource pressures exist (Reij *et al* 1996, Soussan 1998).

We consequently need a more profound, analytical conception of scarcity when seeking to understand local-level water resources management processes. For some, there is simply not enough water available, but for many others the issue is the quality of the water resources, the consequences of competition between incompatible uses or the social, economic or institutional barriers which limit access to resources which may be abundant in an absolute sense (Brismar 1997, Soussan *et al* 1998, DFID 1997b, Kjellen and McGranahan 1997).

The discussion of these issues is extremely limited in the literature, but is emerging as an important theme in the analysis of local-level resources-livelihoods relationships (see, for example, Ghimire 1993, Conway and Barbier 1990, Soussan 1991, Scoones 1996, Reij *et al* 1996, Fairhead and Leach 1996). This emerging approach to the analysis of these complex interactions has its roots in a number of conceptual bases, but clearly owes much to seminal works by Sen (1981), Chambers (1983), Richards (1985), Blaikie and Brookfield (1987) and others; works which have all sought to understand different dimensions of the social context of resource management processes at the local level.

In rural Bangladesh, as elsewhere in the Developing World, these forms of scarcity are growing in importance and effects. Although it is always important to be careful about global generalisations, Raskin *et al* (1997) calculate a 'use-to-resource' ratio which suggests that, in 1995, some 1.9 billion people (34 percent of the world's population) lived in countries which could be classified as stressed. Their projections suggest that this figure will increase to 5.3 billion (63 percent of the population) by the year 2025; an indication of both the scale of water resource scarcities and the extent to which they are expected to increase in the future.

The roots of these scarcities lie in many factors, with several usually found in any one place. Growing demand for water resources from expanding agricultural and other production, the effects of urbanisation and population growth, increasing consumption levels, more diverse (and incompatible) uses, growing expectations which come from greater prosperity, the increased integration of regions and nations: these and other factors all contribute to the emerging scarcities which are the challenge which any policy for managing water resources must seek to address (Soussan *et al* 1998).

From these forms of scarcity comes conflict: conflict which can be overt, but which are more typically hidden within the wider processes of social control and mediation. In

Bangladesh, as elsewhere, such conflicts take many forms. They can be local, between different users in the same area (the analysis of which is one of the main foci of the research project of which this paper is a part). They can be international, locking nations into disputes which can lead to the breakdown of relations and even wars; the protracted and, at times, tense negotiations between Bangladesh and India over the sharing of the waters of the Ganges are a classic example of such tensions. These conflicts are often exacerbated by the lack of fair and effective institutions to mediate them, yet such mediation is one of the greatest challenges in the whole sphere of global resource management.

Such scarcities and tensions are found at the local level in many parts of Bangladesh (Herbon *et al* 1992, Ullah 1996). Competing demands on water resources for different uses (for example, for agriculture, fisheries, domestic use, navigation, shrimp production, etc.) are increasingly emerging. In many cases, the rural power-elites try to 'capture' these resources while the marginal and poor are increasingly denied traditional access rights (Hossain and Sen 1995, Howes 1985, Jansen 1987, Sen 1995). This has many expressions, including the leasing out of *beels*, the diversion or blocking of water channels for irrigation, aquaculture or drainage, the privatisation and draining for cultivation of common property wetlands (Khan *et al* 1994), and others. Such actions represent a major change to the traditional processes of water resources management and are a potential source of social conflict in rural Bangladesh.

The picture is not entirely negative, however: although poorly-researched and understood, there is evidence that long traditions of social organisation around and co-operation over water resources management are adapting to new circumstances (Soussan 1998, Duyne 1998). Such co-operation can take many forms, ranging from small, temporary groupings to address specific problems to larger, more established process of organisation which can include many diverse interest groups. A key issue is how the processes through which these phenomena are formed and operate relate to the prevailing structures of social organisation and power at the local level.

These dynamic processes of conflict over and co-operation around water resources scarcities, and their social and institutional expressions, are a dominant feature of life in rural Bangladesh. They are poorly-understood and little researched, and have to date been largely ignored at project and policy levels, but are vital to the future of water resources management and, through this, livelihoods maintenance and the prospects of sustainable poverty alleviation in one of the poorest and most resource-impooverished communities in the world. The analysis of these processes is one of the main foci of this research project. The failure to understand and build upon these processes is also one of the principle reasons why past (and many contemporary) attempts at participatory development in the water sector have had so few successes. This issue, participation in the water sector, is considered in greater depth below.

## **CHAPTER 5: APPROACHES TO DEVELOPMENT:**

### **GOVERNMENT PROGRAMMES AND THE ROLE OF NGOs**

The discussion presented above has emphasised the dynamics of change in rural areas, both in general terms and in specific relation to the management of water resources. These trajectories of change have both influenced and been influenced by the efforts of outside agencies, both governmental and from Bangladesh's thriving NGO community, to promote rural development in the years since independence in 1971. The extent of such influences is a matter of contention, however, with these external agencies tending to lay great stress on their impacts but other commentators having greater reservations about the extent to which rural life has been influenced in any substantial manner. These issues are reviewed here.

#### ***5.1. Governmental Development Efforts***

The rural development approaches of the government has taken many shapes in terms of strategies and approaches in Bangladesh. All past governments and some outstanding personalities had undertaken different programmes to uplift rural people. In the colonial period, the government established the Agriculture Department (1880) and introduced local government institutions (the Union Board) in 1919. The British government also introduced rural co-operatives in 1904 and established the Rural Reconstruction Department in 1936 (Samand 1994).

There is also a long tradition of philanthropic endeavours by public figures; for example, the world-renowned poet Rabindranath Tagore started his village development programme through the provision of agri-credit at Shilaidaha in Kusthia district. He also established an institute of rural reconstruction at Sriniketan in 1921. The major aim of the institute was to promote the modernisation of agriculture and enhance non-farm activities in rural areas. Tagore's rural reconstruction programme placed an emphasis on the establishment of local organisations such as Pally Mangal Samity (village welfare committee), Health Cooperatives, Adult Education Centre etc.. Whilst worthy, few of these individual initiatives were financially or organisationally sustainable.

Whilst these early initiatives had some success, intensive rural development efforts only started in the 1950s and 1960s with the introduction of a wide range of government programmes in the period following decolonisation. These included the Village Agriculture and Industrial Development (V-AID) programme, Rural Works Programme,

Basic Democracy, the Swanirvar (Self-Reliance) Movement, The Comilla Rural Development Approach, and the Integrated Rural Development Programme.

Since 1971, the Government of Bangladesh has undertaken a number of programmes for rural development, but few have had much success and most failed to achieve their stated goals. The reasons for this are manifold, but their failure was often due to the top-down approach adopted, the bureaucratic complexities which have characterised all tiers of government activity, a limited conception of what development meant (most were conceived in narrow, sectoral terms and were based on technical interventions) and the lack people's participation in all aspects of their formulation and implementation.

In particular, the centralised nature and complexity of the bureaucracy has had a disabling effect, with individual ministries hierarchical in nature and a central planning body, the Planning Commission, vetting and having an effective veto over most plans. Shortages of resources have also been critical, with most government agencies having access to minimal funds unless financed by donor assistance; creating a level of dependence upon the processes and priorities of the donors which has restricted the development of coherent and internally "owned" development programmes. These points can be illustrated through a brief consideration of a number of specific government programmes.

The main objective of the V-AID programme was to promote rural people to effectively participate in rural development activities such as agriculture, irrigation, education, health and cottage industries. Their success rate was extremely low; a reflection of the way that the programmes were imposed upon people with little attention paid to local needs, opportunities or priorities and no attempt at any meaningful participation. The Rural Works Programme (RWP) was launched in 1961 to create employment opportunities for the rural poor and develop rural infrastructure, but the misappropriation of funds and inefficient management guaranteed failure for this programme. The Basic Democracy programme was a politically motivated initiative by the then government which was dissolved immediately after the independence of Bangladesh in 1971.

The IRDP was initiated in Pakistan regime, but it has been rapidly expanded after 1971. Institution building and the expansion of rural physical facilities have been the main thrusts of the programme, but its centralised and top-down nature meant that the programme again had only a very limited impact. The Swanirvar Movement was undertaken to make the village people self-reliant in late 1975. The guiding principle behind this was to utilise human capital through a coordinated mechanism of both administrative agencies and voluntary organisations. To this end, workcamps were organised to propagate and disseminate the ideas of the movement, but inter-departmental conflicts and the lack of well-defined objectives meant led to the collapse of the initiative.

In the 1980s, some administrative reforms initiatives were undertaken and the Upazila Parishad, headed by an elected local representative, was introduced to develop and promote agriculture, irrigation, rural communication network, health and family planning, fisheries and livestock.



The Third Five Years Plan, developed in the mid-eighties, emphasised physical infrastructure development, irrigated agriculture and HYV culture, drainage and minor flood control and production and employment generation for the poor. The Fourth Five Years Plan (1990) also followed an employment-led growth policy, giving emphasis to poverty alleviation, human resources development, the promotion of women's participation and rural institution building.

All governments have had programmes on population control, mass education, poverty alleviation, health services and rural infrastructure development, but their impact has been limited; in part a reflection of the whole structure of government within Bangladesh. These general characteristics of rural development programmes can be seen in the dominant approaches to water sector planning in Bangladesh in recent decades; an approach which is currently undergoing significant changes.

## ***5.2. Approaches to Water Sector Development in Bangladesh***

Bangladesh has a tradition of significant water sector planning which goes back many centuries, and certainly pre-dates the colonial era. This has long included the construction of large water control structures such as embankments, canals, sluice gates and other sorts of regulators. This tradition was continued by both the British administration and, after 1947, the Pakistani Government, which set up the Water Development Board (re-named the Bangladesh Water Development Board (BWDB) after 1971). The BWDB, which falls within the Ministry of Water Resources (MoWR) but is operationally independent, was and still is predominantly an engineering, construction-oriented agency. It has a large professional staff, almost all of whom are engineers by training, and a centralised structure which is suited to large scale construction-type activities but far less appropriate for any management functions which require significant devolution of responsibilities and the capacity to respond to local conditions and events.

The character of the BWDB was paralleled by the dominant approach of the government to water resources management in Bangladesh until very recently. This mostly consisted of seeking funds (often, but not exclusively, from the donor community) to construct physical water control structures with the prime perceived aim of protecting the wet season paddy rice crop from flooding and/or waterlogging through poor drainage. Little attention was paid to either other aspects of water resources management (including the exclusion of ground water issues from their mandate) or the effective functioning of structures once they were built.

The formal planning of water resources has long been a focus of national policy efforts. The 1964 Master Plan for Water identified 58 large-scale flood control, drainage and irrigation schemes. The 1972 Land and Water Sector Study advocated smaller scale projects (mostly in irrigation) but still had a technical focus. The Master Planning Organisation (MPO) in the Ministry of Irrigation, Water Development and Flood Control produced the National Water Plan, with Phase I published in 1986 and Phase II in 1991.

These plans assembled substantial amounts of information and analyses which focused on the assessment of the water resources base and likely patterns of future demand from various water resource users. Despite these strengths, however, the Plan fell far short of being a comprehensive national plan, with a poor integration of different sectors, institutions and programmes. The history of national approaches to water sector planning in the early years of independence consequently reflected the limited, technical nature of the institutions responsible for these activities.

Catastrophic floods hit Bangladesh in both 1987 and 1988, floods which were at the time perceived as being linked to deforestation in the watersheds of the Ganges and Brahmaputra river systems and which were predicted to become a regular occurrence (see Ives and Messerli 1989 and Soussan *et al* 1995 for a full discussion of the debate on the myth of Himalayan environmental collapse). This in turn led to a perceived need for a crisis response to tackle the problem of recurrent floods in the country.

A number of developed countries as well as major international donors organisations like the UNDP and the World Bank, offered help in finding ways to mitigate the effects of this threat of a cycle of natural disasters. Several studies were initiated by bilateral and multilateral agencies to examine options for flood mitigation. It became evident from these studies that much of the technical, socio-economic and environmental information needed to choose between options were missing. In June 1989, the GoB requested the World Bank to co-ordinate efforts to prepare a programme of further studies and pilot projects that would form a basis for addressing the flood problems in the country more comprehensively and the Flood Action Plan (FAP) was born.

The World Bank convened a meeting in Washington in July 1989, where a five years draft Flood Action Plan (FAP) for Bangladesh was formulated and it was then presented and approved at a meeting of representatives from concerned governments and donors in London in December 1989. The governments and the agencies agreed to provide about \$150 million for FAP activities, of which \$ 50 million was directed to pilot projects for testing approaches to river bank protection and floodplain management. The FAP consisted of 26 components initially, most of which have now been completed.

The main aim of FAP was to set the foundation of a long term programme to achieve a permanent and comprehensive solution to the flood problem and to create a congenial environment for sustained economic growth. To this end, the Flood Plan Co-ordination Organisation (FPCO) under the Ministry of Water Resources was set up in 1990 to co-ordinate the studies and implement the pilot projects. From the outset, the process was controversial, with a range of internal and external critics (with academics and the burgeoning NGO community at the forefront) attacking the centralised and excluding nature of the process and the implicit assumption that technical, engineering solutions to the supposed flood 'problem' could and should be implemented. The controversy both reflected and became enmeshed in the wider politics of Bangladesh, becoming linked to, firstly, the opposition to the Ershad regime and, subsequently, the often conflicting electoral politics of the last few years (Chowdhury 1996, Rahman 1994, Huq 1994).

At the same time, many of the FAP studies themselves were pivotal in demonstrating that the goal of controlling Bangladesh's rivers through massive engineering schemes was both unfeasible and, in many ways, undesirable. There have been many criticisms of both individual projects and the FAP as a whole, with the Compartmentalisation Pilot Project (CPP) more criticised than most. These criticisms were summarised by Soussan *et al* (1995):

- The concentration on flood control has led to the marginalisation of other aspects of water management, such as water scarcity and water quality, which are of equal importance.
- Seeing flooding as a problem has ignored the many positive benefits, such as improved soil fertility and enhanced groundwater availability, which flooding can bring.
- The concentration on large-scale, structural solutions has led to the neglect of smaller, integrated approaches to water resources management.
- Flood control projects are cited as having negative impacts on fisheries, and especially subsistence fisheries which are the main source of animal protein for rural Bangladesh. Flood control disproportionately benefits larger farmers and the urban population at the expense of the bulk of the rural population and the urban poor living in peripheral areas, thus widening inequalities and marginalising small farmers, fishermen and the landless.
- The assumed benefits in increased agricultural production, which are concentrated on HYV rice, are yet to be demonstrated whilst the approach ignores the complex, multi-product nature of rural livelihood systems which are well adapted to local environmental conditions, including periodic flooding as a normal feature of life.
- A series of potential environmental problems resulting from major flood control programmes have been cited, including the reduction of biodiversity and the loss of wetlands which are essential habitats for endangered species. The technical orientation of flood control measures are criticised, with in particular large-scale interventions requiring higher standards of planning, design, construction and, especially, operation and maintenance than are currently practised in Bangladesh.
- The revenue needed for the maintenance of the structural measures is beyond the means of either government or local people, with poor maintenance inevitably leading to systems failure and more catastrophic flooding impacts than before the structures were built.
- Many measures require large areas of land. This land is often acquired through compulsory measures and the basic rights of the dispossessed landowners are violated. It is also claimed that compensation payments are often not made in full.
- The planning and design process is typically centralised, with inadequate consultation with or participation of the local people who are most affected by the decisions reached.
- Many flood control measures are expensive and have not been demonstrated to be cost-effective, and the comparative cost of alternative measures has rarely been considered.

- The main direct losers of many flood control measures are socially and economically marginal groups such as char dwellers and professional fishermen, raising questions about the extent to which the approaches are compatible with poverty alleviation policies.
- There have been concerns about the public health implications of flood control, with in particular poorer drainage and reduced flushing of standing bodies of water believed to lead to the increased incidence of water-borne pathogens and parasites.

These points of criticism are far from conclusively demonstrated and, where valid, are not universally applicable, but there is now a consensus that the main thrust of this analysis was valid for both the FAP approach and other large-scale water sector projects in Bangladesh (see Soussan (1998) for a detailed evaluation of one such project, the Systems Rehabilitation Project). The combination of the politics of the opposition to FAP and the extent to which the findings of FAP and other studies showed that such approaches would be out of line with most donor policies on issues such as gender, poverty alleviation and the environment led to a consensus position amongst donors that the days of massive investments in technical interventions was over. That further catastrophic floods did not follow those of 1987 and 1988 demonstrated that fears of such floods becoming an annual event were groundless, further reinforcing the momentum towards a radical change in approaches to water resources management in Bangladesh.

Within this process, the pre-occupation of the BWDB and other water sector agencies with flood protection for the *aman* rice crop was increasingly questioned. This narrow perception of water control issues, which led to similarly narrow prescriptions for interventions, does not reflect the realities of water resources management on the ground discussed above. The need for both a broader definition of water resources issues and a more inclusive process of planning and action have together become the focal points for the current dynamics of development of the water sector in Bangladesh. Recent years have seen fundamental changes to both the policy framework and the types of intervention adopted for action on the ground.

To simplify a long and complex process, a consensus on flood control soon gave way to a vociferous and polarised debate for and against such technical interventions, with an increasingly powerful anti-FAP movement emerging to challenge the basic precepts of what was stereotyped as the FAP approach.

This has in turn given way to an emerging new consensus on the need for, firstly, an integrated water resources management approach which considers all aspects of water resources and uses, and, secondly, on the need for approaches which are built around the social, and not the technical, dimensions of water resources management. This consensus is reflected in both the new policy framework of the Bangladesh Government (reflected in key policy changes such as the 1995 Strategy Paper on Water and Flood Management) and the types of issues the donor community is emphasising in their support to the sector.

It is also reflected in the structure and approach of more recent projects in the sector. For example, projects such as the Small-Scale Water Resources Development Sector Project (SSWRDSP) have learnt from past mistakes and are seeking to both integrate a more complete and effective approach to integrated water resources management and develop local-level participation in all stages of project implementation.

Similarly, the second phase of the CPP (the project with which this research is linked) has seen a fundamental shift in key areas such as the approach to participatory development, the definition of objectives behind the operation of the water control structures and the relationship between government agencies (especially the BWDB) and NGOs. It has also introduced significant innovations in fields such as the process of land acquisition and the compensation of people negatively affected by the project which have gone far to answering a number of the specific criticisms of past approaches to water sector projects listed above. As such, whilst it is too early to tell what the final outcomes of these changes will be, there is little doubt that significant changes are taking place at both project and policy levels.

The most recent phase of this process is the consideration being given to profound changes to the institutional arrangements of water resources management within GoB and the search for strategies through which local people can become central actors in water resources management policies and programmes. These developments are reflected in the First Draft National Water Policy, which was published in the autumn of 1997. Although only in a draft, discussion form at the time of writing, this new policy clearly sets out a significantly new direction for water resources management in Bangladesh. It is based on an integrated water resources management approach, clearly recognised the multiple nature of both water resources uses and water resources problems and recognises the need to build policies in this field on an appropriate policy, legal and institutional framework. The importance of the direction this new policy provides cannot be over-stated. If followed through, it will provide a base for ensuring that many of the problems with the context in which CPP and similar projects were implemented in the past will not be a factor in the future.

As such, this research project is being executed at a time of dynamic change to both the reality of water resources management in rural Bangladesh and the institutional and policy framework within which such management takes place. This is most apparent in increasingly central role that NGOs are playing in the development of both policy and local-level activities and the approach to participation in the sector; the issues to which we now turn our attention.

### ***5.3. The Role of NGOs in Development***

In the present day development literature, the term Non-Government Organisation (NGO) is much used and sometime abused, with Bangladesh having bogus organisations posing as NGOs to gain commercial and/or political advantage. Leaving aside these exceptions,

there is a large and growing NGO community in Bangladesh and they are becoming increasingly pivotal in defining good development policies and practices. At their best, these NGOs are working with the poor and disadvantaged groups and have created a new dimension of bottom-up development which contrasts sharply with the centralised, top-down approach which has characterised so many government efforts. In the operational sense, some NGOs are supplementing the work of or, at times, they are competing with government agencies.

The NGOs have developed and changed their approaches and strategies considering the needs of people and times which got both appreciation and criticisms (Quddus, 1996). The largest are now major organisations which are able to attract significant funds and are quoted internationally as exemplars of NGO-led development.

The first approach adopted by NGOs was relief and welfare services in the early 1970s which have to be sustained by external assistance. NGOs then addressed poverty issues through direct delivery of relief and welfare services which included donation of food and cloths, supplying medicine and developing simple infrastructure in rural areas. Such activities have been very inadequate in the face growing needs and were not sustainable.

In the second half of the seventies, NGOs placed stressed on rural development activities through community based approach involving the poor and resourceless in income-generating activities for their self-reliance and thus, they tried evolve integrated rural development (Quddus, 1996).

In the eighties and nineties, some NGOs have concentrated their efforts for changing rural social relationships and institutions through new institution building and promoting people's control and initiatives. The significance of NGOs approach lies in their innovation, creativity, involvement and rich experience in micro-level planning. At their best, NGOs enjoy flexibility in operation and are in much better position to understand local realities and people's needs.

To achieve their objectives, the large NGOs in Bangladesh have developed a wide ranging programmes including information and education, income and employment-generating activities, training for community self-help works, the establishment of linkages among organisations, groups and activities and action research on community development.

The large NGOs in Bangladesh are trying to involve people in the identification of problems and development of initiatives to satisfy basic needs and enhance self-reliance, thereby breaking from the dependency which has suppressed the creativity of poor and their fuller involvement in the development process. Central to the philosophies of the NGOs is to encourage people to participate in self-development activities and turn the many hands of the recipients in to the hands of productive people who are contributing to the economic growth of the country (Chowdhury, 1996).

They are not only being involved in experimenting with models of participatory development in different forms, but they are also developing new methods and strategies for rural development which reflect their localised knowledge and experiences. In this, many NGOs have the capability to integrate their approaches far more effectively with the specifics of local needs and opportunities, and in particular are able to work within the realities of local social structures. This in turn gives the NGOs the chance to target their efforts more effectively to specific disadvantaged groups, with women and landless households seen as particularly important in these efforts.

Further, several of the development models propagated by Bangladeshi NGOs have been acclaimed world-wide and are being replicated in different developing countries. The micro-credit programme of Grameen Bank, Gono Shayojjo Shangsta (GSS) and Asha, non-formal education programme of BRAC and social forestry programme of Proshika MUK are particularly well known. To develop these points, profiles of some national NGOs with their mode of actions, are described here.

**Bangladesh Rural Advancement Committee (BRAC)**, which was established in 1972, is one of the pioneering organisations which motivated rural people to form homogenous target groups as vehicle for integrated rural development. The rural development programmes of BRAC could be grouped in four broad categories: i) capacity building and institutional development for the rural poor, ii) economic support activities, iii) non-formal education and iv) healthcare and family planning. The impact of these programmes has been significant, with many of the members of BRAC able to improve their economic conditions through economic support programmes. The Non-Formal Education has also had much success, but the health care programmes in the forms of health education and preventive measures and non-clinical approach to family planning have been less effective.

**Grameen Bank**, established in 1976, is a specialised bank designed to work exclusively with the rural poor. The borrowers of the bank are themselves partner-owners of the bank. Grameen Bank originated as NGO and latter it was incorporated in the Bangladesh Bank. The bank has successful credit operation with the resourceless poor who were involved in income-generation activities and thus, they have improved their economic condition. Although widely cited as an exemplar of participatory development, the involvement of the members is in practice controlled by the bank officials. Despite this, it has had many successes and has recently extended into a wide range of other activities.

**Proshika MUK** is one of the largest NGOs in Bangladesh, working in the fields of credit support, education, rural institution building and advocacy for social development. It was founded in 1976 by a group of social workers trained in BRAC. The premise of Proshika is that underprivileged men and women can take charge of their own development by building self-awareness and confidence. Priority areas include social mobilisation and organisation amongst the rural poor, the promotion of income-generating activities, development education and providing community agricultural services.

Besides the national NGOs, some local NGOs like Unnayan Shahojogi Team (UST) and Centre for Natural Resources Studies (CNRS) are working in Tangail District in both social mobilisation for poverty alleviation and local natural resources management. UST is closely monitoring the FAP process in the CPP area, while CNRS is involved in *Beel* management in participatory manner in Nagorpur Thana under Tangail District.

The emergence of the NGOs initially met with resistance from many government agencies (and nowhere was this truer than the water sector), whilst many NGOs in turn were unrelenting in their criticism of government development attempts. The last few years has, however, seen a significant softening of these adversarial attitudes and better communications between the two sets of actors emerging. This is particularly true at the policy level, but there are also examples of NGOs becoming implementation partners to government departments in projects (though this is usually strongly pushed by the donors).

Rural society in Bangladesh is not homogenous; rather it has been stratified in different social classes and categories and there are contradiction and competitions among different social classes and groups in many areas. The basic structure of rural society is characterised by the existence of a minority of dominant people including landowners, traders, moneylenders, elites and government officials, whilst the majority, consisting of small and marginal farmers and landless workers, live in poverty. The poor are also often divided on many issues and competing each other for the limited economic opportunities for their survival and these factors inhibit them from taking initiatives on their own to improve their condition through organised efforts (Chowdhury, 1996).

In such a situation, the traditional top-down approach of the government has had very little success in the rural development and poverty alleviation programmes in the country. On the other hand, NGOs are different in their forms and function in identifying people's needs and working with them in a creative and participatory manner. In this context, a number of national and local NGOs have achieved laudable success in rural development and poverty alleviation because of their pro-people activities and sincere attitudes.

The NGO activities started in Bangladesh soon after the independence and have been able to demonstrate their relevance and effectiveness through their rural development and poverty alleviation programmes. NGOs have activities over all the 64 districts of Bangladesh. What is clear is that they will continue to be major players in the continued rural development programmes of Bangladesh.

The government and NGO relations have had many ups and downs in the past, but the relationship has improved in recent years and there are now examples of good collaborative efforts. One of the instances of government and NGO collaboration is the formulation of National Environment Action Plan (NEMAP) by the Ministry of Environment and Forest. NGOs gave valuable inputs in the nation-wide public consultation process of NEMAP.



The NGO community, led by the Association of Development Agencies in Bangladesh (ARAB), supported the government in organising national consultation involving all sectors of society, with an emphasis on grassroots people's participation. Consultation workshops, involving the stakeholders groups for identifying key environmental issues, were held in all the agro-ecological zones of the country where NGOs played a very vital role. The whole process and consultation was participatory and transparent. Each consultation was formatted to provide people's definition of their own environment, identifying the major problems, prioritising the issues and giving do-able solutions to each of the priority problems. NEMAP has become a success story in participatory consultation and a model for environmental planning.

The government, in collaboration with NGOs and people in general, has started its follow-up activities to the plan's formation. The major socio-environmental concerns identified largely by people are: poverty, health and sanitation, deforestation, natural hazards, air and water pollution, agro-chemical and water stagnation and, finally, flood control and drainage improvement. (MOEF, 1995). It is interesting to note that people have identified water logging and drainage improvement as their major environmental problems, and not just a simplistic concern with flooding alone.

It can consequently be seen that the process of involvement of NGOs in both the formulation and the execution of rural development activities in general, and water resources management in particular, is emerging as a dominant trend in development approaches in Bangladesh. The opportunity this provides for greater effectiveness and sustainability of efforts is important, as is the emergence of a wider civil society that these institutions represent.

This is particularly significant at the local level, where the absence of effective institutional channels for the linking of local potentials and external processes has been a major limitation on the emergence of more effective and inclusive development processes. It is consequently clear that any attempts at developing more effective institutional capabilities for water resources management need to work within this emerging structures of government-NGO relationships, with the primary interface with local communities often coming from NGOs. The approach that the research project for which this is a background paper will consequently reflect these emerging trends and channel the development of options for improved water resources management through an institutional context which seeks to link local institutions (formal and informal) through the nexus of GO-NGO relationships.

#### ***5.4. Participatory Approaches to Development***

The discussion of the development approaches of both government and NGOs has laid stress on the contrasting levels of and approaches to interactions with local communities in the formation and implementation of development efforts. The government agencies were, for many years, essentially hostile to any concepts of local-level involvement in

decision-making. Where this did occur, it typically involved only the local elites who dominate the systems of patronage discussed above and was a far from transparent process with few development benefits. This has again began to change and, whilst there are still formidable barriers to the emergence of widespread and sustained participation, there is at least lip-service paid to the need for such a process. The origins of and rationale for participatory development approaches have, of course, been exhaustively discussed in recent years (see, for example, Chambers 1989, Nelson and Wright 1995, Scoones and Thompson 1994, Kramsjo and Wood 1992, Krishna *et al* 1997) and there is no need to reproduce this debate here. What is crucial to note is that the principle of participatory development is now widely accepted by both donors and governments throughout the Developing World.

This consensus has also developed in Bangladesh, at least in principle (albeit with many problems and considerable debate along the way). What has not emerged are proved and robust processes through which participation can be achieved. This is particularly true of government programmes, and in turn nowhere is this truer than in the water sector. The history of participation in water resources management programmes is relatively recent. The first concerted attempt to develop a process through which participation could be achieved parallels the FAP process, but was not wholly within FAP. Whilst some FAP project (including CPP) had participation as central dimensions to their implementation, the core process was through the development of "Guidelines for People's Participation" (GPP) by the BWDB and the main vehicle for this was the Systems Rehabilitation Project (SRP), which was not a FAP project.

The initial approaches to participation in the water sector were unsuccessful. This has been widely recognised and the whole approach is under active review at the time of writing. It is not clear whether future efforts will have any greater success, for there is still not a well-developed conceptual base for these efforts. What should be clear is that the more simplistic elements of the original approach will not be reproduced in the future. It is useful to review these issues through the consideration of the recently-completed evaluation of the SRP project (Soussan 1998) and the formal review of the GPP undertaken by John Soussan in 1996 (and included in the donor-GoB aide memoire of the SRP project in November 1996).

The goal of participatory development was included in SRP's activities from its inception in 1990. These activities were marginal at first, but in the project's later stages the development of a process of participation in the operation and maintenance of the rehabilitated water control structures became one of its central objectives. This process was seen as a key aspect of the sustainability of the improvements made during rehabilitation and was linked to the wider development of participation in development projects in Bangladesh and internationally. In other words, participation has been seen as both a means to an end (sustainable O & M) and an end in itself.

The formulation of these activities is extremely weak in the project's formulation, with some reference to the need for beneficiary involvement and a poorly-specified section on

‘on-farm development’. Given this poor specification of the task to be done, what did happen in SRP with regard to participation? The approach adopted was to form a dedicated set of local groups, Water User Groups (WUGs), which comprised farmers only organised around hydrological units. This approach was modeled on that used widely in irrigation schemes and was premised on the assumption (discussed above) that the only water users which mattered were farmers. This approach paralleled that found in other water sector projects and FAP studies at that time.

Group formation started in two sub-projects in 1992-93 and was expanded from there. Six further sub-projects were added during 1993-94, but the scale of SRP's participatory activities was still very limited at the time of the project's restructuring in 1994. The restructuring made reference to the need to ensure participation, but again confined this reference to the operation and maintenance of structures. By this time, the draft Guidelines on People's Participation (GPP) were ready and were taken as the reference point for the process.

Thereafter, targets for the spread of WUG formation were set, the tiers above the WUGs identified (with a hierarchy of committees for each sub-project of Water Users Committees (WUCs), Water Users Associations (WUAs) and a Project Council (PC)) and group formation was rapidly expanded. Indeed, the pace of formation in the remaining years of SRP has itself been a contentious issue, as the whole process became target-oriented and the effectiveness and functionality of groups after formation became lost; again a characteristic found in many similar projects.

On paper, the scale of group formation is amazing (*Table 5.4a*). The acceleration was particularly strong during 1995-96, with 1,386 WUGs formed during the year and the number of sub-projects with groups increasing from 12 to 34. All this took place with very limited and largely non-specialist staff. By the end of June 1997, 3,506 WUGs were registered in 35 sub-projects. The total membership of the WUGs for the 27 sub-projects for which data were available was 137,095 households. The rest of the hierarchy was less developed but still impressive. In total, there were 167 WUCs and 31 WUAs registered by June 1997; a remarkable feat if the process had been a real one. Unfortunately it was not. What was clear at the end of SRP is that the ‘process’ of participation within the project has been a paper-driven exercise which has few, if any, redeeming features.

***Table 5.4a: Water User Group Formation in SRP Over Time***

<b>YEAR</b>	<b>No. OF SUB-PROJECTS INCLUDED</b>	<b>No. OF WATER USER GROUPS FORMED</b>
1992-93	2	98
1993-94	8	714
1994-95	12	1527
1995-96	34	2913
1996-97	35	3506

**Source:** (Soussan and Datta, 1998)

This process has, with some reason, been widely criticised; critiques which have been supported by the results of the field surveys undertaken during the evaluation of SRP. The livelihood survey contained questions about the respondents' knowledge of the WUGs and other organisations developed by SRP in their area, about the extent to which they had been consulted in any way on operation and maintenance of the water control infrastructure and about whether they would like to be consulted.

The results show an almost total ignorance of these issues, with few respondents having any knowledge of the WUGs and even less believing themselves to be involved. Only 16 percent of all respondents had heard of the WUG/Os and only 4 percent thought that they were members. The picture is not much better when only farmers are considered, with just 9 percent of farming households with over 0.5 acres of land thinking that they were members. Knowledge of the WUG/Os was higher in sub-projects which had received substantial levels of consultancy inputs in this field, but the difference was marginal and in all sub-projects it is clear that the WUG/O formation process has had little, if any success in engendering a process of community-based management of the operation and maintenance of the water control structures; a goal which, it must be remembered was the ultimate reason for the participatory process in SRP.

This does not mean that people do not want to be involved: the field surveys showed that a high proportion of people from all walks of life did wish to be consulted on key decisions concerning the structures; hardly a surprising finding given the importance attached to them. Whilst very few people had been consulted on the operation and maintenance of the structures in their area (on average, only 6 percent for all sub-projects), 51 percent said that they would like to be consulted.

These results parallel the picture found in a separate study of WUG/O in 7 other sub-projects undertaken by the SRP consultants (SRP Technical Report no. 54). It is widely acknowledged that the formation process in most areas was largely a paper exercise, with mobilisation and consultation where it did take place confined to a few locally "influential people", typically local elites who provided the lists of names and subsequently became office holders and members of the higher tiers of the WUG/O structure. There are no examples within SRP of fully functioning, effective WUG/Os which have taken over responsibility for the functioning of the systems.

As such, the assessment of the participatory mobilisation and group formation process within SRP can be characterised as one where local elites are selected into a largely nominal organisational structure which is presented as representing the "people" whilst the vast bulk of the population is not aware of the existence of these bodies and has never participated in any activities associated with their formation or functioning. Those that did find the scope for meaningful participation was extremely limited.

This critical finding reflects many complex factors, but perhaps the most crucial are the way in which the participatory element of SRP developed within a project structured for

other purposes, the lack of any coherent vision on why the groups were being formed and the inadequacies of the GPP as a model for participatory development.

The emphasis on participation developed as almost an 'afterthought' some time into the implementation of the project and within a project structure which reflected the centralised, construction-oriented character of both the project and the organisation, the BWDB, responsible for implementing it. There were some marginal adjustments to this structure, but nothing of any real significance and the process of participatory development became linked into the normal system of meeting centrally-defined targets. The result was a rush to put names on paper and register the existence of groups with no adequate process of consultation and mobilisation on the ground.

An effective participatory process is time-consuming, requires substantial external inputs (if it is to be driven from the outside; the best participation comes from local initiatives), will only be effective where the purpose of participating is clear and regarded as useful by local people and, crucially, is one which is part of the project from the beginning and is the principle upon which the project's management and structure is designed. None of these characteristics was in place in SRP or other projects which adopted a similar approach in Bangladesh's water sector.

These failings were compounded by the lack of a clear vision as to why participation was needed in the first place and the failure to introduce needed changes to decision-making authorities within the BWDB which would allow meaningful decisions to be negotiated and followed through at the sub-project level: in effect, where the WUOs did emerge they had no function and quickly became disillusioned. They were also compounded by the fact that only farmers, and not all stakeholders, were involved in the process. This meant that vital issues were excluded from the system and that the participatory process was one which, if it had worked, would have widened, not lessened, local inequalities.

It has never been clear what job the organisations were formed to do and the discussion on the issue at different levels revealed wide differences of opinion on the matter. For some, they existed to provide a channel for consultation with the BWDB, for others their main function is to become directly responsible for the operation and maintenance of the infrastructure (though whether people want to assume such responsibilities has never been ascertained), for others they were to be a means of collecting revenue for the O & M of structures whilst for yet others their main function was to provide a channel for resolving conflicts and preparing plans. At times, different mixtures of these functions appear to be assumed.

What was never part of the SRP approach was to ensure an effective process of participation in the initial stages of sub-project design and planning, but it is at this stage that participation is at its most crucial. The evaluation identified many problems with the details of the design and functioning of the rehabilitation works done under SRP; problems which mostly reflect either specific local needs and hydrological processes or

the limited definition of the purpose of the structures as being concerned with agriculture alone, neglecting issues such as navigation and fishing.

The problems in large measure stem from the GPP, which have now been recognised as fundamentally flawed and new guidelines are being developed to replace them. The problems with the GPP were discussed in detail in the September 1996 Aide Memoire and the approach which will be adopted in the future should recognise that the development of effective participation involves far more than the simple attachment of top-down organised groups to an agency with the characteristics of the BWDB. This review identified the following issues in connection with the GPP:

- Rural areas of Bangladesh lack strong civil institutions which are representative of all stakeholders and there is no long tradition of accountable state organisations which have a clear mandate understood by the rural population, meaning that the development of effective organisations for participation in water resource management and good working relationships between such local organisations and the BWDB will be a long process.
- The GPP were based on a logic and prescribe an organisational structure which were those of the BWDB, with an assumption that water management can be separated from other aspects of livelihood systems and that the appropriate spatial structure for organising community participation is hydrological. There is no evidence that this logic is shared by the stakeholders who will join the organisations.
- The definition of the two key concepts of water users (exclusively farmers) and integrated water management (surface water for crop production) are both inadequate and exclude key groups of stakeholders (such as fishermen, landless and boatmen) and key aspects of water resource management (such as groundwater utilisation, domestic water supply, fishing resources and navigation). This categorisation does not reflect the realities of rural life in Bangladesh.
- The GPP lacked a clear delineation of tasks and responsibilities for each of the different organisational layers identified. In particular, although frequent mention is made to different layers undertaking certain activities, there is no clear mandate which provides them with the authority to enforce any actions or decisions made. This is compounded by the lack of a clear legal status for the organisations.
- In most cases, it is not clear what the organisations are for: whether they exist to provide a channel for consultation with the BWDB, to directly become responsible for managing the resources and infrastructure, to act as a charges collection agency, to provide a means for conflict resolution or some combination of these spheres of action. In the absence of a clear understanding, different actors are either developing their own (at times contradictory) ideas or, perhaps more commonly, are pre-occupied with procedures at the expense of functions.

- The establishment of the GPP took place without any attempt to establish whether any changes were needed to the internal procedures and decision-making hierarchies of the BWDB. It is increasingly clear that there are profound contradictions between expectations of the role of the participatory organisations and the operational characteristics of the BWDB. This is most clearly apparent in areas such as planning and budgeting for operation and maintenance activities.
- Similarly, the existing approach to group formation takes place without a clear legal basis and in contradiction to a number of existing government regulations and procedures. The process will not succeed unless steps are taken to identify what legal and regulatory changes are needed and action taken to ensure that these changes are followed through. This in turn means that the future development of participatory approaches must be more keenly aware of the importance of having a clear legal and regulatory mandate, with adaptations made where appropriate to the approach adopted to ensure that this happens.
- The development of participatory organisations around water resource management needs to recognise, and ensure coordination with, the many other local-level participatory groups and organisations, both informal and formal, which characterise rural Bangladesh. This will avoid duplication or contradictory efforts and will make the group formation process far easier and quicker.
- To be really effective, the planning and actions of the BWDB at the local level (for example, priorities in budget setting or tendering and contracting procedures) should be transparent and in some way accountable to the participatory organisations, but this runs counter to existing procedures, the long-established 'culture' of the BWDB (which is very top-down) and, in some cases, existing laws or government regulations.
- Local-level BWDB staff are squeezed between the emerging need for local accountability and joint decision-making and their accountability to the centre and lack of full local decision-making authority. The staff at this level, where the user groups have been formed, had been making considerable efforts to form participatory organisations, efforts which deserve recognition, but did so within an inadequate framework which negated many of the efforts they made.
- The implications of this contradiction need to be carefully thought through before further attempts at participation without institutional reform are made. Central to this is the adoption of a more effective 'subsidiarity' (the devolution of decision-making authority to the lowest appropriate level) within the BWDB. This devolution of decision-making to the appropriate level to allow real participation in negotiations and decisions is one of the most essential steps needed of widespread participation in the water sector is to become a reality.

Based on these points and the observations of the review mission members in the field, the following factors were identified as the basis on which the revision of the GPP should take place:

- The central goal behind participatory development is to create more efficient and sustainable resource management. This means that not all functions should be handed over to people's organisations and efficiency and sustainability should not be sacrificed to ideological rhetoric.
- In consequence, establishing the most effective 'division of labour' between the BWDB and the people's organisations will be a key issue. As a starting point, activities associated with planning and operational decisions should be given priority, activities to do with construction or maintenance should only be included once the new system is established and functioning well and any revenue collection or cost recovery activities are unlikely to be possible and should be excluded.
- The legitimacy of participatory organisations will depend on their transparency and how representative they are. This means that, firstly, all stakeholder interests (and not just farmers) must be included and, secondly, that their constitutional arrangements must ensure that they are not 'captured' by vested interest groups.
- Similarly, the mandate of the organisations should be based on a more comprehensive approach to integrated water management which in principle includes all aspects of local hydrology (including groundwater) and all uses of the resources. The actual range of concern and priorities for individual groups should then be decided by the groups themselves, not by the needs and concerns of the BWDB.
- The process through which the organisations are formed and supported needs to be carefully worked out and an institutional capacity developed to ensure that they can be followed. The scope for including other organisations (such as NGOs) in this process should be explored.
- The levels of the BWDB with whom the organisations interact must, firstly, have the authority to make decisions and carry through negotiations with the people's organisations and, secondly, must be open to scrutiny by the organisations. This in turn means that there must be a very clear and agreed definition of what issues are open for negotiation and where final authority for decisions lies (including which, if any, are subject to joint decision-making between the BWDB and the organisations). Similarly, if other issues are only open to consultation and final authority lies elsewhere, then this must be explicitly known to all parties in advance.
- There must be a clear and well-documented delineation of tasks and responsibilities, procedures for the functioning of the organisations and procedures for the interaction of the organisations with the BWDB. These should be developed before organisation formation takes place.



These points are, of course, carefully worded to ensure that all parties could identify with them, but behind this phrasing one thing is clear. Fundamental to the process of participatory development in Bangladesh's water sector is the need to integrate the process into the wider framework of local agencies and civil society. What is clear at this stage is that the participatory approach adopted in Bangladesh has failed to meet its objectives. And yet the need for and desire for participation is also clear: the issue is not whether to have participation, but how to make it happen.

The emerging consensus on the failure of past participatory approaches was reflected in a discussion at a workshop on "People's Participation in Water Sector : Lessons Learned from Experienced" in 1997, where the participants agreed that there had been no real participation in water sector activities in Bangladesh. The participants also suggested that, to ensure a genuine participation of stakeholders, there was a need for representative local government and community leaders, and for people to be involved at every level from problem identification, needs assessment, feasibility test, project designing, implementation and operation and maintenance. It was also reported that a meaningful participation should consider the three aspects: i) what kind of participation is under consideration? ii) who participate in the process? and iii) how does participation occur? (Huq, 1998).

In this regard, a recent development is that government is trying to involve people into the planning of projects, particularly in the water sector, so that they would have greater say in its design and hence a greater sense of ownership. To this end, the Ministry of Water Resources has made a major efforts to produce new Guidelines on People's Participation and this new paradigm would be a step away from project to regional level planning and ask people what really they want or need with respect to the water sector. The days of top-down and technocratic planning are over and a new direction which will involve people in the development of any major national planning exercise and will lead to accountable form of government and sustainable development is emerging (Huq, 1998).

The process through which new approaches will be developed was, as has been mentioned, still under development at the time of writing. It can be expected to take some time to develop and it is intended that the results of the field research programme will feed into this process. As a starting point, it is useful to give some consideration to a number of fundamental principles which provide a basis for identifying where this issue should go in future. No simple, prescriptive solution to these profoundly complex problems is presented; rather the points raised should be seen as a starting point, not an instant answer. This discussion should take place within the context of the development of the water sector as a whole, which is experiencing dynamic change, and of wider of social changes in Bangladesh.

A key issue is the very nature of the BWDB, which has been characterised, above, as having an engineering orientation and a top-down structure. This means that it is an agency which is fundamentally not suited to developing and managing a participatory process. This is not just a question of not having enough social scientists or mobilisation experts (though there are very few of either in the Board). Rather, it is a question of the

whole process of decision-making and mandates within the organisation. The experience of SRP has shown that it is difficult, if not impossible, to develop meaningful local empowerment in such a structure.

So, if we accept that the past approach has not worked, where should we go from here? The first point to make is that participation is not easy. This is generally true, but is even truer in the water sector, where issues are inherently multi-dimensional and where the dynamic nature of water resources means that actions in any one place potentially affect other interests upstream and downstream. Naive participation, which assumes that all problems can be solved through intensive processes of "grassroots" mobilisation, must be avoided. Indeed, the very phrase participation, which now has so many connotations, should perhaps be dropped. Instead, we would propose a new lexicon which gives a clearer basis for the way forward.

The first part of this lexicon is to ensure the effective **representation** of all stakeholder interests within an institutional framework which is both **legitimate** (and accepted as such by all) and **transparent**, in that the means through which decisions are reached and the fairness of those decisions are both clear. This is an important distinction. Too often, participation is taken to mean that everyone needs to be involved in every decision, itself a passport to an endless cycle of talk-shops. This is neither practical nor desirable.

What is essential is that there are institutions through which the multiplicity of interests are represented, which are not under the thrall of one particular set of interests and which have a clear basis in the society where they are placed. This in turn means that the starting point for identifying such an institutional structure should be what already exists and functions. The research undertaken so far suggests that the capacity of local people to organise around water resources management is strong, and that this process is itself part of the wider fabric of social organisation. It also suggests that there are already often links between this process and the institutions of local government.

It is these institutions, those of the local community, which should be the starting point for any process of ensuring the representation of local stakeholders in water resources management decisions. They reflect local social realities and, although they are far from perfect, have a legitimacy which any externally-defined organisation will find hard to emulate. Where there are concerns about their ability to represent marginal stakeholder groups, then experience elsewhere tells us that it is better to work with them to make them more representative than to try to circumnavigate them.

The second part of the new lexicon reflects two aspects of water resources management: that not all issues can be or should be addressed at the purely local level and that there is consequently a need to develop structures which integrate local institutions into the wider fabric of the state and civil society. This in turn means that a key task is to define what aspects of decision-making should take place where.

In this, **subsidiarity**, should be a starting point. This does not mean replacing a situation where everything is decided at the centre with one where everything is decided locally: for many fields of water resources management appropriate means somewhere in between. In other words, participation at the local level needs to be integrated into a wider process of reform of decision-making structures and institutional mandates. A departure point for this process should be to recognise that achieving effective subsidiarity for such a wide range of issues is not sensible within one organisation. Part of the process of subsidiarity should consequently be to broaden the range of agencies involved, including non-government bodies such as those of the local communities and the thriving NGO sector. There is also the potential to link the process into the emerging decentralisation of Bangladesh (with the first local elections held early in 1998), but this process will again take time.

As such, it is apparent that there are complex and dynamic issues involved in the identification of the process through which participatory development in water resources management can be developed. These complexities are closely rooted to field conditions, and the poor understanding of these local-level processes is one of the main reasons the current research is being undertaken. This paper has been developed to provide a context within which these issues should be considered. The analysis outlined here will be further developed during the project's implementation, but any response to the points raised here would be warmly welcomed by the authors.

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- Soussan, J. and Datta, A. (1998)  
*Final Evaluation Study of the Systems Rehabilitation Project: Social and Economic Impacts*  
 Ministry of Foreign Affairs, The Hague.
- Soussan, J. *et al* (1998)  
*Water for the Future*  
 Ministry of Foreign Affairs, The Hague.
- Tiffin, M. *et al* (1994) *More  
 People, Less Erosion*  
 Wileys, London.
- Tsai, C. and Ali, M.Y. (1997)  
*Openwater Fisheries of Bangladesh*  
 University Press Limited, Dhaka
- Ullah, M. (1996)  
*Land, Livelihood and Change in Rural Bangladesh*  
 University Press Ltd., (UPL), Dhaka, Bangladesh
- Wisner, B. (1988)  
*Power and Need in Africa*  
 Earthscan, London.
- Wood, ?. (1994)  
*Bangladesh: Whose Ideas, Whose Interests?*  
 University Press Limited (UPL), Dhaka, Bangladesh

Woodgate, G. (1994)

*Local Environmental Knowledge, Agricultural Development and Livelihood Sustainability in Mexico* in Redclift, M and Sage, C. (Eds. 1994) *Strategies for Sustainable Development*  
Wiley, London.

World Bank (1997)

*World Development Report*  
World Bank, Washington D.C.

WMOAJNESCO (1991)

*Water Resources Assessment*  
WMOIUNESCO, Paris.

Zoarder, G.K. (1996)

*Adoption of Modern Technology in Bangladesh Rural Development*  
Shahitaya Prokash, Dhaka, Bangladesh

## **ANNOTATED BIBLIOGRAPHY**

### ***5.5. Introduction***

This annotated bibliography has been produced to support the review of indigenous knowledge and water resource. It forms part of the Department For International Development's (DFID) Renewable Natural Resources Research Strategy (RNRRS) research project, "Sustainable Local Water Management Strategies in Bangladesh - Meeting Needs and Resolving Conflicts" (ZE0034), funded as part of the High Potential Systems programme. The bibliography is designed to be a resource, providing information from a number of literatures that are generally not published together and not readily available to researchers in the field.

This review attempts to focus on social and economic trends in rural Bangladesh, both in terms of the general analysis of trends in rural and agrarian change and in the more specific context of work on changing patterns of use of and participation in water resources management. It also aims to look at the institutional issues and the organisational set-up of local water management systems within the context of the wider social settings and dynamics of rural Bangladesh. Through this it is hoped to identify the institutional and policy settings which are best suited to the implementation of an integrated and sustainable water resources management strategy. Finally the review highlights the central importance of the social and institutional context of water resources management in mitigating conflicts, allocating scarce resources and understanding the relationships between water resources and other dimensions of livelihood systems and resource relationships.

### ***5.6. Scope of Study***

Relevant literature contained within CABI, TROPAG/RURAL and ISI databases, along with material held in the University of Leeds library system are included. Some abstracts have been taken from the abstracting journals. Where this has occurred, the source is referred to in the database field. All other abstracts have been written by the authors and are referred to as Leeds/BCAS.

## *5.7. Analysis*

### **5.7.1. General information**

The bibliography has been prepared to help inform researchers gain a better understanding of the rural socio-economic trends and their implications for water resources management and of the past approaches to participatory development that have taken place in Bangladesh and how and why these came about.

### **5.7.2. Sectional analysis**

Each of the references has been placed in one of three sections that are considered to be main topic areas that influence management, policy and planning of water resources.

These are:

- Demography, Livelihoods and the Rural Economy •

Competition and Conflict for Natural Resources •

Approaches to Development

## *5.8. Collection of material*

Leeds University Library provides access to major literature databases held on CD-ROM. These are: CABI, BIDS (ISI and ISSI) and TROPAG AND RURAL. These were searched using keywords. The university libraries database was also searched. A number of libraries in Bangladesh were also searched for relevant material.

Each reference has been assigned to a single section as described above and a set of keywords to aid identification of the reference.



## **Section A: Demography, Livelihoods and the Rural Economy**

T-

**Author:** Adnan, S.  
**Date:** 1991  
**Title:** Floods, People and the Environment  
**Source:** Research and Advisory Services, Dhaka, Bangladesh

**Keywords:** flood protection, fap, impact assessments

**Abstract:** This study documents an examination of how the people of Bangladesh and its environment are affected by the multiple flood protection programmes that are imposed on the nation without thorough environmental and economic impact assessments. The practicability of the multi-million dollar FAP is also questioned critically and enlisted policy makers of Bangladesh and the donor community asked to seriously consider whether such FAP projects are at all beneficial to the people of Bangladesh in the long run.

**Database:** Leeds/BCAS

**Author:** Afsaruddin, M.  
**Date:** 1990  
**Title:** Society and Culture in Bangladesh  
**Source:** Mullick Book House, Dhaka, Bangladesh

**Keywords:** family, social organisations, culture, land ownership, rural society

**Abstract:** This book is based on the notes from a lecture delivered at Maskato State University, USA in 1987. The various aspects of the society and culture of Bangladesh including social organisation, forms of family, kinship relations, land ownership pattern, housing, clothing, food habits, trends of economic transition in the rural society of the country have been analysed in different chapters of the book.

**Author:** Ahmed, M.  
**Date:** 1984  
**Title:** Modern Rice Production Technology: Employment and Income Generation in Bangladesh

**Source:** Bangladesh German Seed Development Project, GTZ, Dhaka, Bangladesh

**Keywords:** landholding patterns, land use pattern, technology in agriculture, agricredit, finance, income distribution, production gains

**Abstract:** The report analysed the trend of rural poverty with data from 62 villages from 1992 to 1993 and found that the poverty situation in the rural area has gradually improved very slightly in this period. While measures the quality of life the following indicators was used: water-use, sanitary, clothing, health status and education and for changes in household vulnerability, the indicator used are: economic crisis, coping capacity and access to energy and credit.

**Database:** Leeds/BCAS

**Author:** Alain, M.  
**Date:** 1984  
**Title:** Capital Accumulation and Agrarian Structure in Bangladesh  
**Source:** Centre for Social Studies (CSS), Dhaka, Bangladesh  
**Keywords:** agrarian structure, land productivity, capital accumulation, new irrigation technology, land tenancy, household savings  
**Abstract:** This book is an analysis of the problem of capital accumulation and agrarian growth in the DTW irrigated agriculture in Bangladesh. The author finds that there is no significant relationship between the adoption of modern irrigation technology and generation of household savings. Rather a significant positive relationship existed between the scale of production and household saving but level and composition of capital formation/accumulation have been found favourably affected by the introduction of new inputs.

The study revealed that agrarian structure is an impediment to capital accumulation in Bangladesh. The land tenancy also has a significantly negative relationship with capital accumulation and land productivity.

**Database:** Leeds/BCAS

**Author:** Alam, S.M., Elias, ?, and Rahman, M.M.  
**Date:** 1995  
**Title:** Optimum Landuse Pattern and Resource Allocation  
**Source:** Bangladesh Agricultural University Journal  
**Keywords:** landuse patterns, farming systems, capital, resource allocation, extension service, market network  
**Abstract:** The paper examined landuse patterns for the small farmers at the farming system research site. The result revealed a considerable divergence between the existing and the plans under both limited and borrowed capital situations. The resources were not found to be optimally allocated.

It was also found that power tiller utilisation increased under borrowed capital situations while labour employment and use of modern agri technology decreased under limited capital situations. It has been suggested that strengthening of extension services and market networks beside a strong financial support would go along way in improving the prospect of small farm level production.

**Database:** LeedsBCAS

**Author:** Ali, A.M.S.  
**Date:** 1995  
**Title:** Part-time Farming in Bangladesh: A Village Case Study of its Causes  
**Source:** Contemporary South Asia 4 3  
**Keywords:** land-use; population-pressure; households- economic-impact; rural-urban-relations; technical-progress; part-time-farming; off-farm-employment; non-farm-income; farm-size; rural-development  
**Abstract:** The paper examines the causes of and opportunities for part-time farming, and its contributions to the rural economy in one village in Bangladesh. The study focuses on a group of farmers living in the village of Khazanagar in the Ganges floodplain of southwestern Bangladesh. To examine a wide variety of part-time farming situations, a total of 200 farm households were selected drawing samples from each farm size class (landless and near landless, small, medium, and large), and each head of household was interviewed during 1993. This allowed for an assessment of influences of population pressure, physical environment, technological change, and rural urban diversity on the prevalence of on-farm and off-farm employment. It also examines the types and amount of off-farm work done, and the contribution of off-farm income to the family economy.  
**Database:** CABI

**Author:** Ali, A.S. and Khan, A.  
**Date:** 1994  
**Title:** Bibliography on Agriculture and Rural Development  
**Source:** UPL, Dhaka, Bangladesh  
**Keywords:** agriculture, agrarian reforms, women in agriculture, crops, cropping patterns, farming systems, credit  
**Abstract:** It is a comprehensive bibliography on agriculture and rural development of Bangladesh. It covers all important areas of agriculture, agricultural reforms, rural development, cropping patterns, farming systems, women in agriculture, livestock, fisheries, agricultural inputs and agricultural economics. It also includes credit for agriculture, agri-engineering, technology, soil management and agricultural extension services undertaken in Bangladesh.  
**Database:** Leeds/BCAS

**Author:** BARC  
**Date:** 1982  
**Title:** Indigenous Agricultural Tools and Equipment of Bangladesh  
**Source:** BARC, Dhaka, Bangladesh  
**Keywords:** agricultural tools, plough, spade, yoke, ladder, mallet, hoe, basket, sickle, knife, drum, molon, deki, dool  
**Abstract:** This book contains information on various indigenous agricultural tools and appliances that have been in use for centuries in the country. Pictorial views are given to help get a perspective impression of the tools. Necessary description of the equipment and their uses are also stated here. The information was collected from all the greater districts of Bangladesh including Dhaka, and Tangail.  
**Database:** Leeds/BCAS

**Author:** Barua, B.K. and Dasgupta, S.K.  
**Date:** 1994  
**Title:** Rural Credit Delivery System for Poverty Alleviation  
**Source:** Bangladesh Academy for Rural Development, Kotbaria, Comilla, Bangladesh  
**Keywords:** rural credit, credit delivery, poverty alleviation, loans  
**Abstract:** This book has been an attempt to make a comparative analysis of the credit delivery system of the GO and NGO in some areas of the country. It attempted to understand the level of indebtedness of loanees, sources of loans, procedures of loans and comparative analysis of the performance of the government and Non-government agencies. The study found that the supply led initiatives have limitation to pay enough attention to the issues of capacity building of the poor.  
**Database:** Leeds/BCAS

**Author:** BBS  
**Date:** 1997  
**Title:** Statistical Pocketbook of Bangladesh 1996  
**Source:** Bangladesh Bureau of Statistics (BBS), Dhaka, Bangladesh  
**Keywords:** statistics, Bangladesh  
**Abstract:** the 1996 issue of the 'statistical pocketbook of Bangladesh is the 17th edition in a series. it is compendium of facts and figures on Bangladesh published annually. most statistics of this abridged annual have been compiled in the concerned wings of BBS.  
**Database:** Leeds/BCAS

**Author:** Chambers, R.  
**Date:** 1991  
**Title:** Rural Development: Putting the Last First  
**Source:** Longman Scientific and Technical, England, UK  
**Keywords:** rural poverty and rural development, rural people's knowledge, derivation, powerlessness, power and the poor, empowering the poor  
**Abstract:** The central theme of the book is that rural poverty is often unseen, or misperceived by outsiders, those who are not themselves rural and poor. Chambers contended that researchers, scientists, administrators and fieldworkers rarely appreciated the richness and validity of rural people's knowledge, hidden nature of rural poverty. He argued for a new professionalism, with fundamental reversal in outsiders' learning, values, behaviour and views. In this regard, he proposed more realistic and participatory approach to understand and taking action for tackling rural poverty.  
**Database:** Leeds/BCAS

**Author:** Das, U.K.  
**Date:** 1995  
**Title:** Human Capital and Agricultural Growth in Bangladesh  
**Source:** Masters Thesis, Bangladesh Agricultural University, Mymensingh, Bangladesh  
**Keywords:** crop output, new technology, human capital, technical efficiency  
**Abstract:** This study explores the role does human capital plays in promoting agricultural growth in the country? It tries to find the relationship between human capital, modern development and aggregate crop output. The analysis also showed that human capital had a highly significant positive effect on adoption of irrigation technology, "High Yield Varieties" (HYV) and fertiliser consumption. The study also found that irrigation under modern technology increased over many times while under traditional methods declined gradually.  
**Database:** Leeds/BCAS

**Author:** Dasmann, R.  
**Date:** 1973  
**Title:** Ecological Principle for Economic Development  
**Source:** IUCN, Marges, Switzerland  
**Keywords:** ecology, development planning, conservation and development, agriculture, pastoral development  
**Abstract:** This book provides a guidance to development planners and development thinkers who wish to avoid environmental mistakes in development projects. The authors explore pertinent interrelationship between development activities and conservation and demonstrate that both must

be based on an understanding of ecology. Partially emphasis has been placed on some ecosystems which are currently being subject to development activities problem likely to arise from irrigation and river basin development are also reviewed.

**Database:** Leeds/BCAS

**Author:** EGISH

**Date:** 1997

**Title:** Regional Environmental Profile

**Source:** Water Resources Planning Organisation (WARPO)

**Keywords:** regional environment, physical environment, biological environment, socio-economic environment.

**Abstract:** Regional Environmental Profile (REP) is a new thing in Bangladesh. This report gives conceptual ideas and description about the tools to prepare this REP of north central region of Bangladesh. Physical environment of the region is described very well. PE include superficial geology, climate information, surface water, and natural hazard. This report also described flora and fauna that characterised the biological environment of the region. It also examined the socio-economic factors like demography, land use patterns and development initiatives of the region.

**Database:** LeedsBCAS

**Author:** EuroconsultBETS

**Date:** 1992

**Title:** CPP: Tangail Interim Report

**Source:** FPCO and Bangladesh Water Development Board, Dhaka, Bangladesh

**Keywords:** employment, occupation, land holding, crop production, fisherfolk, women's issues floods, quality of life, urbanisation, compartmentalisation pilot project, (cpp)

**Abstract:** This report has presented survey information on the following issues/subjects: demographic characteristics, employment and occupation of the people, land holding and land use patterns, crop production, crop marketing, fisherfolk and fishing activities, urbanisation in the CPP area, women's issues, livestock and poultry, flood and quality of life of people.

**Database:** LeedsBCAS

**Author:** Ghani, M.A., Mondal, M.K., Miranda, S.M. (ed.) and Maglinao, A.R.  
**Date:** 1993  
**Title:** On-farm Water Management for Rice Based Farming Systems in Bangladesh  
**Source:** Proceedings of the Tri-Country Workshop held on Irrigation management for rice-based farming systems in Bangladesh, Indonesia and the Philippines, in Colombo, Sri Lanka, 12-14 November 1990  
**Keywords:** water management, irrigation, efficiency, farming systems  
**Abstract:** This paper highlights the results of the collaborative research in the Ganges-Kobadak and the North Bangladesh Tubewell projects, with the following objectives: (1) establish the status of water utilisation and crop production; (2) identify and analyse strategies and methods followed in project operation and their effect on crop production; and (3) suggest improvement alternatives for increasing water use efficiency and crop production.  
**Database:** CABI

**Author:** Hasnat, N.  
**Date:** 1996  
**Title:** Below the Line: Rural Poverty in Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** measurement of rural poverty, human resources development, strategies for poverty alleviation, n g o experiences in poverty alleviation  
**Abstract:** This book is one of the most comprehensive books on rural poverty in Bangladesh. The author reviewed the methodological issues related to rural poverty and made a strong case for consistency and uniformity in measuring poverty. The strategies and programmes for poverty alleviation both in the public and private sectors undertaken in the past decades have been critically reviewed. Further, the author developed a theoretical framework to explain the phenomenon of mass poverty in the country which aids understanding of the emerging situation.  
**Database:** Leeds/BCAS

**Author:** Hossain, M.  
**Date:** 1990  
**Title:** Poverty in Bangladesh (Special Issue)  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh  
**Keywords:** poverty, structural change  
**Abstract:** This issue of the Bangladesh Development Studies is made up of the papers presented at the third annual conference of the Bangladesh Development Forum of North American held in 1989. The conference focused on poverty in Bangladesh which include concept of poverty, measurement of poverty, consequences of poverty on economy and society of Bangladesh. It also analysed the structural change and issues of poverty in the country.  
**Database:** Leeds/BCAS



**Author:** Hossain, M.  
**Date:** 1984  
**Title:** Land Tenure and Agricultural Development in Bangladesh  
**Source:** Institute and Development Economics (IDE), Tokyo, Japan  
**Keywords:** land ownership, holdings, tenancy, land tenure system, labour market, credit market  
**Abstract:** The author presents a brief account of agricultural development efforts in Bangladesh focusing on land tenure system. He has also studied the interactions of the tenancy market with various non-land agrarian activities. The chapter of the report include. Experiences of Agricultural Development, Land Tenure System, Operation of non-land Agrarian Market, Impact on Input use and Land Productivity.  
**Database:** LeedsBCAS

**Author:** Hossain, M. and Afsar, R.  
**Date:** 1989  
**Title:** Credit for Women's Involvement in Economy Activities  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh  
**Keywords:** women's participation, women, economic activities, credit, social impact  
**Abstract:** The main objective of the study was to evaluate the existing credit programme for rural women and to suggest measures for improving womens' access to credit for greater involvement in income generating activities. The report also reviewed the literature about womens' participation in economic activities presented evidences on womens' access to credit vis-a-vis men and bought out major constraints to expansion of credit programme from both supply and demand sides. It also identified the successful elements of the existing credit programme in Bangladesh.  
**Database:** Leeds/BCAS

**Author:** Huq-Hussain, S., Chapman, G.P. (ed.) and Thompson, M.  
**Date:** 1995  
**Title:** The Human Response to Environmental Dynamics in Bangladesh  
**Source:** Mansell Publishing, London, UK  
**Keywords:** erosion, environmental management, disasters, watersheds, rivers, rural development  
**Abstract:** This chapter analyses the behavioural pattern and adjustment strategies of a population displaced as a result of natural disasters, with special

reference to river bank erosion in the Ganges, Jamuna and Meghna basin, within Bangladesh. Millions of people are dependent on the rivers for their livelihood. The rivers support agriculture, fisheries, flora, fauna and transport, and provide drinking water. The rivers also prevent saline water from impinging on the coastal belt. Thus, the rivers play a vital role in maintaining the ecological harmony of the environment, and also have a profound effect on the cultural life of the people. People develop their own mechanisms to withstand hardship in their own environment, but ultimately many are forced out by river erosion, since local social conditions will not permit them to regain access to new land. For many, the move to the city proves to be a viable and permanent alternative. Any plan for the sustainable development of the basin must also consider the social adjustment mechanisms which assist people overwhelmed by rapid environmental change.

**Database:**CABI

**Author:** Jahangir, B.K.

**Date:** 1982

**Title:** Rural Society, Power Structure and Class Practice in Bangladesh

**Source:** Centre for Social Studies (CUS), Dhaka, Bangladesh

**Keywords:** social organisation, social process and changes, social system, power structure, social structure, landownership, economic power and social status

**Abstract:** The author has tried to analyse and interpret the social organisation, social process and changes, social system, power structure, social structure, landownership, economic situation and class position of the people of rural Bangladesh. It was found that the rural rich, through control of land and through control of institutions, impose coercion. Also the state through development policies aids the process of domination, exploitation and repression which results in weak community relations in the rural areas which are turning to class distinctions.

Further findings are that the social and economic bases of the political subordination of the peasantry fit in with the authoritarian development of capitalism. Within a differentiated peasantry, capital penetrates enhancing the polarisation process. Though the penetration of capitalism is distanced from commercial capitalism, it has destructed the self-sufficient base of the peasantry encouraged the introduction of agri-technology and commercialisation of agri-products.

**Database:** Leeds/BCAS

**Author:** Kramso, B. and Wood, G.D.  
**Date:** 1992  
**Title:** Breaking the Chains: Collective Action for Social Justice Among the Rural Poor of Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** strategy for rural development, agrarian system, class chain, gender chain, NGO strategies for rural development  
**Abstract:** The book made an analysis of the poverty situation and asserted that poor are living in chains which are invisible but very powerful and have kept millions of people in the prisonment of poverty. To develop an understanding of these chains and provide support to the poor to enable to break the chains, Proshika has developed a participatory development strategy. The strategy calls for empowering the poor through their institution building and this process of empowerment has enabled the poor to take social, economic and cultural action for their own development. The examples of such action are documented in the book.  
**Database:** LeedsBCAS

**Author:** Latif, M.A.  
**Date:** 1983  
**Title:** Bangladesh District Gazetters, Tangail  
**Source:** Government of Bangladesh, Dhaka, Bangladesh  
**Keywords:** physical aspects, geography, topography, history, people, society, culture, agriculture, livestock, economics, commerce, health, education, local government  
**Abstract:** Geographical, topographical, historical, soci-economics and cultural details and statistics come down to the author as a tradition from Ain-i-Akbari, a source document of information of Mughal administration and from other documents. The Gazetteers describes Physical Aspects, History, People, Society and Culture, Agriculture and Livestock, Forest, Economic condition, Communication, Industries, Trade and Commerce, Public Health, Education and Information, Language and Literature, Land Revenue Administration, General Administration, Local Government and Places of Interest. This document has also a Bibliography, Index, Plates and Map.  
**Database:** LeedsBCAS

**Author:** Like-Minded Group  
**Date:** 1990  
**Title:** Rural Poverty in Bangladesh: A Report of the Like-Minded Group  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** resources nexus and impoverishment, process of polarisation in the rural areas, rural economy, agriculture, n g o involvement  
**Abstract:** The report offers an approach to and analysis of rural poverty in Bangladesh which is clearly an alternative to the conventional thinking. It focuses specifically on the very poor rural majority and situates them within the wider social and political realities of the country.

It has qualitative as well as quantitative analysis which go beyond the usual definitions and measurements of poverty to have an understanding of the process and causes of impoverishment. It tries to understand the present configuration of rural poverty and how have the condition changed over time? It also addressed the questions - what has been the patterns of rural development assistance in what context of national policy and programme? how and what extent has this assistance affected the lives of the rural poor?

**Database:** Leeds/BCAS

**Author:** Malone, C  
**Date:** 1988  
**Title:** Behaviour and Poverty in Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** consciousness of poverty, general causes of poverty, historical explanation, behavioural causes, entitlement and patronage, mitigative measures for poverty alleviation  
**Abstract:** The author investigated some behavioural factors behind poverty. He argued that behaviour is the raw material which produces the economic and social conditionality of endemic poverty situation. While analysing the historical causes of poverty that are still lying in the social systems it was highlighted that reliance on patronage and indulgence results in weak institutions and fluctuating policies, authoritarian administration, opportunistic individualism that impedes the cooperative and group efforts in modern situations, low commitment to ideology, idleness and lack of self discipline, insufficient sincerity of employees and insufficient trust modernisation and economic transformation and these are the indirect factors behind the persistence of poverty in Bangladesh.

**Database:**Leeds/BCAS

**Author:** Mirza, M.Q. and Ericksen, N.J.  
**Date:** 1996  
**Title:** Impact of Water Control Projects on Fisheries Resources in Bangladesh  
**Source:** Environmental Management 20 4  
**Keywords:** fisheries, environmental impact, water, water resources, flooding floodlands, fish farming  
**Abstract:** Bangladesh is a very flat delta built up by the Ganges-Brahmaputra-MeghnaBarak river systems. Because of its geographical location, floods cause huge destruction of lives and properties almost every year. Water control programs have been undertaken to enhance development through mitigating the threat of disasters. This structural approach to flood hazard has severely affected floodplain fisheries that supply the major share of protein to rural Bangladesh, as exemplified by the Chandpur Irrigation Project. Although the regulated environment of the Chandpur project has become favourable for closed-water cultured fish farming, the natural open-water fishery loss has been substantial. Results from research show that fish yields were better under pre-project conditions. Under project conditions per capita fish consumption has dropped significantly, and the price of fish has risen beyond the means of the poor people, so that fish protein in the diet of poor people is gradually declining. Bangladesh is planning to expand water control facilities to the remaining flood-prone areas in the next 15-20 years. This will cause further loss of floodplain fisheries. If prices for closed-water fish remain beyond the buying power of the poor, alternative sources of cheap protein will be required.

**Database:** CABI

**Author:** Mizan, N.A.  
**Date:** 1994  
**Title:** In Quest of Empowerment: The Grameen Bank Impact on Women's Power and Status  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** culture, customs, family decision making, power structure, empowerment, rural women  
**Abstract:** The study documented the result of an investigation into the effects of women's economic participation and earning on their decision making power. It also looked at other dimension of women's decision making including political participation and provided a good illustration of how religious values are important in understanding women's gender role. The book not only dealt with the negative results on gender discrimination but with positive aspects in the context of access to resources, employment, education and awareness raising programme of NGOs, particularly of Grameen Bank. The author recommended that the expansion of GB's credit operation towards accelerating changes in women's status.

**Database:** LeedsBCAS

**Author:** Nuruzzaman, A.K.M., Petr, T., (ed.) and Morris, M.  
**Date:** 1994  
**Title:** Some Critical Issues for Sustainable Floodplain Fisheries Development in Bangladesh

**Source:** ?

**Keywords:** conservation, floodplains, environmental degradation, fisheries, resource management, sustainability

**Abstract:** More than 130 native and eight exotic species of fish are found in the inland waters of Northeast Bangladesh and almost all have some commercial significance. At the start of the flood season fish migrate on to the floodplains to spawn. Later, as the water recedes, they retreat to deep water refuges in the rivers and depressions where they are very vulnerable to overfishing. This seasonal cycle is severely hampered, and thus fish production reduced, by structures designed to control or prevent flooding. Fish production is further reduced by industrial pollution, conversion of floodplain depressions into paddy fields, clearance of wetland forest in which fish congregate during the flood, and siltation. All these problems are exacerbated by a traditional leasing system which encourages overfishing. Various simple structural mitigation measures are suggested but, even if they were implemented, although the New Fisheries Management Policy should improve the socioeconomic structure of the leasing system, it cannot while government views it primarily as a source of revenue. In these circumstances conservation of fish stocks urgently requires the designation of (i) 'mother fishery' areas in which intense fishing pressure on overwintering broodstocks is regulated and reduced, (ii) reserve fishery areas which are only fished once every 5-7 years and (iii) sanctuary areas in which fishing is prohibited. This approach could be more effectively implemented if community based management were to replace the present centralised approach and is more likely to have long term success than the stocking of floodplains with selected native and exotic carp on which large amounts of development money are presently being spent. Neither money nor manpower are lacking, only political will.

**Database:** CABI

**Author:** Parker, D.E.  
**Date:** 1992  
**Title:** Studies on Rice-Based Irrigation Systems Management in Bangladesh  
**Source:** International Irrigation Management Institute (IIMI) Colombo, Sri Lanka  
**Keywords:** irrigation, tubewells, farmer managers  
**Abstract:** This paper summarises some findings from several different HMI studies in Bangladesh. Three of these have focused on command area utilisation, yield, and equity under various irrigation systems or management changes. Another study has concentrated on irrigation fees in all of the systems. In all studies the role of farmers and farmer managers (or owners) in making

decisions, in cooperating (or not), or in just reacting to the opportunities created by the actions of others has been included. Involving farmers in the operation of the Ganges-Kobadak rotation scheme seems to have contributed to the success of that programme. In the Rajshahi area, most wells are dominated not by the irrigation agency but by one farmer or a few of them who are de facto owners. It is these farmer managers, in reacting to the opportunities before them, who determine the irrigation performance of their tubewells. In the case of fee collection it again seems to have been farmer involvement in fee setting and collecting that has helped determine success or failure.

**Database:** CABI

**Author:** Quddus, A.

**Date:** 1995

**Title:** Poverty Focused Rural Development

**Source:** BARD, Comilla, Bangladesh

**Keywords:** poverty, social infrastructure, economic infrastructure, poverty alleviation, resource distribution

**Abstract:** The book is the outcome of a regional workshop on poverty alleviation. The major findings of the workshop are that poverty alleviation programmes of the regional countries essentially address the effects of poverty rather than its cause. Therefore attention should be drawn to the national and international dimensions of the inequality of resource distribution. Another finding is that growth-oriented sectoral policies do not trickle down to increase the productivity of the poor. So productivity of the poor should be increased through resources reallocation.

**Database:** Leeds/BCAS

**Author:** Rahman, A.

**Date:** 1984

**Title:** Women's Economic Activity in Three Socio-economic Groups in Dhamrai

**Source:** Unpublished Masters Thesis, Department of Geography, Jahagimagar University, Dhaka, Bangladesh

**Keywords:** women's activities, economic activity, fertility, family planning, household economy, population, socio-economics

**Abstract:** This study has evaluated some views of women regarding the nature and dimension of their activities. Three Socio-economic groups: a potter, brass-metal worker and parboiler of paddy have been selected to fulfil the purposes of the study. Subsequently a significant negative relationship has been established between the women's employment in economic activities and fertility and family size but positive between women's activity and family planning.

The nature of these relationships is of importance in reassessing the contribution of women to the household economy and the approaches to population planning in the country. In fact, instead of following the clinical approaches to population control, a socio-economic approach to it may be of relevance for the country.

**Database:** LeedsBCAS

**Author:** Rahman, H.Z.

**Date:** 1994

**Title:** Rural Poverty Up-Date, 1993

**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh

**Keywords:** household economy, quality of life, vulnerability, mobility, poverty

**Abstract:** The report analysed the trend of rural poverty with data from 62 villages from 1992 to 1993 and found that the poverty situation in the rural area has gradually improved very slightly in this period. While measures the quality of life the following indicators was used: water-use, sanitary, clothing, health status and education and for changes in household vulnerability, the indicator used are: economic crisis, coping capacity and access to energy and credit.

**Database:** LeedsBCAS

**Author:** Rahman, M., Saha, S.N. and Karim, R.

**Date:** 1995

**Title:** Effects of Irrigation on Household Income and Food Security in a Deeply Flooded Area in Bangladesh

**Source:** Asia Pacific Journal of Rural Development 5 2

**Keywords:** rice, production, agricultural households, irrigation, economic impact, income, economics, rural development

**Abstract:** The effects of irrigation on household income and food security are examined based on a study of 200 households in five villages in a deeply flooded area in Bangladesh. The average household head was an illiterate owner or tenant farmer, having a secondary source of income, a household of 7.65 members, a farm of 2.64 acres, indebted to money lenders or institutions, and in deficit in household food production. The findings indicated that although irrigation increased the total cropped area and cropping intensity the increments were small. Irrigation replaced less productive local variety crops by more productive high yielding varieties and low value crops by high value crops. The adjustments were large in the dry rabi season but small in the wet kharif season and resulted in more specialisation of cropping. The small effect of irrigation on cropping was due to the deep flooding nature of the area which prevents triple cropping and restricts cultivation of high yielding variety rice in the summer even with irrigation. Irrigation, however, increased net annual income and



access to rice, and increased substantially food grain production and calorie production of the households. The average household did not fulfil the recommended dietary allowances of calories of its members and small farm households fulfilled only one half of the allowances in the non-irrigated condition.

**Database:** CABI

**Author:** Rahman, T.  
**Date:** 1993  
**Title:** Rural Homeless in Bangladesh  
**Source:** UNICEF, Dhaka, Bangladesh  
**Keywords:** rural homeless, homeless, settlement, people, livelihood  
**Abstract:** This book tried to identify the location, distribution and extent of rural homelessness in Bangladesh. It has also described the livelihood and living conditions of the homeless poor and the problems they face. The report also analysed the nature of policies and programmes taken by the government and finally, suggested measures to be taken for the betterment of the rural landless and homeless people.

**Database:** LeedsBCAS

**Author:** Rashid, H.E.  
**Date:** 1991  
**Title:** Geography of Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** physiography, hydrography, climate, soil conditions, land-use, agriculture, natural resources, industry, economic development, environmental issues  
**Abstract:** This book, first published in 1977 and revised in 1991, covers all facts of the geography of Bangladesh. It provides more details on physiography, hydrography, climate, soil conditions and land use, agriculture, natural resources and industry trade and commerce, history and economic development than any other regional book written about Bangladesh. The latest revision includes a new chapter on environmental issues.

**Database:** LeedsBCAS

**Author:** Salauddin, K (ed.)  
**Date:** 1997  
**Title:** Women and Poverty  
**Source:** Women for Women, 63/2 Laboratory Road, Dhaka, Bangladesh  
**Keywords:** women, socio-cultural, economics, women, poverty, environment  
**Abstract:** The book contains the papers presented at a convention on women and poverty held in Dhaka, Bangladesh in 1996. The volume contains the highlights and comments made by the participants. It dealt with the socio-

economic dimensions of rural poverty, particularly the issues of rural poor women and the related factors contributing to the limited achievement of poverty alleviation programmes. It has been found that women are deprived of basic human rights, access to social services including health and education.

**Database:** Leeds/BCAS

**Author:** Sasa, S.S.  
**Date:** 1997  
**Title:** A Comparative Study on the Production and Income Between Grameen Bank Member Households and Non-Grameen Bank Households in a Selected Area of Mymensingh District  
**Source:** Masters Thesis, Bangladesh Agricultural University, Mymensingh, Bangladesh  
**Keywords:** socio-economic, rural poor, lending policy, grameen bank, productive activities, land ownership, income, expenditure  
**Abstract:** The study assessed and compared the types and extent of production, output, income and expenditure between GB member and non-GB member households.

It was found that the intensity of productive activities of GB member households was higher than that of the non-GB member households. The income and expenditure of GB member households are also higher than that of non-GB member households but there has been no significant difference between male and female expenditure patterns of the two groups of households.

**Database:** Leeds/BCAS

**Author:** Schmuck-Widman, H.  
**Date:** 1996  
**Title:** living with the Floods: Survival Strategies of Charland Dwellers in Bangladesh  
**Source:** Duisberg-Gesellschaft E.V., Berlin, Germany  
**Keywords:** flood, Bangladesh, drought, crisis management, flood action plan, life stories, char-dwellers, indigenous knowledge, engineering knowledge, survival strategies  
**Abstract:** This is the output of research conducted by the author in six char villages of the Gabsara Union belonging to Bhuapur thana in the district of Tangail. The book deals with the knowledge and perception of the rural people in terms of survival strategies while living with the floods.

The publication reveals that the Flood Action Plan (FAP) undertaken to control the floods in Bangladesh, is an example of how engineering

knowledge and local or indigenous knowledge can conflict with each other. The FAP planners have ignored the knowledge developed by the rural people over centuries of how to live with floods. The book contains the analysis of the statements and accounts of the char-dwellers, which gives the synthesis about their coping strategies.

**Database:** LeedsBCAS

**Author:** Shahid, Y. and Praveen, K.

**Date:** 1996

**Title:** Developing the Non-Farm Sector in Bangladesh: Lessons from Other Asian Countries

**Source:** The World Bank, New York, USA

**Keywords:** macro-economic trends in Bangladesh, patterns of development, rural industries

**Abstract:** The report provided the micro-economic backdrop to development in Bangladesh and made a comparison with the regional country to explore the precondition for economic growth. The report emphasised that to increase the per capita incomes at a faster pace and reduce poverty, Bangladesh must significantly raise the average GDP growth from 4 percent to 7-9 percent per annum. The sectoral sources of growth are limited, the share of industry in GDP is small, and the sector lacks dynamism. Thus, an improvement in Bangladesh economic performance is likely to come from an increase in agriculture productivity and spread of rural industry.

**Database:** LeedsBCAS

**Author:** Tapash, P.

**Date:** 1996

**Title:** Impact of Credit for Poverty Alleviation

**Source:** D.Phil. Thesis, Bangladesh Agricultural University, Mymensingh, Bangladesh

**Keywords:** economic condition, credit linkage program, employment generation, poverty alleviation, assets, skill development, financial support

**Abstract:** The study attempted to identify the nature and problems of the credit linkage program undertaken by some leading NGOs for poverty alleviation and rural development in Bangladesh.

It was found that socio-economic condition of most of the loanees was improved after joining the program. The income and employment of the borrower members increased as well as their assets increasing. The study recommended that NGOs should undertake more effective motivational and skill development programmes while the government organisations should provide more financial and institutional support to poverty alleviation programmes.

**Database:** LeedsBCAS

**Author:** Ullah, M.  
**Date:** 1996  
**Title:** Land, Livelihood and Change in Rural Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** agrarian transformation, economic structure, landlessness, land ownership  
**Abstract:** This book tries to unfold the nature of change in the ownership of land through the market process in rural Bangladesh. It is based on an intensive and prolonged survey in two ecologically diverse villages of Bangladesh. The dynamics of change in the land ownership of the rural households over a period of fifteen years have been captured in this study. It also tries to document the survival strategies and livelihood pattern of the small peasants of rural Bangladesh.

**Database:** LeedsBCAS

**Author:** Zairian, M.Q  
**Date:** 1993  
**Title:** Rivers of Life: Living with Floods in Bangladesh  
**Source:** Asian Survey 33 10  
**Keywords:** floods, flood control, erosion, rural development  
**Abstract:** During each monsoon season, almost all of Bangladesh's deltaic plain is submerged for about half the year. Rice and fish, the country's main staples, need flood water to grow and flourish. Jute, the country's principal cash crop, is also highly dependent on flood water. The annual flood during the monsoon makes the land fertile by providing moisture and fresh silt to the soil that are vital to crop production. The destructive impact of the flooding is usually limited by the adjustments that peasants inhabiting the floodplain regions have historically made, adapting their agricultural practices, cropping patterns and settlements to the annual deluge. But the high or abnormal floods, associated with widespread damage to standing crops, properties and loss of human life are viewed as calamity or disaster. These occur only about once every ten years. However, the last decade has experienced four. This paper outlines the main floods, showing that they stimulated international interest in finding a solution to the flood problem. A review of Bangladesh flood control strategies suggests that solutions to date have been single minded for mitigating floods by building dams and dykes. Floods have been narrowly viewed as a natural phenomenon requiring some technological fixes to modify the physical processes. A holistic approach to flood and erosion problems needs to be taken, to note the complex interactions of all aspects of how people traditionally have organised, produced and survived within the physical constraints. This article expands on the position to develop an alternative to the prevention of floods through structural measures

**Database:** CABI

**Author:** Zoarder, G.K.  
**Date:** 1996  
**Title:** Adoption of Modern Technology in Bangladesh Rural Development  
**Source:** Shahitaya Prokash, Dhaka, Bangladesh  
**Keywords:** technological knowledge, technology transfer, adoption of technology in agriculture, technology and other service sector-  
**Abstract:** This book underscored the needs for technology and adoption of modern technology in different sectors, particularly in agriculture. It has made an comparative analysis of technology development and adoption among the-developing countries. It has also identified and prioritised the sectors for technology generation. It also analysed the problem of indigenous technology generation and adoption of agri-technology and its impact on economy and society.  
**Database:** Leeds/BCAS

## **Section B: Competition and Conflict for Natural Resources**

**Author:** Ahmad, Q.K., Nilufar, A. and Shajahan R.K.B., (eds.)  
**Date:** 1994  
**Title:** Resources, Environment and Development in Bangladesh: With Particular Reference to the Ganges, Brahmaputra and Meghna Basin  
**Source:** Academic Publishers, Dhaka, Bangladesh  
**Keywords:** socio-economic, land, agriculture, forest, water, energy, environment transboundary water, the g b in region  
**Abstract:** This book is an attempt at assembling a knowledge base; creating awareness about the dimension of sound exploitation of resources for national development; analysing constraints on fuller utilisation of resource and how such constraints may be removed within Bangladesh; and identifying areas of regional cooperation, particularly between Bangladesh and India, mainly in relation to sharing of river flows for beneficial use in each but also other areas.

The book has outlined the national perspectives in relation to the development and utilisation of water and other resources in the context of Bangladesh's national development goals. It has also argued that, given a strong interdependence in the GBM region among the co-riparian countries, especially among Bangladesh, India and Nepal, the sharing of water and other resources on a win-win, positive-sum basis must be the framework of agenda for cooperation and action - nationally and regionally.

**Database:** LeedsBCAS

**Author:** BCAS  
**Date:** 1994  
**Title:** Wetlands of Bangladesh  
**Source:** Bangladesh Centre for Advanced Studies, Dhaka, Bangladesh  
**Keywords:** wetlands, Bangladesh, wildlife  
**Abstract:** This publication was undertaken to bring together available information on the wetlands of Bangladesh under one cover as a reference document. Most of the material was drawn from existing published and unpublished accounts.

**Database:** Leeds/BCAS

**Author:** Chakraborty, S.R.  
**Date:** 1995  
**Title:** Tenant Security in Sharecropping Agreement  
**Source:** D.Phil. Thesis, Bangladesh Agricultural University, Dhaka, Bangladesh  
**Keywords:** land reforms, sharecropping, tenant security, land reform ordinance  
**Abstract:** The study examined the land reform Ordinance of Bangladesh regarding sharecropping. More especially, it addressed the key issues of sharecropping agreement, tenant security, and input and output of sharing.

It was found that larger farmers share out land for longer period while the medium and small farmers lease out their land for short time. The sharecroppers enjoy lower level of tenurial security. The Land Reform Ordinance of 1984 is good in paper but not easily implementable in the given socio-economic condition of Bangladesh.

**Database:** Leeds/BCAS

**Author:** Choudhury, A.K.M.  
**Date:** 1985  
**Title:** Land Use Planning in Bangladesh  
**Source:** NILG, Dhaka, Bangladesh  
**Keywords:** land-use planning, local level planning, regional planning, zoning, climate, landlessness, population, poverty  
**Abstract:** This book analyses and describes the land utilisation and land-use planning of Bangladesh. The author highlights the land-use planning of the country from historical context and from this formulates a set of recommendations.

The study found that the distribution of land of Bangladesh is highly skewed and landlessness is on the increase due to population growth and that this landlessness results in rural poverty. The author recommends that the existing use-rights and development-rights are to be reformulated aiming at achieving the development needs of the country.

**Database:** LeedsBCAS

**Author:** Ghani, A.  
**Date:** 1987  
**Title:** Improved Water Management for Rice Irrigation System in Bangladesh  
**Source:** D.Phil Thesis, Agricultural and Irrigation Engineering, Utah State University, Lagan, Utah, USA  
**Keywords:** water management, system education, rice production models, model verification  
**Abstract:** this study was conducted in the ganges-kobadac irrigation system in Bangladesh which has-total irrigable area of 141,700 (ha) and pumping



capacity of 153 cros. three secondary , three territories and fifty observation paddies were selected to represent the head , middle and tail reaches of a main, secondary and tertiary canals respectively. seasonal data on water production status, use of inputs and rice varieties and daily data on rainfall, evaporation, seepage and percolation and water flow were recorded at each of the nine territories during 1981-1985.

Rice production models for two growing seasons (aus and amon) and irrigated area modles (irram) were developed. irrigation model estimated irrigated areas were in close agreement with actual values for both aus and amon season. however, the goodness of fit was better for aus season than for amon season.

Adaptation of proposed pump operation schedule and crop calendar, improvement in implementation of rotation schedule and water distribution were major recommendations.

**Database:** Leeds/BCAS

**Author:** Hossain, T.

**Date:** 1995

**Title:** Land Rights in Bangladesh: Problems of Management

**Source:** University Press Limited (UPL), Dhaka, Bangladesh

**Keywords:** land survey, land administration, land management, land policy, landuse, agriculture

**Abstract:** This book is an attempt to give an in depth understanding of the landuse and land management systems of Bangladesh considering the social and historical development of issues. The author concentrates on information relating to land policy and administration, landuse planning and development of land resources in Bangladesh. The main thrust of the work is to explore an approach of sound land management system in the country. The issues discussed in the book include the historical background of landuse survey and land records, land reforms, land administration and land management and agricultural development through land reform and land management.

**Database:** Leeds/BCAS

**Author:** Howes, M.

**Date:** 1985

**Title:** Whose Water?

**Source:** Bangladesh Institute of Development Studies, Dhaka, Bangladesh

**Keywords:** irrigation patterns, cropping patterns, social organisation, class relations.

**Abstract:** Efforts have been made to understand different types of irrigation systems in relation to social structure and social process of rural Bangladesh. This

book tries to explore the issues of microcosm through an account of what happens in one rural area, with the introduction of two contrasting groundwater techniques. Class analysis is used without no dogmatism and careful statistical support.

**Database:** LeedsBCAS

**Author:** Jabber, M.A. and Alam, MS

**Date:** 1993

**Title:** Adoption of Modern Rice Varieties in Bangladesh

**Source:** Bangladesh Agricultural University Journal

**Keywords:** modern technology, yield, rice, modern varieties, fertiliser

**Abstract:** This paper reviewed the farm level adoption rate and yield of modern varieties of rice. The analysis shows that 46% of the total rice area was devoted to grow modern varieties of rice in 1990. Among all varieties, BRRI was predominant which covered about 63.3% of the total modern variety area. Per ha. use of chemical fertilisers in Aman and Aus seasons was much lower than the recommended rate, while for the Boro this rate is close to the recommended level. Subsistence pressure, land unsuitability, timing and inadequate extension service were found to be major constraints to the adoption of modern varieties of rice.

**Database:** LeedsBCAS

**Author:** Jansen, E.G.

**Date:** 1986

**Title:** Rural Bangladesh: Competition for Scarce Resources

**Source:** University Press Limited (UPL), Dhaka, Bangladesh

**Keywords:** land, water resources, resource scarcity, agricultural inputs, labour, share cropping, social stratification, social change, credit, ownership disputes,

**Abstract:** The main thrust of analysis is the comparison of how people by a variety of methods, compete for scarce resources in Bangladesh. The successful improve their standard of living and strengthen their position in society, whilst the losers gain increased impoverishment. The issues dealt with include: land ownership, water resources, technological inputs, cattle, human labour, social structure in rural Bangladesh, credit, sharecropping systems, and competition for employment and wages.

**Database:** LeedsBCAS

**Author:** Lein, H.  
**Date:** 1993  
**Title:** Floods and Agricultural Change. Some Observations from Bangladesh 1986-1990

**Source:** Norsk-Geografisk-Tidsskrift 47 4

**Keywords:** floods, damage, rice, technical progress, agricultural development, economics

**Abstract:** Over the last decade Bangladesh has witnessed several devastating floods. Despite this, cereal production has grown steadily, mainly as a result of the spread of irrigation and modern rice varieties. On the basis of data from Madaripur Upazila, a small flood-prone community in southwest Bangladesh, the article discusses the relationships between floods and the spread of new agricultural technology. The floods in 1987 and 1988 led to excessive damage to traditional rain-fed rice crops and in order to avoid future damage of this kind the farmers shifted to a modern, irrigated rice crop. A basic argument of the article, therefore, is that natural disasters, here in the form of excessive flooding, can act as a triggering force behind a process of agricultural modernisation. At the same time it is clear that the 1987 and 1988 floods alone cannot fully explain the changes observed in Madaripur. Public reforms concerning distribution of vital inputs such as irrigation equipment and fertilisers, as well as broader changes in rural-urban relationships have been important.

**Database:** CABI

**Author:** Mathur, H.M.  
**Date:** 1994  
**Title:** Development, Displacement and Resettlement  
**Source:** Vikas Publication House Ltd., New Delhi, India

**Keywords:** population displacement, floodplains, dams, urban resettlement, erosion, ecology, policy recommendations

**Abstract:** The book has focused on how development projects such as hydrologic and irrigation dams, high ways etc. increasingly entail acquisition of private lands and cause a number of socio-economic and environmental problems to happen in the developing countries. This book has dedicated a chapter to Bangladesh, including population displacement and resettlement in Bangladesh floodplains, dealing with flood plain ecology, erosion and population displacement, local level institutional arrangement and responses to natural furies and some policy recommendation.

**Database:** LeedsBCAS

**Author:** Novak, J.J.  
**Date:** 1994  
**Title:** Bangladesh: Reflection on Water  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** water and people, culture and rural livelihood, seasonal variation nature and people over the year  
**Abstract:** The book is a personal note and penetrating over view of the author on the land and its people. He examined the economy, importance of seasonal fluctuations in the lifestyle of people and illustrated the integration between religion and secular thoughts of the people. The author viewed that water is the central reality of Bangladesh. Its shortage creates sever problem in the nature and people. About 10 percent people live on boats and up to 40 percent people depend on river and sea for their livelihood. Water is the main source of protein and major provider of crop fertiliser and transport and unquestionably the greatest source of wealth in the country.  
**Database:** LeedsBCAS

**Author:** Pereisa, H.C.  
**Date:** 1973  
**Title:** Landuse and Water Resources in Temporate and Tropical Climates  
**Source:** Cambridge University Press, New York, USA, USA  
**Keywords:** water demand, population, water management, watershed, irrigation, drainage, temperate climate, tropical climate  
**Abstract:** This is an attempt to describe the problems arising from increased demand for water due to increase population. The author also puts into perspective what is known about the effects of changes in landuse on water supply both in the developed and developing countries. Some important results of experiments in both Temporate and tropical climate are surveyed and presented in this book. It also deals particularly with the issues related to resource management, water engineering, ecology, conservation, agriculture and provides valuable information for non-technical readers.  
**Database:** LeedsBCAS

## **Section C: Approaches to Development**

**Author:** Abdudulla, A.A. and Assaduzzaman, M.  
**Date:** 1989  
**Title:** Local Level Planning and Development Scope and Policy Instrument  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka., Bangladesh  
**Keywords:** local planning, swanirvar movement, resources mobilisation, socio-economic profile

**Abstract:** The papers have described the rationale and conceptional issues of local level planning. It has also reviewed the past experiences of local planning in Bangladesh.

The report has analysed the issues of people's participation and resources mobilisation in the context of Mirzapur and Bhanga thanas planning exercise in the mid 1980s. The report also focused on water resources management at local level which should include irrigation, flood control and drainage sequentially.

**Database:** LeedsBCAS

**Author:** Adnan, S.  
**Date:** 1994  
**Title:** Flood, People and Environment : Reflections on the Recent Flood Protection Measures in Bangladesh. In: Rahman, A. et al. (eds.) Environment and Development in Bangladesh, Volume H  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** complexities of flood in Bangladesh, genesis of fap, flood control programmes, social, economic and demographic consequences, impacts on women, environmental consequences, policy implications

**Abstract:** The article looked at the existing flood protection programmes in the country including FAP and moved towards an analytical treatment of certain critical issues. It focused mainly up on assessment of short run trends in flooding during 1990 and various institutions which were charged to cope with flood related problems. the article also assessed the effect of flooding as well as the actual performance of existing flood control and drainage structure. The discussion also subsumed social, economic, demographic and environmental consequences. The analysis then moved towards identifying the causal factors underlying the outcomes.

**Database:** LeedsBCAS

**Author:** Asaduzzaman, M.  
**Date:** 1994  
**Title:** The Flood Action Plan in Bangladesh: Some Lessons of Past Investments  
**Source:** Centre for Udviklingsforskning (Centre for Development Research) (CDR)  
Copenhagen, Denmark

**Keywords:** flood control, projects, water management, rural development

**Abstract:** Because of the country's unique geographical features, the flood in Bangladesh is a regular phenomenon. Much of Bangladesh is a deltaic plain formed by the sediments carried by three of the mightiest river systems in the world, the Ganges-Padma, the Brahmaputra-Jamuna and the Meghna-Barak. As a result, the country is gently sloping towards the sea. The sediment load carried by the river systems in Bangladesh is enormous, estimated at 1500-2500Mt per year. A flood is experienced every year. With international help the government initiated a Flood Action Plan (FAP) in 1990. This study discusses some of the lessons that have emerged from the experiences for water resource development in the country and investigates future flood protection measures that can be taken. The main sections of the report cover: flood frequency and flood damage; interactions among floods, the environment and the economy; public responses to floods; the Flood Action Plan; the impact of flood and flood control measures; and the prospects for the future. Despite various problems related to the planning, designing, implementation and operation and maintenance, the gains in many projects in terms of agricultural output have been impressive.

**Database:** CABI

**Author:** Bhattacharta, D.  
**Date:** 1995  
**Title:** GO-NGO Collaboration in Human Development Initiatives in Bangladesh  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh

**Keywords:** human development, ngo collaboration, resource development, livestock, development, technology acquisition

**Abstract:** This report gave the rationale of GO-NGO collaboration and forms of this collaboration in different areas including health, education and training. The report also evaluated the existing collaboration in income generation activities, livestock development, technology acquisition, in forestry and environment protection. It also identified the major constraints towards meaningful collaboration between GO-NGO and tried to find out a way toward effective cooperation.

**Database:** LeedsBCAS

**Author:** BIDS  
**Date:** 1990  
**Title:** Rural Poverty Alleviation Through....  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh  
**Keywords:** poverty alleviation programmes (pap), non-farm employment, gender, economic impact, social impact, institutional characteristics  
**Abstract:** This report has reviewed major poverty alleviation programmes in the context of overall strategies of economic development in the country including identification of different approaches towards anti-poverty programmes. It has also identified the socio-economic impact of some of the PAP under alternative institutional arrangement. It has analysed the problems and potentials for sustainability of the PAP.  
**Database:** Leeds/BCAS

**Author:** Biswas, M.R. and Mondol, M.O.S.  
**Date:** 1993  
**Title:** Irrigation Management for Crop Diversification in Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** water markets, irrigation methods, crop diversification, draft power  
**Abstract:** This book is an outcome of an extensive multidisciplinary field research aiming at identifying the potentially for and constraints to irrigated crop diversification. The key areas addressed in this book are: improved production technology for growing non-rice crop; options for irrigation management and investment in irrigation tubewells. The study shows that there are potentials for growing non-rice crops, specially vegetables in the day season, but it requires adjustment in crops and irrigation management. is very good to understand irrigation practices and cropping patterns in rural Bangladesh.  
**Database:** LeedsBCAS

**Author:** Blair, W.H. (ed.)  
**Date:** 1989  
**Title:** Can Rural Development be Financed from Bellow? Local Resources Mobilisation in Bangladesh  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** decentralisation, development and local resources mobilisation  
**Abstract:** The book analysed and explained the state of rural local resources mobilisation and suggested the possible policy initiatives in enhancing the raising local resources. The study made an attempt to provide an overview of the government's decentralisation programmes and other related issues. The study found that the main objectives of decentralisation programmes including poverty alleviation, bridging between the citizens and the administrators and the strengthening the local institutes could not be



achieved. One of the major causes of the failure is limited scope for raising revenue locally made the local government dependent on central government.

**Database:** LeedsBCAS

**Author:** Choudhury, J.U.

**Date:** 1996

**Title:** Flood Control in a Flood Plain Country: Experience of Bangladesh

**Source:** Buet, Dhaka, Bangladesh

**Keywords:** flood control, topography, delta

**Abstract:** This is an outcome of a research undertaken by IFCDR and the study addressed the gradual evaluations of the concepts and strategies of flood control in Bangladesh. An assessment of impacts of flood control activities made and future direction is provided in the report. The report discussed the geologic, morphologic and hydrologic setting of Bangladesh. It also focused on issues of flood plain ecosystem and support system that function for the livelihoods of the million of rural Bangladesh.

**Database:** LeedsBCAS

**Author:** Chowdhury, A.N.

**Date:** 1996

**Title:** Let Grassroots Speak: People's Participation, Self-Groups and NGOs in Bangladesh

**Source:** University Press Limited (UPL), Dhaka, Bangladesh

**Keywords:** community development, people's participation and participatory activities, rural poverty and poverty alleviation programmes, rural economy and structural changes

**Abstract:** This book is an outcome of a pioneering research based on participatory and action research which made a new ground for analysing the mechanisms, the constraints, success and the stage of conflict and cooperation revealing how grassroots people participate in improving their lives within a complex socio-economic setting in rural Bangladesh. The author analysed the how the vibrant NGO community in Bangladesh have historically emerged as an alternative delivery system offering a new consciousness and strategies aiming at poverty alleviation through self-employment, functional education, family planning and institution building for deprived section of the society.

The experiences of the past decades of development efforts reveals that tickle-down approach to agricultural growth based on technological changes could not contain rising landlessness and underemployment in the country. On the other hand, NGOs through their pro-people activities made a way ahead for poverty alleviation and rural development.

**Database:** LeedsBCAS

**Author:** Datta, A. and Rahman, A.  
**Date:** 1997  
**Title:** People's Perception, Participation and Payment of Compensation  
**Source:** Unnayan Shamannay and SGK, Dhaka, Bangladesh

**Keywords:** water, flood management, people's knowledge, compensation.

**Abstract:** This is an indepth assessment of the CPP activities as a part of FAP and the study covers knowledge and perception of people about the project and problems of land acquisition. It also focused on the process of compensation and suggested recommendations for improving the quality of project implementation. A special offer has been made to capture dimensions of people's participation in the project activity.

**Database:** LeedsBCAS

**Author:** Drexter, M.  
**Date:** 1989  
**Title:** Bangladesh Agriculture Sector Review: Land, Water and Irrigation  
**Source:** UNDP, Dhaka, Bangladesh

**Keywords:** water development, landuse, groundwater irrigation, control, drainage

**Abstract:** This report is one of the five agricultural sectoral review compendium volumes. There are five chapters in this volume which include, large scale water development projects in Bangladesh, landuse in Bangladesh, review of assessment of groundwater resources, quality and quantity, project aid in agriculture and market for and returns from groundwater irrigation in Bangladesh. These articles deal with the issues relating to water and landuse and sound management options of the resources.

**Database:** Leeds/BCAS

**Author:** Euroconsult  
**Date:** 1994  
**Title:** FAP-20: Boat Traffic Survey  
**Source:** Bangladesh Water Development Board and FPCO, Dhaka, Bangladesh

**Keywords:** rural navigation, boat movement, boat ownership, boat type, boat size,

**Abstract:** The report presents information about the extent of boat movement through Louhojong river and Sadullapur khal and assessed the importance of navigation. It also tried to find out the people of surrounding areas mostly depended on navigation through these routes. It also gathered information on size of boats, the seasonality of navigation and items of goods carried through these routes. The study found that the river Louhajong was the most important navigation routes in the region to reach the district headquarter for trade, health and other services.

**Database:** Leeds/BCAS

**Author:** Euroconsult/BETS  
**Date:** 1995  
**Title:** CPP: A Survey on Irrigation in the Project Area  
**Source:** BWDB and FPCO, Dhaka, Bangladesh  
**Keywords:** water, irrigation equipment, ownership, tubewells, irrigation cost, irrigation  
**Abstract:** This report presents the results of a census on irrigation conducted in two thanas in the CPP area. The study found that only 43 percent of the project area is irrigated. The irrigated area remained almost same in the previous five years of the study done. It also predicted that any expansion of the irrigation system and area would depend on private investment backed by the positive cost-benefit ratio. It also found that the energy cost of per hectare irrigated area with electricity is 20-30% lower than that of diesel.  
**Database:** LeedsBCAS

**Author:** Euroconsult/BETS  
**Date:** 1994  
**Title:** CPP: Proceeding of Consultation Meeting, 1994  
**Source:** FPCO and BWDB, Dhaka Bangladesh  
**Keywords:** people's participation, cpp  
**Abstract:** This reports gave an overview of people's participation and assessed the need for people's participation for successful completion of the project. This also identified the constraint of the people participants and finally the way how to achieve it. This report also reviewed the guidelines for people's participation in the planning and design, developed by GOB.  
**Database:** LeedsBCAS

**Author:** Euroconsult/BETS  
**Date:** 1994  
**Title:** FAP-20: Institutional Setting  
**Source:** FPCO and BWDB, Dhaka, Bangladesh  
**Keywords:** institutionalisation, interest groups, water management, water use  
**Abstract:** This report described how CPP tried to institutionalise PP in the process of operation and maintenance of the compartment. It also focused how people from different interest groups including farmers, fishermen, women and landless groups were involved in the project activities assessing their needs and suggestions. It also focused how the project people tried to capture local knowledge and used for project planning.  
**Database:** LeedsBCAS

**Author:** Euroconsult/BETS  
**Date:** 1996  
**Title:** FAP 2: Agriculture Monitoring Programme  
**Source:** FPCO and BWDB, Dhaka, Bangladesh  
**Keywords:** land-use, monsoon, land use survey, cropping patterns, diversification, crop varieties, irrigation patterns, water depth, crop damage  
**Abstract:** This report provided the monitoring result on changes in crop and cropping patterns in project areas. It also focused on the area of both high yielding and local T.Aman varieties and documented the issues surrounding irrigation patterns and crop diversification in the project area.  
**Database:** LeedsBCAS

**Author:** Euroconsult/Lahmeyer InternationalBETS/HC  
**Date:** 1992  
**Title:** CPP (FAP-20): Inception Report (Main Volume)  
**Source:** Ministry of Irrigation, FPCO and BWDB, Dhaka, Bangladesh  
**Keywords:** water management, compartmentalisation, cpp, fap resources, management, peoples participation, hydrology, agriculture  
**Abstract:** This report addresses the following six issues in the CPP area: resource management, people's participation, focus on the disadvantaged, institutional settings, feasibility and flexibility for sustainable water management.

This report specifically focuses on land use, fisheries, flood control and drainage systems, infrastructure and communication system in the CPP area. It also presents some initial survey findings on households, hydrology and agricultural activities.

**Database:** LeedsBCAS

**Author:** Gaf<sup>u</sup>, A.  
**Date:** 1996  
**Title:** Socio-Economic Impact of Fourth Flood Control  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh  
**Keywords:** flood control planning, drainage system, embankment  
**Abstract:** Water control structure have been made to understand different types of irrigation system in relation to social structure and social process of rural Bangladesh. This book tries to explore the issues of microcosm through on account of what happens in one rural area with the introduction of two contrasting groundwater techniques. The study looked into the cropping patterns and intensity, input used, yield and return: employment and credit market, marketing and marketed surplus: income assets and welfare situation of the study area.

**Database:** LeedsBCAS

**Author:** Hamid, M.A.  
**Date:** 1984  
**Title:** Institutional and Organisational Development of Shallow Tubewell  
**Source:** Bangladesh Agricultural University (BAU), Dhaka, Bangladesh  
**Keywords:** shallow tubewells, distribution, installation, irrigation  
**Abstract:** This paper identifies and analyses the proposed institutional and organisational issues, evaluates their applicability and suggested measures for further improvement with particular reference to distribution, installation and after sales services of shallow tubewells (STD) for irrigation.  
**Database:** Leeds/BCAS

**Author:** Haque, M.I., Howsam, P. (ed.) and Carter, R.C.  
**Date:** 1996  
**Title:** Water Policy Formulation and Implementation in Bangladesh  
**Source:** Proceedings of international conference on Water policy: allocation and management in practice, Cranfield University, UK, 23-24 September, 1996, E and F N Spon Ltd, London, UK  
**Keywords:** environmental impact, social impact, water resources, policy  
**Abstract:** The paper describes Bangladesh's water policy and its water resources potential. Local people have traditionally lived on the banks of its large rivers and have drawn their living from an irrigated-based economy. However, this water has become very scarce in certain parts of this country because of cross-boundary diversions. This has devastated the environment and changed completely the traditional water-use pattern.  
**Database:** LeedsBCAS

**Author:** Hossain, S. and Sutradhar, S.C.  
**Date:** 1984  
**Title:** Shallow Tubewell Irrigation in Bangladesh (Screen in use and Length)  
**Source:** Bangladesh Journal of Agriculture 9 1  
**Keywords:** shallow tubewells, stw, screen type, screen length, aquifers  
**Abstract:** This study reviews the type of screen and its length now in use for shallow tubewells (STW) in the country by different agencies. A critical study was made on the screen and a relationship has been shown graphically between entrance velocity, discharge and the length. The study also indicates that the general practice of 12.19m STW now in use should not be the criteria everywhere, rather it should be fixed on the availability of aquifers at different depth and their hydraulic properties.  
**Database:** Leeds/BCAS

**Author:** Hughes, R., Adnan, S. and Dalai-Clayton, B.  
**Date:** 1994  
**Title:** Floodplains or Flood Plans ? A Review of Approaches to Water Management in Bangladesh  
**Source:** International Institute for Environment and Development, 3 Endslesh Street, London, UK  
**Keywords:** floodplains, water management, water resources, people, flood plan  
**Abstract:** This book deals with an overview and reinterpretation of some of those vital interrelationships between natural and socio-economic systems which characterise the relationship between people and water resources in Bangladesh. Their implication for some key and strategic issues, which currently are the focus of the debate on water management in Bangladesh are also outlined. The book is based primarily on a critical assessment of secondary data sources but also draws upon the fieldwork experience of the authors in Bangladesh.

**Database:** LeedsBCAS

**Author:** Hye, H.A.  
**Date:** 1985  
**Title:** Decentralisation Local Government Institutions and Resource Mobilisation  
**Source:** Bangladesh Academy for Rural Development, Kotbari, Comilla, Bangladesh  
**Keywords:** decentralisations, local resource mobilisation, participatory rural development  
**Abstract:** The evaluation of a four day international seminar on "Decentralisation Local Government Institutions and Resource Mobilisations", organised by Bangladesh Academy for Rural Development (BARD). 16 papers referring to group reports and recommendations from the seminar appended in this volume are of great significance.

**Database:** Leeds/BCAS

**Author:** Islam, N.  
**Date:** 1980  
**Title:** An Economic Evaluation of the Deep Tubewell Rehabilitation Programme at Dhamrai, Bangladesh  
**Source:** Masters Thesis, Agricultural Economics, University of the Philippines, Banos, Philippines  
**Keywords:** rehabilitated tubewells, non-rehabilitated tubewells, command area, ground water project, traditional methods, socio-economic comparison, productivity, resources, employment, cost analysis  
**Abstract:** The objective of the study was: (a) to identify the factors behind the differences in performance, measured in terms of command area, between

rehabilitated deep tubewells and non-rehabilitated deep tubewells and (b) to evaluate the rehabilitation project in terms of private and social benefits in Dhamrai, Dhaka, Bangladesh. The study was conducted in three parts. The first part showed that the organisation and management issues are the main causes for the differences in command areas, the second part showed that there is no change in productivity and resource use on per hectare basis, but there is higher total production resources use and employment opportunities on per tubewell basis, finally it is shown that the DICP project is judged to be highly beneficial to Bangladesh as a whole as well as to the private sector in terms of benefit-cost ratio and net present worth.

**Database:** Leeds/BCAS

**Author:** Kalam, A.K.M.

**Date:** 1994

**Title:** Peoples Participation Deciding Programmes for Development at Local/Rural Levels

**Source:** Jahangirnagar University, Dhaka, Bangladesh

**Keywords:** people's participation, local planning, development process

**Abstract:** The present study oversees the decision of programme development at local/rural levels. Public participation is rarely seen in this process at a local level, as for a variety of reasons their demands are bypassed.

Confusion surrounding the status of local institutions, job descriptions and accountability of the respective for such weak performance of the local government in local level administration, is clearly mentioned in the countries constitution. The country, however, is yet to achieve a high status in local institutions.

**Database:** LeedsBCAS

**Author:** Mannan, B. and Samad, M.

**Date:** 1994

**Title:** Rural Development Initiatives in Bangladesh

**Source:** Journal of National Institution for Local Government

**Keywords:** legal initiative, aid programme, rural works programme, basic democracy, IRDB

**Abstract:** This paper discussed the different concepts of rural development programmes in terms of their strategies, institutions and legal basis undertaken in Bangladesh. It also discussed the success, failure and limitations of different programmes undertaken in the last five decades.

It was found that the individual initiatives in the past failed due to lack of financial and institutional supports. Compared to the individual *efforts*,

IRDP and UJ projects had much more success. It was also apprehended that people's participation was almost ignored in the past rural development programme and that why, the success of the previous programme remained limited to a certain level.

**Database:** LeedsBCAS

**Author:** Mathbo, G.M.

**Date:** 1997

**Title:** The Importance of Community Participation in Coastal Zone Management: A Bangladesh Perspective

**Source:** Community Development Journal 32 2

**Keywords:** participation, coastal areas, resource management, community involvement, projects, rural development

**Abstract:** The importance of community participation in developmental projects is discussed, with a focus on coastal zone management in Bangladesh. It is argued that greater community involvement in coastal developmental projects would benefit the national economy and the local community. Comprising the complex delta of the Ganges-Brahmaputra-Meghna river systems, the coast of Bangladesh has immense resources for development. In terms of development efforts, however this zone has been among the most neglected. The needs of the coastal communities are often mentioned in planning and implementing coastal management projects, but they are not taken properly into consideration. Consequently, coastal zone management projects have had only limited success.

**Database:** CABI

**Author:** Mian, R.U.

**Date:** 1996

**Title:** Impact of Institutional Credit on Foodgrain Production

**Source:** D.Phil. Thesis, Bangladesh Agricultural University, Dhaka, Bangladesh

**Keywords:** institutional credit, foodgrain production, input demand

**Abstract:** The study investigates the impact of credit programmes on foodgrain production, particularly on rice and wheat. It found that credit affects foodgrain production through influencing the demand for inputs including irrigation, seeds, fertiliser and human labour. It also found that the elasticity of production with respect to credit is positive for all foodgrain production but the rate of credit did not match with the production rate.

**Database:** Leeds/BCAS



**Author:** Murshid, K.A.S.  
**Date:** 1995  
**Title:** Social Impact of DTWs on Landless Owners  
**Source:** Bangladesh Institute of Development Studies (BIDS), Dhaka, Bangladesh  
**Keywords:** empowerment, solidarity, patron-client relations, power-structure, stw, dtw  
**Abstract:** This report is the outcome of evaluation study on social impact of DTWs on landless group: It analysed the poor and weakness of empowerment of the poor through DTW group formation, their skill development, employment generation and changes in social structure due to this intervention particularly by NGOs i.e. BRAC, Grameen Bank and Proshika. One of the major findings is that the landless owned DTWs were not financially profitable but there may be some social positive impact associated with DTW ownership by the poor.

**Database:** LeedsBCAS

**Author:** Rabbani, A.G.  
**Date:** 1986  
**Title:** Local Level Planning for Water Resources Development  
**Source:** Journal of National Institution for Local Government  
**Keywords:** thana irrigation program, irrigation management, water management, fcdi  
**Abstract:** The paper analyses the central problems and prospects of water management at local level. The framework of water resource management at the local level was discussed in the light of past experiences as well as current attempts of water management issues.

The questions related to integrated water management and the issues of local level planning were discussed in the article. It focused on the implication of government policy for local level water resources planning.

**Database:** Leeds/BCAS

**Author:** Rahman, A.M.  
**Date:** 1994  
**Title:** People's Self-Development: Perspectives on Participatory Action Research - A Journey Through Experience  
**Source:** FPCO and BWDB, Dhaka, Bangladesh  
**Keywords:** self-reliant development, dimensions of people's participation, programme in participatory rural development, qualitative dimension of development, alternative development paradigm  
**Abstract:** The book presents the views of the author on development reflected through collect local initiatives by people themselves - what he called people's self-development. The author expressed his ideas and experiences

gained through his long involvement in popular initiatives and experimentation with participatory action research. He is critical of the orthodox preoccupations with poverty alleviation and outlined an alternative development paradigm and vision of society rooted in a philosophical perspective that sees the fulfilment of the human urge for creative engagement as a primary task in development effort.

**Database:** LeedsBCAS

**Author:** Rehman, S (ed.)

**Date:** 1997

**Title:** Growth or Stagnation? A Review of Bangladesh Development - 1996

**Source:** FPCO and BWDB, Dhaka, Bangladesh

**Keywords:** macro-economy, financial sector reforms, poverty and policy, recent development in Bangladesh agriculture, population policy and gender issues

**Abstract:** The authors focused their attention on the development and changes in the economy in the Financial Year 1995-96. The volume presents a wealth of information on the development process and drew attention to the immediate task which need to be addressed for a gradual growth of the economy.

**Database:** LeedsBCAS

**Author:** Salim, R.

**Date:** 1997

**Title:** Lessons from the History of Water Management Studies in Bangladesh

**Source:** Paper presented at the Seminar Organised by the Centre for Development Research Bangladesh

**Keywords:** water management, flood control, small scale programmes, foreign intervention

**Abstract:** This paper reviews the literature on management of water resources in Bangladesh with special reference to 1972. The most striking finding is an Evaluation Report of EPWAPDA (1964) that appears to be hitherto unknown. This document not only criticises the dominance of foreign experts and concomitant expenditures, but also provides a guide to many future developments, such as the importance of small scale programmes. Advice given to Bangladesh by US experts is compared with debates on flood control simultaneously taking place in the USA and the complete focus on flood self-sufficiency as the primary goal of water management in Bangladesh is questioned.

**Database:** LeedsBCAS

**Author:** Sobahan, R.  
**Date:** 1997  
**Title:** Growth or Stagnation? A Review of Bangladesh's Development 1996  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** macro-economy, agriculture, crop sector, non-crop sector, industry, financial sector, external sector, poverty and policy, population, education and health, environment, women and development, ric  
**Abstract:** the independent reviews of Bangladesh's development (IRBD) prepared the present volume. a panel of eminent experts, most of whom contributed to IRBD 1995, now focus their attention on the developments and changes in the economy in financial year 1995-1996 where IRBD 1996 continues this indepth analysis of some of the major issues challenging the economy. the volume presents a wealth of information on the development process and draws attention to the immediate task which need to be address in the near future if the economy is to graduate to a sustainable growth path.

M D 1996 covers thirteen themes which include the macroeconomy, the financial sector, the fiscal sector, poverty, the external sector, agriculture (both crop and non-crop), gender, environment and quality of public investment. the last themes are the new to the irbd and provide a basis for a continuing discussion of these issues in future irbds.

This volume will be use to the government, policy makers, experts, students who will be exposed to a challenging analysis of the current state of the economy in Bangladesh, the quality of public expenditure and the long-term impact of policies in areas such as environment and the position of women in society.

**Database:** LeedsBCAS

**Author:** Soussan, J.G. and Koudstall, R.  
**Date:** 1995  
**Title:** Fap-20: Reformation Report  
**Source:** Flood Plan Coordination Organisation, Government of Bangladesh, Dhaka, Bangladesh.  
**Keywords:** flood control, water management, cpp, institutional development and peoples participation, water user groups, flood management model  
**Abstract:** the report prepared by the reformulation mission tried to understand the progress made and the problem, encountered by the CPP four years into it's implementation and from this understanding, identified and setout a modified set of project objectives, activities and outputs. the mission tried to strike a balance in the formulation which would address the legitimate concerns of all actors.

**Database:** LeedsBCAS

**Author:** Soussan, J.G. and Koudstall, R.  
**Date:** 1995  
**Title:** FAP-20: Reformation Report  
**Source:** FPCO, Dhaka, Bangladesh  
**Keywords:** flood control, water management, cpp, institutional development and people's participation, water user groups, flood management model.  
**Abstract:** The report prepared by the reformulation mission tried to understand the progress made and the problem, encountered by the CPP four years into its implementation and from this understanding, identified and set out a modified set of project objectives, activities and outputs. The mission tried to strike a balance in the formulation which would address the legitimate concerns of all actors.  
**Database:** Leeds/BCAS

**Author:** Sufian, M.A and Ahmed, S.  
**Date:** 1995  
**Title:** The People's Conference on FAP  
**Source:** Research Advisory Service, RAS, Dhaka, Bangladesh  
**Source:** Journal of RAS 13  
**Keywords:** fap process, management of flood water, people's participation in water management  
**Abstract:** The participants criticised the FAP process for its top-down approach and people from the project affected areas badly criticised the flood control structure and embankments for their severe negative impacts on people and environment. They also noted that FAP activities generated conflicts among the local people and communities. Another issue that came out pertained to the limitation of FAP implementation process with respect to people's participation. It was also reported that the projected affected people were not duly compensated.  
**Database:** Leeds/BCAS

**Author:** Sufian, M.A.  
**Date:** 1995  
**Title:** The Fourth Conference  
**Source:** Journal of RAS 13  
**Keywords:** strategy in water sector, fap process, people's participation, environment and institutional of fap  
**Abstract:** The article highlighted the five aspects including the government strategy in water sector, the FAP process, environment, institution and the issues of people's participation in water sector project, particularly in FAP. It was reported that many projects undertaken in the preceding decades had not proved to be sustainable and in some cases leading to counterproductive and irreversible socio-economic and environmental consequences and one

of the major causes behind the unsustainability of the projects is lack of people's participation. It was also emphasised that guidelines for people's participation and EIA should be adequately institutionalised to make their application more effective.

**Database:** Leeds/BCAS

**Author:** The World Bank  
**Date:** 1993  
**Title:** Water Resources Management  
**Source:** International Bank for Reconstruction and Development /The World Bank, New York, USA  
**Keywords:** water management, problem, approach, bank policy, irrigated water, supplying water, lessons, privatisation, user participation  
**Abstract:** This is a policy paper containing a Glossary, Executive Summary, and four main sections such as Introduction, Conditions and Challenges in Managing Water Resources, Improving Water Resources Management and The Role of the World Bank and has five appendices; (a) Market Failure and Public Policy in Water, (b) Water, People and the User Participation in Water Resources Management (c) Summary of World Bank Operational Directives and Other Guidelines Related to Water Resources, and (d) The World Bank Experience with investments in Water Resources. The paper also includes a comprehensive bibliography and some tables showing necessary information.

**Database:** Leeds/BCAS

**Author:** Wahiduddin, M. (ed.)  
**Date:** 1991  
**Title:** Report of the Task Forces on Bangladesh Development Strategies for the 1990s  
**Source:** University Press Limited (UPL), Dhaka, Bangladesh  
**Keywords:** macro-economy, trends in investment, fiscal management and domestic resources mobilisation, poverty alleviation, growth of population and its control, human resources development  
**Abstract:** The Task Forces identified the major development problems as well as also formulated the strategies and actions for the solutions of the problems facing the country in the 1990s. Over two hundred and fifty most distinguished professionals drawn from the government, academic and research institutions with a varied disciplinary backgrounds who volunteered their services to work in the respective task forces. The report covered 29 areas including macro-economic policies, poverty alleviation, self-reliance, population, human resources development, financial sector reforms, technology, environment, agricultural production strategies, FAP etc. It was expected the report would serve as an agenda for early action in

each sector of economy and development to examine the possibilities objectively for improving the performance large within the available resources at our disposal.

**Database:** LeedsBCAS

**Author:** Wood, D.G.

**Date:** 1994

**Title:** Bangladesh: Whose Ideas, Whose Interests?

**Source:** University Press Limited (UPL), Dhaka, Bangladesh

**Keywords:** rural class formation, rural employment pattern, rural development, rural infrastructure, women and gender, rural poor and ngo activities

**Abstract:** The book is a collection of writings of the author since 1974 on rural development issues in Bangladesh. The different chapters of the book address the fundamental process of agrarian structural changes and their gender implication, opportunity for wider participation by landless men and women in agricultural growth, rural institutions poverty alleviation, good governance and franchise state. Throughout the volume there is a long range, but grounded speculation which connect process of urbanisation to patterns of land use and shifting sets of opportunities for poor economic actors.

**Database:** LeedsBCAS