COASTAL LIVELIHOODS
situation and context

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COASTAL LIVELIHOODS
situation and context

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PREFACE

This report represents an interim stage in the project's endeavor to better understand coastal livelihood conditions, which is essential to formulate a meaningful policy and strategy and to identify interventions that really improve the livelihood conditions of the coastal poor.

The coastal livelihood analysis (CLA) started in May-August 2002 with a survey on the perceptions of direct stakeholders on coastal livelihoods (PDSCL). This survey was documented and tentative findings were presented in September in Working Paper WP004 of the PDO-ICZMP project (PDO-ICZMP, 2002). In January 2003, a tentative analysis was published in Working Paper WP011 that was based on the PDSCL survey and the analysis of limited secondary data (PDO-ICZMP, 2003).

It is intended to conclude the project's CLA activities at the end of 2003 with a final report, incorporating additional information to be collected during the remaining part of 2003. It is also intended to discuss this document and verify its tentative conclusions through a series of meetings and workshops with national experts and organizations.

The above implies that this working paper invites comments and discussions. Such inputs will be channeled to better support the targeting in the coastal zone policy and the coastal development strategy of certain regions, issues and/or social groups. To that end, and as it stands now, the project itself will give additional attention to: spatial differentiation, trend developments, cultural aspects and aspects of equity and gender.

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ACRONYMS

AL	Agriculture laborer
ASA	Association for Social Advancement
BBS	Bangladesh Bureau of Statistics
BD	Bangladesh
BDR	Bangladesh Rifles
BIT	Bangladesh Institute of Technology
BRAC	Bangladesh Rural Advancement Committee
BUET	Bangladesh University of Engineering and Technology
CLA	Coastal Livelihood Analysis
CDF	Credit and Development Forum
CDL	Community Development Library
CDS	Coastal Development Strategy
CERP	Coastal Embankment Rehabilitation Project
CLA	Coastal Livelihood Analysis
CPR	Common Property Resource
CZ	Coastal Zone
DfID	Department for International Development
DPHE	Department of Public Health Engineering
F	Fisher
FRA	Feeder Road Type A
FRB	Feeder Road Type B
GDP	Gross Domestic Product
Ha	Hectare; 1 ha=2.47 acres (approx.)
HH	Household
ICZMP	Integrated Coastal Zone Management Plan
IMR	Infant Mortality Rate
IPRSP	Interim Poverty Reduction Strategy Paper
km	Kilometer
KW	Kilowatt
LGED	Local Government and Engineering Department
MF-NGOS	Micro-finance Non Government Organization
MoF	Ministry of Finance

MUAC	Median Under-Arm Circumference
NGO	Non Government Organization
PDO-ICZM	Program Development Office-Integrated Coastal Zone Management
PDO-ICZMP	Program Development Office-Integrated Coastal Zone Management Plan
PDSCL	Perceptions of Direct Stakeholders on Coastal Livelihoods
PV	Photovoltaic (solar installation)
RCC	Reinforced Cement Concrete
RHD	Roads and Highways Department
RMP	Rural Maintenance Program
SBCP	Sundarban Biodiversity Conservation Project
SF	Small Farmer
SLF	Sustainable Livelihood Framework
SMA	Statistical Metropolitan Area
Tk	Taka
TW	Tubewell
UNICEF	United Nations Children's Fund
UP	Union Parishad
UP	Urban Poor
VGD	Vulnerable Group Development

GLOSSARY

Badailla	Day laborer
Bagan	Garden
Bawali	Wood cutter
Bhadrolok	Gentry/absentee landlord
Boyoshko bhata	Allowance for the elderly
Chaitra-Baishakh	Bangla months of summer season from mid March to mid May
Chasha	Owner cultivator
District	Administrative unit comprising several upazilas
Dustha bidhoba bhata	Allowance for destitute women
Gher	Shrimp pond
Ghush	Bribe
Golpata	Leaf for roof material (*Nypa Fruticans*)
Grihastha	Farmer
Jailla	Fisher
Jogali	Unskilled laborer
Kamla	Day laborer
Kantha	Hand made blanket/quilt
Kishen	Agriculture laborer
Kistee	Installment
Lakh	One hundred thousand
Malik	Proprietor/patron
Mawali	Honey collector
Mohajon	Proprietor; moneylender
Mughal	The dynasty that ruled most parts of India during 16th-18th century
Muri	Puffed rice
Sampan	Specially designed boat of Chittagong area
Shutki	Dry fish
Sultan	Monarch
T-Aman	Transplanted aman: monsoon rice crop
Thana	Erstwhile upazila; administrative area within metropolitan city
Taka	Bangladesh currency; 58 taka=1 US$
Union Parishad	Local Government at the union level
Upazila	Administrative unit under a district comprising several unions

1   INTRODUCTION

1.1   Background

The coastal zone of Bangladesh is a mixture of very old settlements and new land developments. It was part of different kingdoms and ruled by different dynasties for many centuries, which consequently shaped the cultural trait and the social fabric of respective populations. Along the coast in east-western directions, the physical features change, as well as the social makeup. The western part is a moribund delta (in this part the largest mangrove forest, *Sundarban*, is located), the middle part (the *Meghna* estuary area) is an active delta and the eastern part (Chittagong coast) is a stable landmass. These parts have also some cultural differentiations rooted in the political history. The western part (Khulna) belonged to the territory of *Rada*, the Barisal area (formerly called Bakerganj) was known as *Chandradwip*, the Comilla-Noakhali area was part of *Samatata* and the eastern part (Chittagong coast) belonged to *Harikela*. These "regional" entities continued for centuries until the *Mughals*[1] integrated them in the seventeenth century. In many respects, the coastal zone is different from rest of the country.

On the other hand, the coastal zone is an area where old lands erode and new lands accrete and develop with different degrees of human interventions. What is now considered the mainland of South Noakhali has been largely accreted, about 90,000 ha, after the construction of two cross dams by the Bangladesh Water Development Board in 1957 and 1964 respectively. In particular in the middle part, the connotation of the coastal zone is "new land".

The coastal zone includes 19 districts out of a total of 64 in which Bangladesh is administratively divided and is full of diversity with respect to geo-physical characteristics and livelihoods (see Figure 1). Although district headquarters are reachable from the capital city, Dhaka, in twelve hours at the most using various modes of transport, some offshore islands are still quite difficult to get to.

1.2   Objectives and scope

One major output of the PDO-ICZMP project refers to "community capacities to enhance livelihoods" (Output 4). This is envisaged as one of the "building blocks" for a "coastal development strategy" (CDS), which would be the ultimate output of the PDO-ICZMP project. The coastal livelihood analysis (CLA) is one of the activities (4.1) that contribute to Output 4.

A livelihood analysis essentially envisages characterization of major livelihood groups with respect to their ownership of and access to resources, their respective strategic choices to use their assets in income-earning (or cost-saving) activities and their susceptibility to vulnerabilities. This has been attempted in this document for the concrete conditions of the coastal zone to see whether livelihoods in this zone are different from the rest of the country or not and, if different, to what extent. The CLA is expected to provide the PDO-ICZMP project with a better understanding of coastal livelihood conditions that would guide the formulation of a meaningful coastal zone policy (Output 2), CDS (Output 1) and priority investment program (Output 3), necessary for enhancement of livelihoods of disadvantage groups.

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[1] The dynasty that ruled most parts of India during 16th-18th century.
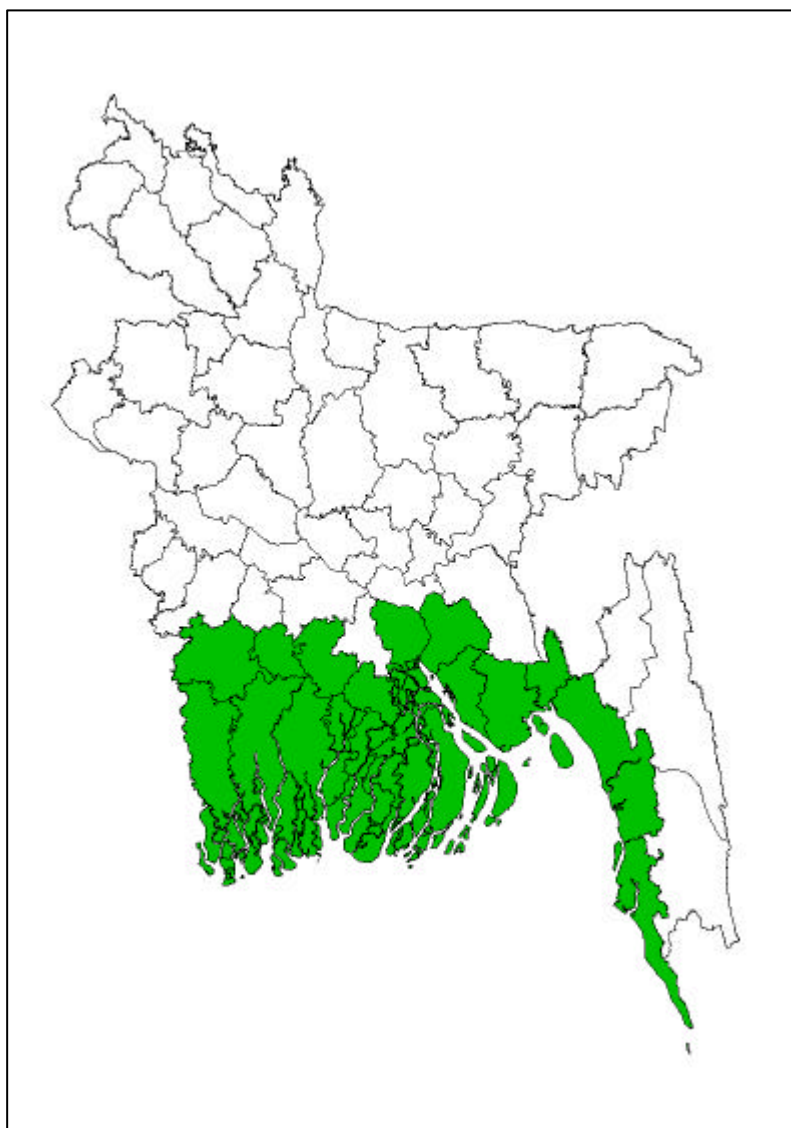
Figure 1: Coastal zone of Bangladesh

1.3   Methodology

The CLA is perceived as a continuous process as insight, understanding and conceptualization of livelihood issues are gradually built-up on a variety of accumulating information, knowledge and wisdom. This has been attempted in a series of undertakings. These are mentioned below.

- A survey on *Perceptions of Direct Stakeholders on Coastal Livelihoods* (PDSCL) was carried out based on a purposive sampling in May-August 2002. The *sustainable livelihood framework* (SLF) promoted by DFID was used as a conceptual tool in designing the survey and analyzing the data.[2] Findings of the survey were presented in September 2002 in Working Paper WP004 (PDO-ICZMP, 2002).

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[2] A livelihood comprises the capabilities, assets (both material and social) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers. R and G. Conway, 1992). The livelihood approach is a way of thinking about the objectives, scope and principles for development and has been developed to help understand and analyze the livelihoods of the poor.

- An introductory analysis was done based on PDSCL data combined with limited secondary data and some expert opinions. This analysis was published in January 2003 as Working Paper WP011 (PDO-ICZMP, 2003).

- The present report is an outcome of an all-encompassing, though tentative, livelihood analysis, based on primary data (PDSCL survey) and an extensive use of (additional) secondary sources.

- In the mean time a study has been initiated on vulnerability profiles pertaining to coastal livelihoods. These profiles will be based on a desk scrutiny of existing literature and focus group discussions in all coastal districts. This study will be completed by September 2003.

- Expert opinions will be sought on the basis of this draft technical report and additional secondary information will be collected, for example through the CIDA funded CARE project "Reduction of Vulnerability to Climate Change" (RVCC).

- After collection of the above opinions and information, the CLA will be updated and concluded in a final report.

- Reference is also made to the Coastal Zone Profile (first draft expected in June 2003) that will bear heavily on the results of the CLA, but also will give important information on the conditions of the coastal zone, including the institutional arrangements.

1.4   Report and analysis

The main text largely centers on characteristics of population in the coastal zone (Chapter 2), their livelihood conditions in the context of household assets and the local resource base (Chapter 3), livelihood choices (Chapter 4), analysis of vulnerabilities (Chapter 5), immediate institutional environment in which the people live and work (Chapter 6) and an agenda for action for enhancement of livelihoods (Chapter 7).

Secondary data, mainly of BBS, have been extensively used for the analysis. A list of reference materials is included at the end of the main text. Most of the statistical data are summarized in tables and presented as appendices. It has been endeavored to use most recent data. Due to non-availability of detailed population census data of 2001 (not yet published), census data of 1991 was used in some respect. Besides, district and upazila level data are not available for all indicators. Lowest level disaggregate data for some indicators are available for the "district" level, some are available for the "greater district" level, some are available for the "division" level and some are available for the national level only. Wherever relevant, gender-segregate data have been used subject to availability of such data. Discrepancy in data, if any, is due to the original source.

When population estimates are made in years during the inter-census period, linear growth was assumed in the corresponding period.

2   PEOPLE

2.1   Demography

According to the 2001 population census, there are about 6.85 million households in the coastal zone. The total population of these households is about 35 million, representing 28 percent of the population of Bangladesh. They live in an area of 47,211 km^2, which is 32 percent of the area of Bangladesh.

There are more men than women. The sex ratio in the coastal zone is 102 compared to 104 outside the coastal zone.[3] This may be a reflection of male out-migration being relatively higher in the coastal zone than in the rest of the country. Within the coastal zone, Chittagong and Khulna with more concentration of urban population have a higher sex ratio (109 and 108 respectively, reflecting a relatively high male in-migration). The average size of households is 5.08. This is higher than in other parts of the country (4.77) and is indicative of a higher dependency ratio (Appendix 1).

The demographic dependency ratio[4] is 1.06 compared to 1.01 outside the coastal zone. This is mainly because of the higher concentration of children and old people. In the coastal zone, 46 percent of the people are below 15 years of age, which is likely to have profound implications in the job market in the future (Appendix 2).

2.2   Social stratification

2.2.1   Criteria

The society is not indivisible. Every individual is unique, but there are sections of the population with identical background, resource ownership, interests, occupations and aspirations. They are often referred to as social strata or classes. Although members of a particular stratum may not be perfectly homogeneous, they are often defined in terms of one or more common denominators. In customary development literature, social strata in a rural setting are often defined in terms of economic condition with landholding as the principal criterion. BBS literature also uses landholding to categorize different strata of rural households. In the 1996 agriculture census, households are grouped into four broad strata. They are: *non-farm* households owning less than 0.05 acre of land; *small farm* households owning 0.05 to 2.49 acres of land; *medium farm* households owning 2.50 to 7.49 acres of land; and *large farm* households owning 7.50 acres or more.[5]

During the inter-census period (agriculture census) between 1960 and 1996, the composition of the rural households changed significantly. The social stratification shows concentration of households with no or small amount of land on the one hand, and concentration of land with fewer households on the other (see Table 1, Figure 2).[6]

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[3] Sex ratio is the ratio of male population per 100 females. Higher sex ratio is assumed as indicative of lower well being of women.

[4] Demographic dependency ratio is defined as the ratio of dependent population (0-14 and 60+) to population of working age (15-59).

[5] Census literature also mentions holdings with no owned land as "absolute landless" and holdings with cultivable land not exceeding one acre as "functional landless". Some literature mentions households owning less than 0.5 acre of cultivable land as "functional landless".

[6] 1996 data is based on 19 coastal districts, whereas 1960 data is based on 14 coastal districts belonging to the greater districts of Chittagong, Noakhali, Barisal (including Patuakhali) and Khulna.

Table 1: Distribution of rural households in the coastal zone

Strata	Percentage of households	
	1960	**1996**
Non-farm	19	30
Small	41	58
Medium	31	11
Large	9	2
Total	100	100

Source: District Gazetteers; BBS, 1999
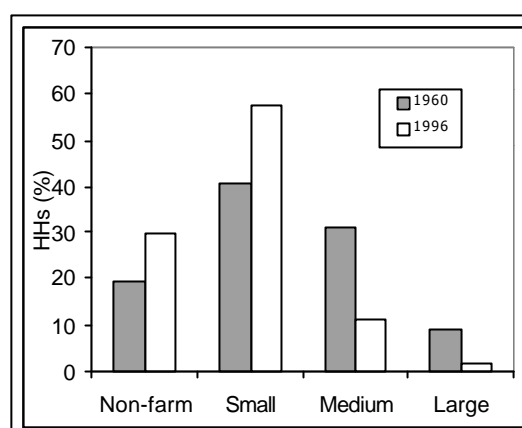
Figure 2: Distribution of rural households

Table 1 implies that in 1960, 40% of the households could make a living from the land they owned; while in 1991, it is only 13%.

The pattern of household distribution in the coastal zone is different from the non-coastal zone. In the coastal zone, the proportion of non-farm households is lower and that of small farmers is higher than other parts of the country. The proportion of non-farm households (landless) is higher in the Chittagong-Cox's Bazar area and lower in Barisal-Barguna-Pirojpur area. Lakshmipur, Barisal and Chandpur have higher concentration of small farmers, while Patuakhali and Barguna have relatively higher proportions of large farmers (for details, see Appendices 3 and 4).

Landholding alone does not necessarily define social strata. People's livelihoods largely center round occupations. Intra-stratum relationship and cohesion depend on how they are related to structure and organization of production and this often works as strength (or weakness) in the development of their collective interests.

2.2.2   The poor

In the socio-political vocabulary, households are often grouped into two broad categories using different synonyms, such as poor and non-poor, poor and rich, haves and have-nots, disadvantaged and privileged, proletariat and bourgeois, and so forth. In the PDSCL survey, poverty has been identified by the coastal households in terms of different parameters. This is summarized in Table 2.

Table 2: Difference between the poor and the non-poor

Parameter	Responses of households	
	Poor	**Non-poor**
Land	No, poor quality	Yes, good quality
Asset	No	Yes
Income	Insufficient	Sufficient
Occupation	Less diverse, day labor	Multiple
Savings	No	Yes
Debt	Yes	No
Housing	Poor	Good
Dependent	More	Less

Source: PDO-ICZMP, 2002.

BBS has a comprehensive definition of poverty. The Poverty Monitoring Survey 1999 defines poverty in the following manner (BBS, 2002b: 7).

> *Poverty refers to various forms of economic, social and psychological deprivation among the people who lack adequate ownership, control or access to resources for achieving a minimum level of living. It is a multidimensional problem involving, income, consumption, nutrition, health, education, housing, crisis coping capacity, access to credit and other aspects of living.*

Any analysis of coastal livelihoods should have spotlight on livelihoods of the poor, as they are the majority and need more attention within the broad framework of the poverty reduction strategy of the government. Vast majority of the people are poor. There are poor people both in rural areas and in urban enclaves.

Income poverty

The coastal zone is relatively income-poor compared to the rest of the country. Average per capita GDP (at current market price) in the coastal zone was Tk 21,379 in 1999-2000, compared to Tk 22,684 outside the coastal zone. Districts of Chittagong and Khulna have higher GDP per capita, while Noakhali, Lakshmipur, Chandpur, Shariatpur, Gopalganj and Jhalakati have much lower GDP per capita (see Appendix 5).

Among the occupational groups, incidence of poverty is the highest among agriculture laborers (BBS, 2002b: 28). Their wages are low and employment is also not regular because of the seasonal character of agriculture. Proportion of population below the officially acknowledged "extreme poverty" level (income below $1/day) in Bangladesh is 29 percent (World Bank 2003: 236). According to BBS data, average agriculture wage rate in rural Bangladesh has been below the "one $ line" for a long period (see Figure 3 and Appendix 6). Average wage rate in the coastal zone is relatively higher than the country average. Within the coastal zone, agriculture wage rate is high in Chittagong and Noakhali. In other districts, wages are lower than the country average.
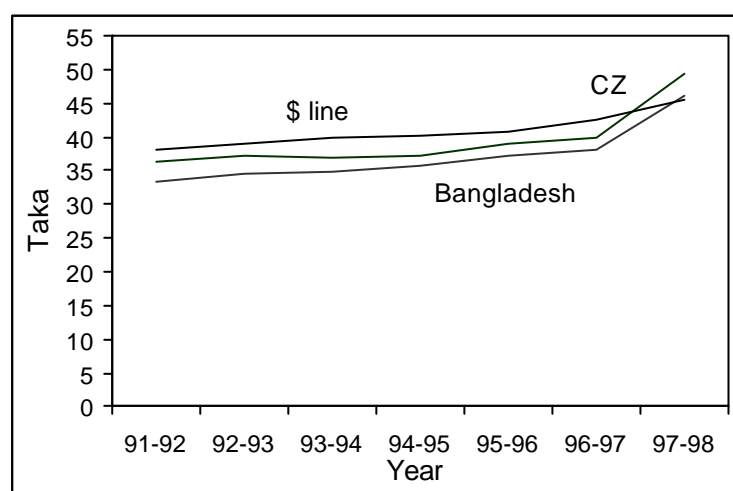
Figure 3: Agriculture daily wage rate

Data on industrial wage rates are available for the major cities. In the coastal zone, Khulna and Chittagong are the two major urban/industrial centers. Industrial wage rate for *jogali* (unskilled laborer) in Khulna is lower than the country average, while that of Chittagong is higher (see Table 3).

Table 3: Industrial wage rate for unskilled laborer

Location	Daily wage (Tk)				
	1995-96	1996-97	1997-98	1998-99	1999-00
Chittagong	79	81	79	89	90
Khulna	44	50	57	72	80
Bangladesh	69	72	79	81	89

Source: BBS, 2002d.

Food poverty

Extent of poverty in terms of calorie intake is relatively high in the coastal zone. In the coastal zone, 52 percent people are *absolute poor* and 25 percent are *extreme poor*. Corresponding figures for Bangladesh are 49 and 23 percent, respectively. Extreme poverty is very high in Lakshmipur, Chandpur and Bagerhat (above 30%), and relatively low in Patuakhali, Narail and Satkhira (below 15%). For details, see Appendix 7.

2.2.3 Major livelihood groups

Land is considered a major determining factor of the socio-economic status of a rural household, though there are other factors that also contribute to defining a social class. Occupation and relations of production often characterize a social class. For example: a *jailla* (fisher) or a *kamla badailla/ kishen* (day laborer/farm laborer as they are called in different parts of the coastal zone) is perceived as member of a distinct class with low status; a small farmer is called a *chasha* (owner cultivator) by the *bhadrolok* (gentry/absentee landlord); and a big landowner gives the image of a *malik* (proprietor/patron). Historically, small farmer is a transient class between the propertied (landowner) and the landless. Along with the process of land concentration and pauperization, the bulk of the rural landless crowds in city slums and turns to wage labor or to self-employment in a wide range of occupations, such as, garbage collection, peddling and rickshaw pulling, who are no better off than the wage laborers.

In rural areas, agriculture laborers comprise the largest livelihood group in terms of number. At least one in every three rural households lives on agriculture labor. The group with smallholdings closely follows them. Among the non-farmers (those whose principal occupation is not agriculture), fishers are the single largest group. In urban areas, the majority is poor and either sells labor in the formal and informal sectors or is engaged in a wide range of self-employment activities.

The coastal zone of Bangladesh is the habitat of about seven million households. The four broad livelihood groups as mentioned above, together comprise 71 percent of the total coastal households. Their distribution is shown in Table 4.

Table 4: Distribution of major livelihood groups

Livelihood groups in the coastal zone	Households (year 2001)	
	Number in million (estimated)[7]	Percentage
Agriculture laborer	1.81	26.4
Small farmer	1.79	26.1
Fisher	0.53	7.8
Urban poor	0.70	10.2
Total (4 groups)	4.84	70.5
Total coastal zone	6.86	100.0

Source: BBS, 1999; 2001

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[7] Estimates are based on extrapolating figures from 1996 agriculture census and combining it with that of 2001 population census. Proportional distribution of rural households among landowning categories in 2001 has been assumed to be that of 1996 Census. Urban areas include SMAs and municipalities (as defined in the Census 1996). Fifty percent of urban households are considered as poor.

Agriculture laborer

There are 1.81 million households in the coastal districts categorized as "agriculture labor households", which is the largest livelihood group in the coastal zone in terms of number. An agriculture labor household refers to one "whose major source of income is obtained by working as agricultural laborer" (BBS, 1999). According to the 1996 agriculture census, agriculture labor is the predominant source of living for 33 percent of the rural households. This proportion is lower than outside the coastal zone (37%). The districts of Bhola, Satkhira, Khulna and Jessore have higher concentration of agriculture laborers than other districts, while the districts of Feni and Chittagong have lower concentrations. In the coastal zone, small, medium and large farmers are engaged in wage labor in higher proportions compared to the farmers outside the coastal zone. For details, see Appendix 8.

Agriculture laborers are often mixed up as rural landless. According to estimates based on the 1996 agriculture census data, the majority of agriculture labor households (55%) are small farmers and some are even medium (2%) and large (0.02%) farmers. The rest of them (43%) consist of non-farm households, owning no or less than 0.05 acre of land (Appendix 9).

Small farmers

Small farmers are the second largest group closely following the agriculture laborers. There are 1.79 million small farmer households in the coastal zone[8], constituting 26.1 percent of the coastal households. Small farmers (including agriculture labor households possessing small farms) account for 58 percent of the total of rural households in the coastal zone, while they are 51% outside the coastal zone. The districts of Pirojpur, Barisal, Shariatpur, Chandpur, Feni, Lakshmipur and Noakhali have relatively high proportions of small farmers: more than 65% (see Appendix 3). In the past decades, many medium and large farmers have turned into small farmers because of the increasing population (consequent fragmentation of holding) and natural process of pauperization. Agriculture census data shows that -- while the proportion of small farmers (and also non-farm households) had increased -- the proportion of medium and large farmers had sharply declined during the inter-census period from 1960 to 1996 (see Appendix 4).

Fishers

According estimates based on the 1996 agriculture census data, the number of fisher (fish catching) households has been estimated at 0.53 million, forming eight percent of the coastal households.[9] Among the rural farm households, they are, however, 14 percent. This proportion is much higher than outside the coastal zone where fisher households account for only 6 percent of total farm households.

Although the districts of Chittagong, Barisal and Noakhali have high concentrations of fisher households in terms of absolute numbers, in terms of percentages of households, the highest concentration is found in the district of Barguna (38%), followed by Khulna (29%), Jhalakati (26%) and Satkhira (22%). These are all sea facing districts. The districts of Gopalganj and Narail, which are not sea facing, have the lowest proportion of fishers (less than 5%). For details, see Appendix 10.

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[8] Small farmers whose principal source of income is "agriculture labor" have been excluded from "small farmer" category" and have been included in "agriculture laborer" category.

[9] Census of Agriculture 1996 has estimates of fish catching households only for "farm holdings". This means that non-farm households owning less than 0.05 acre of cultivable land have been excluded from the figure. It is possible that fishing is the main source of income for many non-farm households. If they are included, the actual number of "fishers" would be more than what has been mentioned in the 1996 census.

Though fishers are also farmers (in the sense of owning cultivable land), the majority of them are small farmers.[10] Among the fishers, 80 percent are self-employed, nine percent are wage laborers and 11 percent are unpaid family helpers (BBS, 2002e: 112).

Urban poor

Reliable estimates of the population of the urban poor are not available. According to the Household Investment Survey 1998-99 of BBS (BBS, 2002a), 47 percent of the urban households are "poor"[11]. The survey indicates that "day labor" is the primary occupation of 21 percent of the urban heads of households. Besides, there are many who are engaged as "contractual wage laborers", mostly in the formal sector. Assuming 50 percent of the urban households as "poor", their number is estimated at 0.7 million.

Industrial workers are mostly concentrated in metropolitan areas of Chittagong and Khulna. Besides, many are engaged in the informal sector. Many poor people are engaged as transport workers, restaurant workers or domestic servants. There is lack of data on occupational distribution of urban population in BBS literature or any other macro studies.

The situation of the poor is precarious. There is job-uncertainty, wages are low and working days are long. The plight of a worker can be better understood with the help of the following story (see Box 1).

Box 1: Plight of a factory worker

I got a work in a fish-processing factory. I got a work, through a contractor, in a sea-fish processing factory in Lobonsora. I thought my new work would fetch a higher income, a regular income, a fulltime job and other job benefits. But it is a work on a daily basis: 'no work, no pay'. I go to work early morning and work till the evening. I work very hard, but wage is not enough. The contractor decides rate of payment. If he wants he may pay little higher or less. There is no work if there is not enough supply of fish to the factory. It depends on harvesting fish from the Gher (shrimp field). However, I can earn about 1300 taka per month. But, sometime there is no work. My work depends on the wish of the contractor. If he does not want me, I do not have work and income on that day. I go to work at 6 o' clock in the morning till 6 in the evening. Many days I work without lunch. I became very ill for that reason. Some time I cannot go to work because of illness and I don't have any income for those days. Rather I have to spend money for medicine. Because I must be okay for going to work (Krishna, Khulna urban area; PDO-ICZMP, 2002).

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[10] Fisher households with small farm holdings have been excluded from the small farmer category to avoid overlapping.

[11] Here, poor households are defined as those living on hand to mouth, do not have any savings, or do not possess any land (BBS, 2002b).

3   LIVELIHOOD CONDITIONS

Livelihood conditions of the people largely depend on what resources are available at the household level in terms of ownership and access[12]. Related information has been collected through the PDSCL survey (for details, see PDO-ICZM, 2002). Findings are summarized in Table 5.

Table 5: Livelihood assets

Cluster	Assets
Human	Household members, health, education, training
Social	NGO/cooperative groups, UP, network/connection
Natural	Land, water, CPR
Physical	House, tubewell, latrine, electricity, cattle, poultry, tools and utilities
Financial	Savings, credit, food/cash assistance (safety nets)

Source: PDO-ICZM, 2002

It is important to know how the coastal zone looks in terms of resource endowment. Are the people worse than the rest of the country, or better off? In this chapter, an analysis has been attempted using selective indicators that are representative for the household assets and for which some disaggregate data is available.

3.1   Human assets

Demographic information is presented in Section 2.1. The following sections give an indication of the education and health levels in the coastal zone as important human assets.

3.1.1   Education

Education of children irrespective of sex has been perceived as an important human asset. According to the 1991 population census, the adult literacy rate[13] (both male and female) in most of the coastal districts was higher than the national average (both sexes 35%, male 44% and female 26%). However, adult literacy rate is lower in the districts of Cox's Bazar, Shariatpur and Bhola (Appendix 11).

According to data obtained from the Directorate of Primary Education, the gross enrolment rate in primary schools[14] is slightly lower in the coastal zone (95, compared to 98 outside the coastal zone). However, the gross enrolment rate for girls is similar (98 in the coastal zone and outside).

Access to education is often influenced by schooling facility in the locality. The primary school-population ratio is relatively high in the coastal zone, varying immensely, roughly from West (highest) to East (lowest). Chittagong and Cox's Bazar have the lowest number of GoB schools per 10,000 people (Appendix 12).

3.1.2   Health

The infant mortality rate (IMR) in Bangladesh is 92.[15] Nine coastal districts out of 19 have higher IMRs than the national IMR. Chittagong tops the list with an IMR of 103, followed by Chandpur (99), Feni (98) and Patuakhali (97).

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[12] Resources are synonymous of 'assets' or 'capital' used in the "sustainable livelihood framework" (SLF).

[13] Adult literacy rate is defined as the number of people aged 15 years and above with ability to write a letter in any language.

[14] Gross enrolment rate for primary education is the ratio of enrolled students to population of 6-10 years age. The rate may exceed 100 if some students are above 10 years of age.

Five percent children suffer from severe malnutrition in Bangladesh.[16] This is higher for girls (6%) than for boys (4%). The extent of malnutrition (male and female combined) is higher in the coastal zone, particularly for girls. Eleven coastal districts out of 19 have a higher extent of severe malnutrition of children than the national average, being the highest in Bhola (14%), followed by Gopalganj (10%), Noakhali (9%) and Jhalakati, Shariatpur and Barisal (8% each). The situation is less severe in Satkhira (2%) and Khulna and Chandpur (3% each). For details, see Appendix 13.

Health infrastructure is relatively poorer in the coastal zone. This has been found in terms of population-hospital bed ratio. There is one hospital bed per 3,782 persons on the average in the coastal zone compared to 2,764 persons outside the coastal zone. These figures are of hospitals run by the government and NGOs only. Bed-population ratio is highest of the coastal zone in Barisal, Khulna and Chittagong (around 2,500 people per bed)[17] and very low in Chandpur, Lakshmipur and Satkhira (around 8,000 people per bed). Data are not available for private sector hospitals (see Appendix 14).

3.2   Social assets

Many households in the coastal zone consider membership of NGO groups an important asset. Many national and local NGOs have activities in different coastal districts as elsewhere in the country. According to CDF statistics,[18] BRAC, Proshika, ASA and Caritas are the top four NGOs accounting for almost four-fifths of the total households covered by all NGOs. Together they cover one-third of the coastal households. Data reveals that extent of their coverage in and outside the coastal zone is almost similar (for details, see Appendix 15). Within the coastal zone, however, their coverage is poor in Lakshmipur, Chittagong and Chandpur (less than 25% households), and quite high in Shariatpur and Gopalganj (above 50% households).[19]

Access to local government (*Union Parishad*-UP) is also considered a valuable asset. Proximity to UP office is assumed to be positively correlated with services rendered by the UP in respective jurisdictions. In the coastal zone, the average area under a UP is 35 km^2, which is higher than outside the coastal zone (32 km^2). The average area is obviously high in Khulna-Bagerhat-Satkhira districts as vast areas are under forest. Besides, the average area of a union in Patuakhali, Barguna, Cox's Bazar and Bhola districts is much higher than the coastal or national average: 50 km^2 and above (see Appendix 16).

3.3   Natural assets

People have been living in the coastal zone in close interaction with nature for centuries. The country and not in the last place the coastal zone, is a "land of rivers, flood and marshes where man's livelihood largely depends upon the vagaries of nature. The wide expanse of the rivers makes an ideal landscape, and the boatmen and cultivators play about in unison with nature. Man's response to nature is not to resist but to tune his life to the melody of eternity" (Establishment Division, 1982: 97).

Households in a rural setting perceive land as the most important natural asset. Land is scarce. It is even scantier in the coastal zone. According to the 1996 agriculture census, the per capita

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[15] IMR is defined as number of deaths per thousand live births.

[16] Severe malnutrition is defined as median under-arm circumference (MUAC) below 12.5cm of children aged 12-59 months.

[17] Each of these districts has a government medical college together with a 500-bed hospital.

[18] CDF (Credit and Development Forum) is a network of over 600 NGOs involved in micro-credit.

[19] Members are overwhelmingly women. It is assumed that there is one member from one household and NGOs do not overlap with each other in their coverage of households.

availability of homestead land is lower in the coastal zone (0.004 ha) than outside the coastal zone (0.005 ha). The situation is also worse in the coastal zone in terms of cultivable land, gross cropped area and net cultivated area. Per capita land endowment is the lowest in Chittagong (Appendix 17).

The pattern of land distribution in the coastal zone does not vary significantly from that of the country as a whole. In the coastal zone 0.2 percent of rural households do not own any land at all, neither homestead nor cultivable land. According to the 1996 agriculture census, their number is over ten thousand. More than a million rural households do not own any cultivable land, though they possess homesteads. Households possessing cultivable land less than half an acre (often categorized as "functional landless") are 54 percent of total rural households in the coastal zone and they together own only 17 percent of land. This compares with 53 percent of rural households owning 13 percent of land for Bangladesh as a whole, implying a less skewed distribution in the coastal zone than in the remaining part of the country. (Table 6).

Table 6: Pattern of landownership

Acreage	Percentage				Cumulative percentage			
	Coastal zone		Bangladesh		Coastal zone		Bangladesh	
	HH	Area	HH	Area	HH	Area	HH	Area
No land	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
No agri. land	21.3	4.7	28.4	5.3	21.5	4.7	28.7	5.4
Agri. land <0.05	8.0	1.6	5.2	1.1	29.6	6.3	33.8	6.4
0.05 - 0.49	23.9	10.2	18.8	6.5	53.5	16.5	52.6	12.9
0.50 - 0.99	13.8	10.0	13.7	8.3	67.3	26.5	66.3	21.2
1.00 - 1.49	9.6	10.7	9.9	9.8	76.9	37.2	76.2	31.0
1.50 - 2.49	10.5	16.2	10.5	15.8	87.3	53.4	86.7	46.8
2.50 - 7.49	11.1	33.1	11.7	36.9	98.4	86.5	98.3	83.6
7.50+	1.6	13.5	1.7	16.4	100.0	100.0	100.0	100.0
Total	100.0	100.0	100.0	100.0				

Source: BBS, 1999

[ ] Functional landless

The pattern of land distribution based on Table 6 is shown in Figure 4. Data show that land ownership is slightly more egalitarian in the coastal zone compared to Bangladesh as a whole, as the CZ curve is closer to the diagonal representing the line of equality. For details, see Appendix 18.
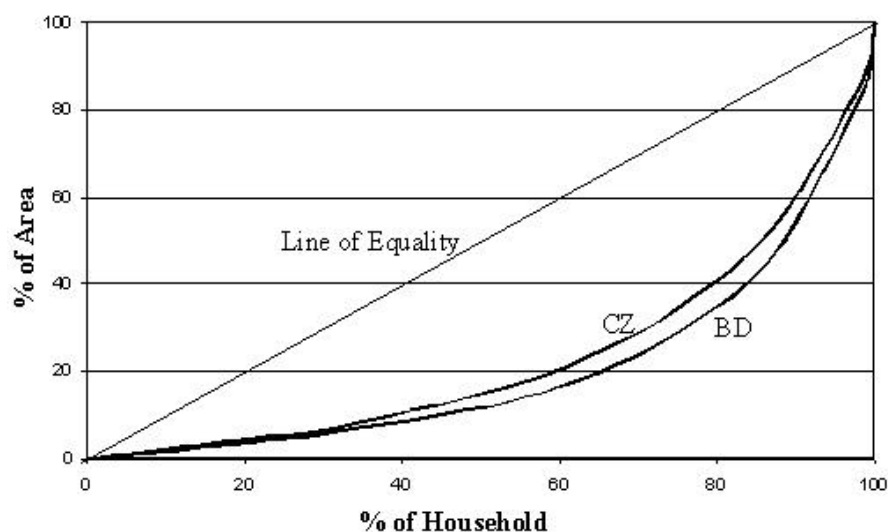
Figure 4: Land distribution

The general form of the curves in Figure 4, in which the slope is gentle up to a certain point and then becomes much steeper, indicates a higher concentration of land in the hands of big landowners. It is visible from Figure 4 that around 60 percent households own only about 20 percent land and 80 percent households own about 40 percent land in the coastal zone.

3.4   Physical assets

3.4.1   Tubewell

Tubewells are the main source of drinking water. According to the 1991 population census, three-fourths of the households (75% in the coastal zone and 76% outside the coastal zone) use tubewell water for drinking. Use of tubewells is low in the districts of Bagerhat (47%), Jhalakati (51%) and Pirojpur (52%) and relatively high in Jessore (96%) and Narail (95%). For details, see Appendix 19.

According to latest DPHE data (unpublished DPHE database), the tubewell-population ratio is slightly higher in the coastal zone:110 persons per running tubewell, compared to 116 outside the coastal zone.[20] However, a higher number of tubewells may not necessarily ensure higher access; proximity to a tubewell is also an important factor. In the coastal zone, tubewell-density (number of running tubewells per km^2) is seven, which is less than outside the coastal zone (eight). Among the coastal districts, tubewell-density is the highest in Chittagong (32/km^2) followed by Jessore (23/km^2) and Satkhira (17/km^2) and the lowest in Shariatpur, Pirojpur and Feni (3/km^2). In the coastal zone, the proportion of choked tubewells is higher (5%) than in other areas of the country (4%), which is indicative of slightly poorer maintenance status of tubewells in the coastal zone (see Appendix 20).

The majority of households in the coastal zone (51%) depend exclusively on water from ponds and rivers for other domestic purposes, such as cooking, bathing, washing, etc. This is exceptionally high, compared with outside the coastal zone where the proportion is only 10 percent. Use of potable water for domestic purposes is relatively higher in Cox's Bazar (82%) and Jessore (79%) and very low in Patuakhali, Barguna, Pirojpur, Barisal and Lakshmipur (5% or less). For details, see Appendix 21.

3.4.2   Latrine

The state of sanitation with respect to the use of sanitary latrines is very poor in the country and even poorer in the coastal zone. In the coastal districts only 11 percent of the households have a water-sealed latrine compared to 14 percent outside the coastal zone (BBS&UNICEF, 2002).[21] Within the coastal zone, access to water-sealed latrines is low in Bhola, Barguna, Jhalakati, Patuakhali, Shariatpur and Cox's Bazar (5% or less) and relatively high in Narail and Feni (above 20%). For details, see Appendix 22.

3.4.3   Electricity

In Bangladesh, households' access to the national electricity grid is limited and even worse in the coastal zone. According to the 1991 population census, 10 percent of the households had an electricity connection in the coastal zone compared to 15 percent outside the coastal zone. Access to electricity is very low in the districts of Barguna, Bhola, Narail and Gopalganj (less than 3% of the

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[20] Population data corresponds to 2001, while tubewell data are of 2002.

[21] The concept of sanitary latrine is understood in the context of rural Bangladesh as a covered place with a pit. DPHE has been promoting the technology of water-sealed latrine, which is a package of one R.C.C. slab and few R.C.C. rings (five are considered optimum).

households). Some upazilas have even less than one percent coverage of electricity, such as: Lalmohan (Bhola); Mehendiganj (Barisal); Kotalipara (Gopalganj); Koyra (Khulna); and Companiganj (Noakhali). Access of households to electricity is relatively high in the districts of Chittagong and Khulna (37% and 33% of the households, respectively). For details, see Appendix 23.

Some parts of the coastal zone, particularly the offshore islands being remote and not easily accessible, will not be connected with the national electricity grid in the foreseeable future. However, renewable energy resources offer opportunities for development in this respect.[22] Many private parties, NGOs, government agencies (Bangladesh Railway, Bangladesh Telephone and Telegraph Board and Bangladesh Army) and educational institutions (BUET, Dhaka University, and BITs) have so far installed many solar PVs. The sales progress of PV systems up to June 2002 is presented in Appendix 24, which shows that 45 percent of totally installed solar PV systems in Bangladesh have been installed in coastal districts (Islam, 2002).

3.4.4 Housing

The state of housing is poor in terms of materials used. According to the 1991 population census, the majority of the households use straw/bamboo as wall material (54% in the coastal zone and 59% outside the coastal zone). However, households possessing brick wall is less in the coastal zone (7%) compared to that outside the coastal zone (9%). Brick wall is more prevalent in the districts of Khulna, Jessore, Narail and Chittagong (more than 10% of the households) and very low in Shariatpur, Barguna, Bhola, Patuakhali, Lakshmipur, Gopalganj, and Pirojpur (less than 2%). Details are shown in Appendix 25.

Housing conditions in terms of roof material is slightly poorer in the coastal zone, with 50 percent households having straw/bamboo/polythene roof, compared to 44% outside the coastal zone. Four percent households have houses with cemented roof in the coastal zone. This is relatively high in Chittagong and Khulna (10% and above) and very low in Shariatpur, Bhola, Barguna, Patuakhali, Lakshmipur, Pirojpur and Gopalganj (less than 1%). Details are shown in Appendix 26.

3.4.5 Livestock

Livestock is considered an important household asset. According to the 1996 agriculture census, a lower number of households (44%) own cattle in the coastal zone than in other areas (47% outside the coastal zone). The average household endowment of cattle is slightly lower in the coastal zone (2.61 cattle per household in the coastal zone and 2.65 outside the coastal zone). The cattle population is more concentrated in Barguna, Patuakhali, Pirojpur and Khulna (more than 3 per cattle owning household). For details, see Appendix 27.

3.4.6 Transport and communication

Access to roads positively contributes to social mobility and economic activities. There are seven categories of road systems in Bangladesh.[23] Appendix 28 presents data on road networks, which

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[22] Bangladesh is an ideal location for solar energy utilization. Daily average solar radiation varies between 4 to 6.5 KW per square meter. Maximum amount of radiation is available on the month of March-April and minimum on December-January (Islam, 2002).

[23] The Roads and Highways Department (RHD) has three categories of roads under its jurisdiction. These are: National Highways, Regional Highways and Feeder Road Type-A (FRA: connecting upazila headquarters to the arterial network). On the other hand, the Local Government Engineering Department (LGED) has four categories of road systems under its jurisdiction. These are: Feeder Road Type-B (FRB: connecting growth centers to RHD network), Rural Road Class 1 (R1: connecting union headquarters/local markets with upazila

shows that the coastal zone has a slightly higher density of roads (0.71 km/km^2) than other areas (0.67 km/km^2). The density of roads is relatively higher in the districts of Feni, Jessore and Pirojpur and low in Bhola, Narail, Khulna and Cox's Bazar (World Bank, 1996).

Among most common physical assets related to transport and communication -- and indicative of household material comfort -- are radio, television and bicycle. According to the 1991 population census, about one-fifth of the coastal households possesses a radio, while one-tenth owns a bi-cycle. Less than four percent of the households own a television set. In the coastal zone more households possess a radio than in other parts of the country, while the situation is reverse for television and bi-cycle. Western districts bordering India have a higher concentration of television. Most parts of the greater Barisal-Patuakhali districts are poorly endowed with radio (less than 1% of the households), while the Chittagong district has a higher radio-population ratio (more than 10% households possessing). Bi-cycles are mostly concentrated in Jessore and Satkhira where almost every third household possesses a bi-cycle (see Appendix 29).

3.4.7 Market

Physical facilities with respect to marketing outlets are critically important for economic life. The country has a network of about 8,000 rural markets. Among these are 6,000 *primary markets*, 1,500 *local assembly markets* and about 4,500 *secondary markets* (World Bank, 1996: 14).[24] In 1984, the government adopted a policy of identifying important markets as "growth centers", to be focal points for rural development where investments in rural economic and social infrastructure would be concentrated. The Planning Commission designated 1,400 local assembly and secondary markets as growth centers in 1984 with participation by local authorities based on a set of guidelines. Another 700 markets were added in 1994. Each upazila has at least three growth centers.

Out of 2,100 growth centers, 588 (28%) are in the coastal zone. The density of growth centers is relatively lower in the coastal zone. While the average area per growth center is 80 km^2 in the coastal zone, the average area is 66 km^2 outside the coastal zone. Distribution of growth centers has been shown in Appendix 30. Within the coastal zone, Bhola, Noakhali and Patuakhali have a lower density of growth centers (over 100 km^2 per center).[25] The density is much higher in Feni, Chandpur and Shariatpur (less than 50 km^2 per center).

3.5   Financial assets

Savings and credit are two major financial assets in the perception of the people. There are no disaggregate data available on savings. People depend on institutional (Government-sponsored special programs, Banks and NGOs) and non-institutional (private moneylenders) sources for credit.

Access to micro-credit largely depends on the availability of credit-disbursing outlets in a particular area. *Grameen Bank* and NGOs are two major sources of micro-credit for the poor people. In 2001, *Grameen Bank* had 1,160 branches in the country of which 293 branches (25%) were in the coastal zone (Grameen Bank, 2001). Branch-population ratio is thus lower in the coastal zone than outside the coastal zone (see Appendix 31).

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headquarters), Rural Road Class 2 (R2: connecting villages and farms to local markets/union headquarters and Rural Road Class 3 (R3: roads within villages).

[24] *Primary market* is used by farmers selling produce to local consumers and traders; *local assembly market* is used by farmers and local traders exchanging with intermediary traders who move produce up to higher levels of marketing system; *secondary market* serves a upazila and is used by intermediary traders exchanging with large buyers and are focal points for wholesale and retail trading of goods and services.

[25] *Sundarban* districts of Khulna, Bagerhat and Satkhira have lower density for obvious reason.

BRAC, Proshika, ASA and Caritas together account for 77 percent of the total credit disbursed (cumulative up to 2001) by all micro finance-NGOs (MF-NGOs). These four national NGOs cover the coastal zone well. Their total credit disbursement in the coastal districts in 2001 was 29 percent of their total disbursement in the country (CDF, 2002). It may be mentioned that the coastal zone accounts for 28 percent of the total population of the country. However, their coverage in the coastal zone was less extensive in the sense that they covered 19 percent of coastal households in comparison to 22 percent households outside the coastal zone. Household coverage is low in Bhola, Chittagong, Cox's Bazar and Lakshmipur (less than 15% households) and higher in Gopalganj, Shariatpur, Narail, Khulna, Bagerhat and Barguna (more than 25%). Details are shown in Appendices 32 and 33.

There are some safety net programs targeted to the people in the poorest stratum. These include both food-assisted programs and cash transfer packages, which are: various food for work programs (now termed as rural development program); vulnerable group development (VGD) program; rural maintenance program (RMP), *boyoshko bhata* (allowance for the elderly), *dustha bidhoba bhata* (allowance for destitute women) and so forth. Certain number of beneficiaries is selected from each area, which is uniform for each union. Coastal districts are covered to the same extent as other parts of the country (Appendix 33).

3.6   Regional differentiation

Descriptions of household assets and access to physical infrastructure show that the coastal zone in average is lagging behind in many respects. However, the variation within the coastal zone often is huge, implying that there are areas within the coastal zone that countrywide belong to the lowest developed areas. For example, areas close to the sea and offshore islands are poorer in terms of resource endowments. There are 39 upazilas / thanas (out of 110) in the coastal zone, which are either sea facing or islands. These upazilas constitute the *exposed coast.*[26] Its total area is 23,021 km2 (16% of the country) and has a population of about 11 millions (9% percent of the country). Analysis of 1991 census data shows that the situation of the households in the exposed coast is worse than in other areas. Within the exposed coast, islands are the most vulnerable in terms of human deprivation indicators. This has been shown in Table 7.

Table 7: Households' access/endowment of selected assets[1]

Region	Main source of drinking water		Housing				Electricity connection	Borrower HH	Person/ TW	TW /km^2
			Roof material		Wall material					
	Tap	TW	Straw/ bamboo	Cement	Straw/ bamboo	Cement				
Islands	1	79	69	1	71	1	3	6	144	3
Exposed coast	3	68	69	2	66	4	9	10	113	4
Interior coast	4	77	44	5	47	9	16	14	104	10
Non-coast	5	76	46	4	58	8	15	16	116	8
Total CZ	3	75	50	4	53	7	10	13	110	7
Bangladesh	4	76	47	4	56	8	15	15	114	7

[1]All data are of 1991 except micro-credit data on borrower households (2001), person/TW (2002) and TW/km (2002). Borrower households correspond to those who received credit from three national NGOs: BRAC, Proshika and Caritas.

Source: BBS, 1994; DPHE, BRAC; Proshika; Caritas.

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[26] *Exposed coast* is defined as sea-facing and island upazilas, while other upazilas in the coastal zone are bracketed as *interior coast*. Analysis is based on limited number of indicators, and that too based on old data, as disaggregate data for 2001 population census are not yet available.

4   LIVELIHOOD CHOICES

4.1   Activities

Based on household assets (ownership and access), members perform a host of activities to earn their living. Choices are conditioned by the extent of the respective asset base. A household with a diversified asset base has obviously more options and is in a better position to maximize household well-being by attaining a higher level of income, consumption, comfort and security.

Activities are of a different nature. Some are directly cash earning (cow selling, agriculture labor) and some are cost saving (boat maintenance, net repairing); some are related to self-employment (farming, crab collection) and some correspond to wage employment (agriculture labor, industrial labor); some contribute directly to household income (farming, fishing) while some relate to housekeeping (house cleaning, cooking). All these together define human existence in a particular setting. Livelihood activities may be clustered into some broad categories: These are:

◊   natural resources based activities, such as: agriculture (field crops), salt making, fishing, aquaculture, shrimp fry collection, fuel collection, crab collection, and extraction of forest products; and

◊   human resource based activities, such as: livestock and poultry keeping, boat building (carpentry), net making, *kantha* making, embroidery, spice grinding, and trading.

Both categories of activities may be based on self-employment and wage employment. It is also true that one engaged in self-employment is also available for wage employment.

4.2   Coastal zone activities

Certain activities are common everywhere and some are typical of the coastal zone. Coastal zone-specific activities are those, which stem from special geo-physical characteristics of the area and the opportunities unique to the area. Findings of the PDSCL survey and other literature (especially District Gazetteers) reveal several coastal occupations. Some occupations can be exclusively attributed to the coastal zone and some are prevalent in the coastal districts to a greater extant than other areas. These are the following:

◊   salt production;
◊   fishing (marine);
◊   fish processing (drying);
◊   shrimp fry collection;
◊   shrimp farming;
◊   crab/shell collection;
◊   extraction of forest products (wood, honey, *golpata* and wax collection from *Sundarban*); and
◊   boat building (boat carpentry).

Chittagong has long been famous for boat building. History records that *Sultans* of Constantinople used to get seagoing vessels built at Chittagong because of the excellence of their design and craftsmanship and low construction cost. Quite a few skilled laborers are engaged in boat building and a far larger number of boatmen find *Sampan* (boat) plying a paying occupation in different parts of the district (Establishment Division, 1975: 180). Salt production is also a very old enterprise and is concentrated in Chittagong and Cox's Bazar.

4.3   Diversification of occupation

Diversification of livelihood activities at the household level has not been a recent phenomenon. In a traditional peasant economy, a typical *grihastha* (farmer) was not only the "man behind the plough", but was also involved in fishing, animal husbandry and trading (selling crops or dairy products to buy other essentials). As the subsistence household economy is withering away, more and more people are opting for different "service" occupations, as a market has been growing for these services. This has resulted in a situation, where more and more people are resorting to "wage employment" in addition to traditional agriculture (self-employment). The process has been further accelerated with changing demography (population increase, migration) and changing culture (occupational mobility). This is characterized by the following.

- People involved in traditional (often hereditary) occupations are changing their livelihood activities.

- People are impinging on other's occupational domain.

- Women are participating in activities beyond the domain of "housework".

4.4   Maximization of income

The driving force behind opting for multiple occupations is to maximize household income and to minimize risks. However, choices are limited by opportunities. Households with single activity or occupation are rare. Almost all households have multiple livelihood activities. Many of these activities are of seasonal nature and people tend to seek employment as many days as possible by diversifying their choices. Besides household chores, women also engage themselves in multiple "remunerative" activities. For example, a man may resort to as many as four activities (or more), such as, agriculture, fishing, cattle trading and pond aquaculture; while a woman may be engaged simultaneously in agriculture (harvesting), *muri* trading, paddy husking, livestock rearing, poultry keeping and egg selling. Combination of activities performed by different households is listed below (see Table 8).

Table 8: Combination of livelihood activities

Male	Female
◊ Agriculture, day labor; ◊ Agriculture, trading; ◊ Agriculture, sawing (timber) ◊ Agriculture, salt production, trading; ◊ Agriculture, rickshaw van driving; ◊ Agriculture, fishing, rickshaw van driving; ◊ Agriculture, work in brickfield; ◊ Agriculture (harvesting), paddy husking; ◊ Agriculture, fishing, cattle trading, pond aquaculture ◊ Agriculture, shrimp farming, pond aquaculture, day labor; ◊ Day labor, salt farming; ◊ Day labor, net repairing, shrimp fry collection ◊ Fishing, net making; ◊ Pond aquaculture, trading.	◊ Agriculture (homestead gardening), poultry raising, labor management; ◊ Agriculture, livestock rearing, pond aquaculture, poultry keeping; ◊ Agriculture (harvesting), paddy husking, net making; ◊ Agriculture, poultry keeping, livestock rearing, making of cow-dung fuel; ◊ Agriculture (harvesting), *muri* trading, paddy husking, livestock rearing, poultry keeping, egg selling; ◊ Day labor, salt farming; ◊ Day labor, net making, earthwork, crab collection, *kantha* making; ◊ Day labor, net repairing, shrimp fry collection, ◊ Day labor, spice grinding; ◊ Day labor, housemaid, fuel collection; ◊ Day labor, shrimp fry collection, paddy husking, earth work, *kantha* making; ◊ Fishing, net making; ◊ Embroidery, handicraft making, block printing; ◊ Shrimp farming, preparing cow-dung fuel, poultry keeping.

Source: PDO-ICZM, PDSCL survey 2002.

          Activity exclusive or prevalent in the coastal zone

5   VULNERABILITY

Well-being of people and in particular the freedom they have to choose how to use their assets for income generating activities depends to a large extent on their vulnerabilities, or the risk they have to be unable to cope with changes in their environment that are beyond their control (exogenous factors). Such changes constitute people's vulnerability context, and can have the form of: *shocks*, such as sudden natural disasters and accidental deaths; *seasonal fluctuations*, such as variations in prices and employment; and *trends* such as deteriorating environments. At the household level, the coping capacity is a function of the asset base (both ownership of and access to). The poor are more vulnerable, as their asset base is weak and scanty. If their asset base improves, their coping capacity in terms of resilience would increase.

The next section explains the vulnerability context, mainly as perceived by the households covered in the PDSCL survey. Subsequent sections elaborate on the most important changes in terms of trends and seasonality. In a final section coping mechanisms are briefly discussed.

5.1   Vulnerability context

The vulnerability context differs for different livelihood groups and for different areas. Findings of the PDSCL survey indicate some common elements with respect to vulnerabilities of the households and how they are affected. Based on this survey, the vulnerability context of households is explained in Table 9 through the problems people face in terms of the effect on their asset base and on their choices and income.

An analysis of the vulnerability context presented in Table 9 boils down to three major phenomena that influence livelihoods of the people, particularly of the poorer households. These are:

◊   death/accident/illness (within the family)
◊   disaster (flood, cyclone, land erosion, salinity, water-logging, heavy rainfall, etc.);
◊   natural resource base (land, CPR); and
◊   governance (law and order).

The Poverty Monitoring Survey 1999 of BBS has summarized national data on crises encountered by households. Major crises the households face are due to death of the main income earner, large medical expenses due to illness and crop loss. Law and order issues like dacoity, money extortion, abduction, snatching, death threat, police expenditure, etc., have also been reported in this survey (see Appendix 34). All these crises may be summarized into four categories: crises related to human factors; asset loss due natural disasters; law and order issues and others (see Figure 5).
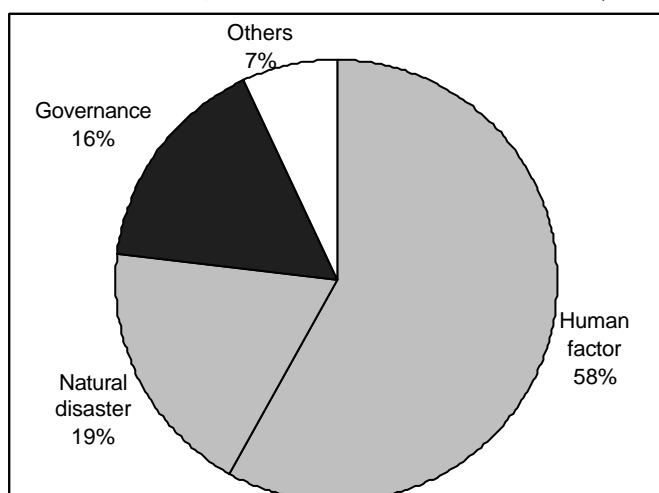
Figure 5: Distribution of vulnerabilities

Table 9: Vulnerability analysis of major livelihood groups

Vulnerability context	Livelihood group[1]	Effect on assets	Impact on choices and income
Cyclone	All	◊ Damage of trees, crops, houses ◊ Death of livestock, poultry ◊ Death/injury of family member ◊ Damage of fishing equipment ◊ Damage of shrimp *ghers* ◊ Fish loss	◊ Loss of income ◊ Sale of assets ◊ Debt ◊ Change in profession
Flood	SF, UP, AL	◊ Damage of house, household utilities, trees, fish ◊ Water – Sanitation crisis ◊ Loss in business ◊ Illness	◊ Loss of income ◊ Debt ◊ Savings utilization ◊ Sale of assets
Salinity	F	◊ Skin disease ◊ Lack of health	◊ Loss of income
	AL	◊ Poultry, cattle disease, water crisis	
Heavy rainfall / Storm	All	◊ Damage of house ◊ Disturbance in household work	◊ Income loss ◊ Debt
	SF	◊ Damage of crops	◊ Mental stress
	F	◊ Irregular catch	◊ Unemployment
	AL, UP	◊ No job	◊ Loss of income
Land erosion	SF, F	◊ Loss of land	◊ Loss of income ◊ Shift of occupation ◊ Migration
Pest infestation	SF	◊ Reduced productivity	◊ Loss of income
Law and order	All	◊ Loss of money (ransomed, extorted) ◊ Insecurity	◊ Loss of income ◊ Debt ◊ Change in profession ◊ Restricted mobility
Draught	SF	◊ Crop damage	◊ Loss of income
Declining fish resource	F, AL	◊ Less catch ◊ Loss in business	◊ Loss of income
Aging	F, AL	◊ Can't work hard	◊ Loss of income ◊ Debt

Source: PDSCL survey, 2002   [1]SF = Small Farmer,   F = Fisher,   UP = Urban Poor,   AL = Agriculture Laborer,   All = All four categories

A deteriorating situation with respect to these phenomena makes people more vulnerable. The level of the well-being of households has direct correlation with these phenomena. The well-being frontier of a household shrinks with the death/disability of an income-earner, recurrent disasters, depletion of natural resource base and deteriorating governance. People are vulnerable to these phenomena as these reduce their level of well-being.

5.2   Natural disasters (shocks)

Incidence of disasters like floods, cyclones and land erosion significantly affect lives and properties of the coastal households. Cyclone accompanied by tidal surge is the most damaging natural disaster, which takes a heavy toll on life and property. For example, 59 major cyclones hit the coastal belt of Bangladesh During 1795-1991 (CERP, 1999). An analysis based on the occurrence of cyclones over a 50-years time interval shows an increasing trend of cyclone occurrence (see Figure 6). It is expected that climatic changes will further result in increased incidence of cyclones and related storm surges.
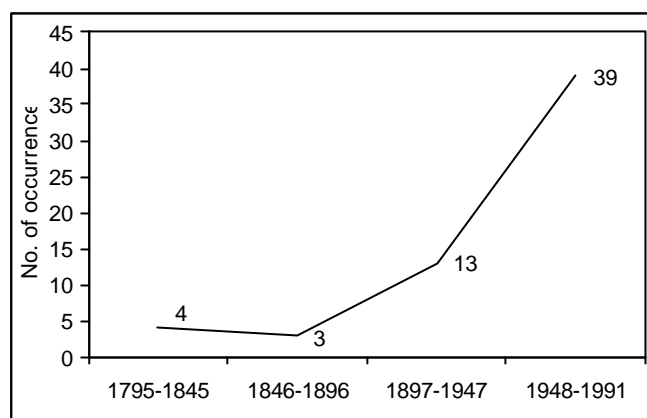
Figure 6: Occurrence of severe cyclones

Cyclones mostly occur in the pre-monsoon and post-monsoon months (CDL, 1992: 16). This has been shown in Figure 7 (for details, see Appendix 35). Incidentally, main rice crops are at the ripening stage or are ready for harvest during those months (*Boro* in April-May and *T.Aman* in October-November). Besides: houses are damaged; cattle and poultry are killed; trees are uprooted; salt is lost from the field; fish/shrimp is lost from the pond/*gher*; tubewells do not function; fishers are lost, their equipment is damaged and they can not go to the sea (PDO-ICZMP, 2002: 84), For a substantial amount of time, the daily life of the people, particularly of women, is severely disrupted. They cannot collect fodder, fuel and water and cannot perform other chores like cooking and washing. They also face problems of sanitation.
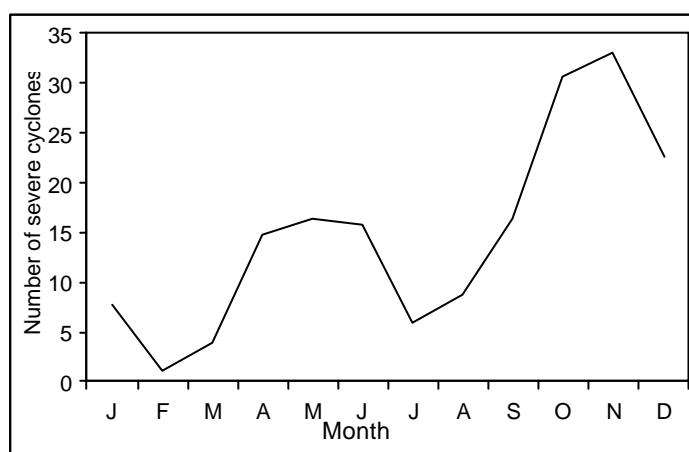
Figure 7: Seasonally of cyclone occurrence

Recovery from disasters takes time and people are caught in circle of debt (PDO-ICZMP, 2002: 84-85). Some people are able to recover from disasters and some are not. Somebody can survive one disaster but is ruined in another. This has been revealed in the story of a dry fish trader of Moheshkhali island, which shows the state of resilience under two different circumstances (see Box 2).

Box 2: State of resilience to natural disaster	
Survival	**Plight**
My house was totally damaged by the cyclone of 1991. More than 100 trees, 102 chicken and 10 goats were killed. We took shelter in upazila office. We stayed there for one night. When we came back home, there was nothing left. We then made a small shed using polythene sheet. We lived on relief: rice, pulses, potato, etc., for five days. *I rebuilt my house collecting bamboo and other materials from different sources. I borrowed some money from a rich man who was very kind. I started my shutki business again with the help of a mohajan. I could buy fish on credit, paying half or a little portion, and paying the rest amount after selling the shutki. Gradually, I could recover from the loss that I suffered in the cyclone. Again I became almost rich.*	*I had a stock of shutki, worth 200,000 taka, in which a mohajan invested 56,000 taka. The rest I borrowed. The Tornado of 1997 ruined the total stock. I became almost a mad, because of this heavy loss. My house was blown away, and I got nothing of my house back. Our life was saved, because we took shelter in upazila office. The Red Crescent Society made us aware about the cyclone signal. If it is signal five, the Red Crescent hoists the flag and they also make miking (announcement using loudspeakers). Their staff visits house to house and asks the people to go to the cyclone shelter and other safe places. People go to cyclone shelter and to upazila buildings. We take our family members, cattle and chicken to safe places. We keep valuable things under ground. If there is foodstuff at home we take it with us when we go to a safe place.* *The tornado of 1997 made me a poorest man again. I had to rebuild my house with help from mohajan and relatives. Again I have started again my shutki business. Until now I have not been able to recover from the loss.* *But, I paid back mohajan's loan, and all other loans. I worked very hard to repay all my loans. Now I am very happy. But I cannot forget the loss; two lakh taka.* *If I had a strong house, my stock of shutki might have been saved. Or if there were storage, a small warehouse in the market, I could store my shutki. Government can build warehouse in the market place, which will be of great help for Shutki traders.*

Source: PDO-ICZM, 2002

5.3 Changing conditions and major trends

The country has a long tradition of a "subsistence peasant economy". Barring occasional famines, people were, in general, able to feed themselves, as most of them had access to the basic resource (land). The chronicles of W.W. Hunter may be cited in this respect.[27] He has been frequently quoted in the District Gazetteers. Besides, there are administrative reports and travelogues, which provide valuable information on changing livelihood conditions. What was the situation in the past, say, one hundred years ago? Few excerpts are cited below, which portray the livelihood conditions of the people in different coastal districts during the late nineteenth/early twentieth century.

- **Chittagong:** The economic condition of the people in the nineteenth century was on the whole comfortable without being eminently prosperous. There being few big landlords, the rights of property in land was evenly distributed amongst the mass of the population (Cotton).[28]

- **Noakhali**: The people as a rule are extremely well off. They dress and live well, and their cattle also are in good condition. Each man has, the Collector states, his grove of betel-nut trees around his house, which yields him a good profit, without any labor; and every one, even the poorest, possess a small plot of land (Hunter, 1885).

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[27] Hunter, W.W. A Statistical Account of Bengal, Volume V (London , 1875), quoted in District Gazetteers.

[28] Cotton, H.J.S. Memorandum on the Revenue History of Chittagong (undated), quoted in District Gazetteers.

- **Bakerganj (Barisal):** The material condition of the people is good, with scarcely one single exception, every man including even the domestic servants whose homes are in the district, is a small land-holder, and cultivate sufficient rice and other necessaries for the support of his family. Owing to this cause, hired labor is very scarce and during the harvest season, when the few available laborers eagerly bid for by the land-holders, the price of labor rise to a shilling per diem (Hunter, 1885).

- **Khulna:** The people of Khulna are on the whole fairly prosperous. The great majority is dependent on agriculture, living on the produce of their lands and gardens and selling the surplus to purchase any small luxuries that may require. The lands, as a rule, produce excellent harvests, especially of rice, and nearly every family has an orchard of cocoanut and betel nut trees attached to the house….A significant indication of the comfortable circumstances enjoyed by the majority of the agricultural population is that as a rule, they do not plough their lands or cut the paddy themselves, but employ laborers imported from other districts. Even the small cultivator is in the habit of doing little or no work himself, but simply supervising his laborers; for he has plenty of rice, can catch fish in the tanks and rivers and has cocoanuts, betel nuts, and other fruits in his *bagan*, while there is little that he need except salt, clothes and tobacco (O' Malley, 1908).[29]

With the passage of time, the situation has changed significantly. Many people have been uprooted from their resource base, land, and are living in poverty. People are entangled in a process of pauperization. This is manifested mainly in the following:

- ◊ declining availability of land;
- ◊ depletion of common property resources (CPR);
- ◊ increasing occurrence of natural disasters;
- ◊ weak governance;
- ◊ population growth;
- ◊ migration.

The following sections give short description of these trends. These and other trends will be subject to more in depth analyses in the remaining part of the project (ICZMP).

5.3.1 Land

Land is still the most critical resource. With increasing population, urbanization and fragmentation of holdings, per capita availability of land has been declining. Estimates based on periodical agriculture censuses show that per capita net cultivated area in the coastal zone has declined from 0.13 ha 1960 to 0.06 ha in 1996 (Figure 8). Although the negative effect of declining cultivable land has largely been offset by increased yields, productive potential will reach at some moment in future a point of saturation. With growing population and increasing urbanization, land will become scarcer, putting more stress on food security.

5.3.2 Common property resources

Many households depend on a variety of common property resources (CPR) for their livelihood. The fishers are a major category amongst them. In a baseline study in the impact zone of *Sundarban*, 18 percent of the households (in surrounding upazilas) are found to be dependent on *Sundarban* resources.[30] The proportion of *Sundarban*-dependent households varies from four percent in the

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[29] O'Malley, L.S.S. Bengal District Gazetteers, Khulna (Calcutta, 1908), quoted in District Gazetteers.

[30] The survey was carried out in 17 upazilas of five districts in the *Sundarban*-impact zone having a population of 3.5 millions.

Pirojpur district to 27 percent in the Khulna district. Among them are shrimp fry collectors (35%), fishers (33%), *bawalies* (22%), boatmen (4%), *golpata* collectors (3%), shell/crab collectors (2%), *mawalies*, and medicinal plant collectors (SBCP, 2001: 14). The estimated number of shrimp fry collectors in the coastal zone is about 450,000 (Frankenberger, 2002).

	1960	1977	1996
CZ	0.13	0.10	0.06
Non-CZ	0.16	0.11	0.07
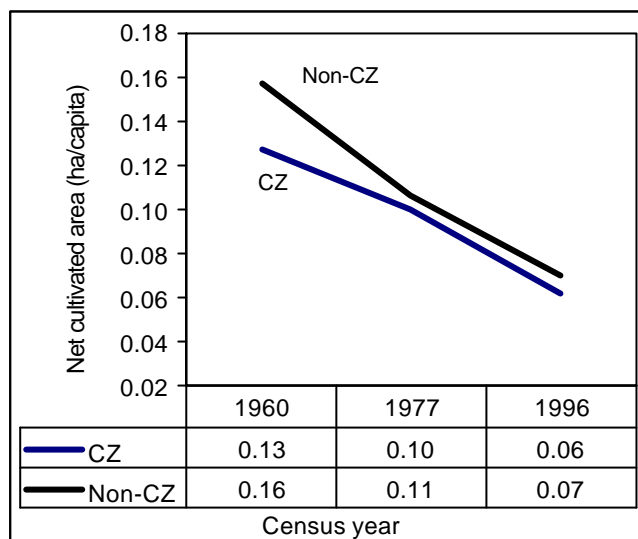
Figure 8: Declining land availability

As more and more people are getting involved in resource-extracting activities, this has caused serious depletion of resources and a consequent decline in income accruing to an ever-increasing population. Fishers say that the total catch they are harvesting might have increased, but the catch per capita has declined over the period of time. Fishers also mention that certain species have either been extinguished or have become scarcer.[31] Women in the impact zone of *Sundarban* reported that resources -- hitherto available in abundance -- have dwindled, particularly shrimp fry and fish (SBCP, 2001: 74). Depletion of resources has adversely affected livelihoods of the poor people, as is reflected in the following life story (see Box 3).

Box 3: Victim's testimony

My main income is from honey collection from Sundarban. Chaitra-Baishakh (mid March to mid May) is the best season for honey collection. I can earn 60-70 taka per day. We 8-9 persons in a group go to the forest with a boat, which we hire from a mohajan. Mohajan gives us capital, say 20,000 taka. We are to sell the honey to the mohajan. If the market price of honey is 3,000 taka per maund, we are to sell it for 2,000 taka. Every time we go to the forest, we risk our life. We pay ghush to the forester every time we go. Otherwise they threaten to arrest us. Since we pay ghush, we cut tree and sell it in the market. It would be a great help if the government protects us from the torture of the forester. We have to pay ghush, 200-300 taka every time, to BDR. Ghush o debo, abor nao o khali anbo, ta hoi na (if we pay bribe, we cannot return with empty boat). We must cut trees to manage money to pay the forester and the BDR, and for ourselves too. Sometimes the dacoits snatch everything from us. I was victimized more than hundred times in my life. But I have to go to the forest, because honey collection is my main source of income (Abdus Sattar, Shyamnagar; PDO-ICZMP, 2002).

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[31] PDSCL Survey, 2002

5.3.3 Governance

The issue of governance has seldom been addressed in conventional development literature, though fruits of development are often lost due to lack of an enabling institutional environment. The PDSCL survey identifies deteriorating law and order as a major worry among the people, resulting in restricted mobility (particularly of women) and increased insecurity. This phenomenon has also been acknowledged as a critical concern in the IPRSP document (MoF, 2003) and has been attributed to weakening of governance, criminalization of politics, corruption, violation of citizen rights, breakdown of traditional moral order and intolerant political culture. "The law and order situation is marked by insecurity and violence, having negative implications for poverty reduction. This also reveals several interlocking aspects of vulnerability and the often-neglected psychological aspects of poverty" (MoF, 2003: 17).

5.3.4 Migration

The population of the coastal zone as percentage of the total population of the country has declined in the inter-census period (population census) from 1991 to 2001. The annual population growth during this period was 1.29 percent compared to 1.56 percent outside the coastal zone (Appendix 36). A simplistic conclusion in this respect is that the coastal zone has had a net out-migration during this period. Within the coastal zone, districts of Chittagong and Cox's Bazar had high population growth (more than 2% per year). These districts perhaps offer more opportunities for economic participation, which work as pull-factors for net in-migration from other districts. Districts of Jhalakati, Pirojpur, Barisal, Gopalganj, Narail and Bagerhat have relatively low population growth indicating a high net out-migration.

People generally migrate from areas of deficit and stagnancy to areas of surplus and opportunities. During the inter-census period (of the agriculture census) from 1983-84 to 1996, the percentage of agriculture laborer households of total rural households dropped from 38 to 31. This implies that a large section of agriculture laborers might have migrated to urban areas. "Lifetime net migration" is increasing in Bangladesh (2% in 1951 to over 10% in 1991). This is manifested mostly through rural-urban migration (BBS, 1999b). Internal migration (migration within Bangladesh) is slightly higher in the coastal zone than in the remaining part of the country. Data of the 1991 population census shows that 10.5 percent of the people in the country shifted from one location to another. This is 11.1 percent in the coastal zone and 10.3 percent outside the coastal zone (Appendix 37). Within the coastal zone, the district of Khulna has the highest proportion of migrant population (33% followed by Chittagong (27%). Districts with high migrant population also have a high extent of urbanization.

Besides lifetime migration, people resort to seasonal migration for various reasons, mainly for the sake of employment. Estimates based on the PDSCL survey data show that migrant workers stay outside their home base for periods ranging from 4 to 280 days in a year, averaging 70 days (PDO-ICZM, 2002: 88). Male workers stay for longer periods averaging 74 days, compared to female workers (14 days).

5.3.5 Population growth

The current population (in 2001) of the coastal zone is about 35 millions. Annual growth rate during the inter-census period from 1991 to 2001 was 1.29 percent. Assuming a similar growth rate in next 20 years, coastal population will reach a size of 44 millions in 2020 (see Table 10). This will result in increased pressures on the natural resource base.

Table 10: Population projection for coastal zone

Year	Population (million)		Percentage of urban population
	Total	**Urban**	
2001	35	8	23
2010	39	14	36
2020	44	22	50

With increasing population and declining per capita land availability, more and more people will migrate to urban areas for survival. Presently, the size of urban population in the coastal zone is eight millions. Urban population in the country is now 30 millions and is expected to rise to 80 millions in 2020 (World Bank, 1998). Assuming that urban population in the coastal zone will increase at the same rate as in the country, the size of the urban population will be 22 millions in 2020.[32] This means that 50 percent of the coastal population will live in urban areas, which will result in colossal pressure on municipal services.

5.4   Seasonality

The seasonality in the labor market has a dominant impact on people's livelihoods.

Wage rates are indicative of demand for labor. Wages reach their peaks usually during the transplantation and harvesting periods of main crops, particularly *T.Aman*, which is planted in July-August and harvested in November-December. This has been graphically represented in Figure 9. For details, see Appendix 38.[33]

Households are vulnerable to seasonal fluctuations in employment. In the coastal zone, agriculture continues to be a major source of employment, which is seasonal in nature. BBS data on sectoral allocation of GDP shows that agriculture's share in the GDP has declined from 31 percent to 25 percent outside the coastal zone during the period from 1995-96 to 1999-2000, while it remained static at 29% in the coastal zone during the same period (see Appendix 39).
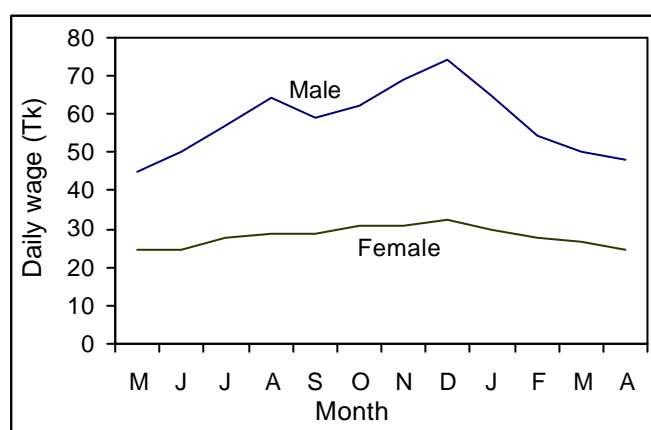
Figure 9: Fluctuation of agriculture wage rate

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[32] Presently 28 percent of urban population lives in the coastal zone. For convenience of analysis, the same proportion has been assumed in the projections.

[33] Data of Char Mora Dona (Noakhali) have been used for analysis, which is indicative of the coastal chars in the *Meghna* estuary region.

Seasonal unemployment affects households in many ways. To cope with this phenomenon, some people resort to migration (see Section 5.3.4). Others have to reduce their consumption (less food, less health expenditure) and/or have to borrow (debt trap). The situation is the worst for those who work on a daily basis, that is, on the basis of "no work no pay" (PDO-ICZM, 2002).

5.5   Crisis coping

Households adopt a wide range of strategies to cope with crises. According to the *Poverty Monitoring Survey 1999* (BBS, 2002b), major coping strategies are: borrowing from different sources; sale/mortgage of land and other assets; and using up savings (Appendix 40). Data have been summarized in Figure 10. Findings given in Appendix 40 show that poor households resort to borrowing more than the non-poor, while the non-poor households use savings and embark on sale/mortgage of assets more than the poor.
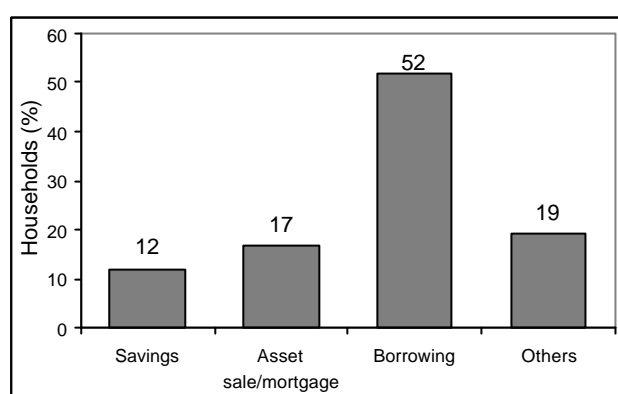
Figure 10: Crisis coping by poor Households

Credit is a critical resource, as it helps households to recover from or to cope with crises. This is even truer for poor households. Access to institutional sources of credit is a limiting factor. According to data of the *Poverty Monitoring Survey 1999* (BBS, 2002b), the majority of households still depend on various non-institutional sources of credit (poor households 58% and non-poor households 52%). Among the institutional sources, commercial banks are a major source for the non-poor (21% of the households); while *Grameen Bank* is a major source for the poor (16% of the households). NGOs cater only three percent of the poor and four percent of the non-poor households (BBS, 2002b). For details, see Appendix 41.

6   INSTITUTIONAL ENVIRONMENT

6.1   Plight of the people

In the PDSCL survey, households have expressed concerns about their immediate environment, which restricts their mobility and security. However, these concerns should not be generalized for all households in all parts of the coastal zone, but they have their own specificity and influence over large sections of the population. The situation may be better understood through the following statements expressed by individuals during the PDSCL survey, which portray their particular social environments and have strong influence on their level of economic participation (PDO-ICZM, 2002).

- We are many in the family. My husband never allows me to work as day laborer. Though we are not rich, we have a social status. As Muslim women we cannot go out even with borka (Sabekunnahar, Chittagong coast).

- One of the main problems in fishing is santrashi (terrorist) who snatches fish or money. If we resist, our life becomes insecure. We don't have other skill, so we have to do fishing to live on. (Harbola, coastal char, Noakhali).

- The factory worker prefers to employ us the female workers as we work sincerely and can be paid less. We never go for strike and are not involved in any political work. It is also easy to recruit us as we can be hired and fired any time (Saleha Khatun, Chittagong urban area).

- If I pull a rickshaw, the passenger will pay me three taka instead of five. We never get fair wage (Dulal Gazi, Patuakhali).

- If we are ill then we buy medicine from a medicine shop. Some time we go to a dakter (medical practitioner). We pay him 30-40 taka and he gives us medicine. There is no government hospital in this area. If we are seriously then, we expect God to help. Otherwise we shall die. (Shanoda Kumar Jaladas, coastal char, Noakhali).

- Goriber jonne kono sarker nai (there is no Government for the poor). If the MP allocates wheat for us, his local leaders just eat it; they never give it to us. There is a pond for common use, but it is not deep. Water is already polluted. Government can excavate it deeper where we can cultivate fish collectively. We could use the pond water for bathing. We demanded for the re-excavation but until now nothing happened (Nurul Hoque, Moheshkhali).

- I am not member because NGO wants weekly savings. I get monthly wages. As we are not solvent we cannot keep cash in hand for giving kistee (loan repayment in installment). I do not like to be a member of NGO samity because I do not want to deposit my savings to them. If I can save money I can keep it with me for my emergency. I will not get it from NGO during my need (Saleha Khatun, Chittagong urban area).

- Two years ago, my house was damaged by storm. Our Union Parishad member came to see the damaged house and assured me of some assistance for house repairing. More than two years is over but nothing happened. I repaired my house on my own. I spent 3000 taka for that (Abdus Sattar, Shymnagar).

These stories vividly epitomize the plight of the people and the state of their immediate environment. All these boil down to following issues that make the lives of the poor more vulnerable:

   ◊   negative social attitude restricting women's mobility;

◊ interference in private domain through intimidation, extortion and violence;
◊ indifference of service organizations;
◊ discrimination by employers;
◊ regulatory framework of micro-credit NGOs; and
◊ ineffective law and order establishment.

Improvement in the asset base of the households is a necessary condition for enhancement of their livelihoods. But this is not enough unless a conducive environment in terms of attitude and governance is established. This necessitates a change in the mind-set of the people and efficacy of service proving organizations.

6.2   Need for an enabling environment

One major reason of poverty is the limited access to public services. There are a number of government agencies for service delivery at various tiers of local government (district, upazila and union), but in absence of effective "clientele" organizations, the delivery structure remained somewhat inaccessible and inefficient. In particular, this system did not reach the poor and the disadvantaged in all cases (Planning Commission, 1998: 141). Benefit of expenditures in social sectors generally trickles down to the poor people but since the level of expenditure is not high, benefit is limited. An enabling institutional environment for enhancement of livelihoods of the poor therefore necessitates a reorientation of these organizations with a pro-poor functional approach.

Key functions of the institutional environment in promoting human well-being have been summarized in a World Bank document as follows. (World Bank, 2003: 37).

> *It must pick up signals about needs and problems – particularly from the fringes; this involves generating information, giving citizens a voice, responding to feedback, and fostering learning. It must also balance interests – by negotiating change and forging agreements, and by avoiding stalemates and conflicts. And it must execute and implement solutions – by credibly following through on agreements.*

An enabling institutional environment thus essentially envisages a need-based approach and a broad social consensus, which together would make it functional and enduring. Institutions include norms and values, rules and organizations, both formal and informal, which influence human behavior in a particular setting. If institutions are discriminatory, authoritarian and unjust, they do not work. Large sections of people feel alienated if institutions do not cater their needs and aspirations.

7   AGENDA FOR ACTION

7.1   Reduction of vulnerability

The national poverty reduction strategy simultaneously emphasizes economic growth, poverty reduction and social development. Social development includes, among others, the issues of human development, gender equality, social deprivations and environmental sustainability (MoF, 2003: 1). In real terms, this means enhancement of the material well-being of the people. The government has adopted a pro-poor strategy. This essentially involves development interventions that address vulnerability issues of the poor and the disadvantaged. The pertinent question is how to reduce vulnerability. One generic solution is to improve the asset base of the poor, through ownership or through access.

7.2   Changing resource base

Traditionally, people's livelihoods center round natural-resource-based activities. Natural resources are becoming scanty and are dwindling fast. Still many people continue to live on declining natural resources and are aggravating the situation further. As an alternative source of livelihood, people are gradually shifting to human resource-based activities. An acceleration of this shifting process necessitates more investments in the development of human resources and the physical infrastructure that facilitates human resource-based activities. At present, the coastal zone is lagging behind in some areas of human development infrastructures, particularly health (hospital beds) and education (primary enrollment). These areas need more attention. Also with respect to endowment of various physical assets, the coastal zone is worse off than the rest of the country.

7.3   Regional differentiation and island focus

The coastal zone of Bangladesh is different from the rest of the country not only because of its unique geo-physical characteristics, but also it is relatively disadvantaged in terms of several human and economic development indicators. Coastal livelihoods, in many ways, are indeed unique and should be addressed in concrete coastal conditions of opportunities and vulnerabilities. The vast majority of the people is poor and is vulnerable to a host of natural and structural changes. Two major vulnerability issues are natural disasters and depletion of resources that have engulfed the poor in a circle of perpetual poverty. Any strategy for enhancement of livelihoods in the coastal zone therefore calls for regional specific need-based actions in order to enhance the coping capacity of the poor.

Analysis of resource endowments presented in Chapter 2 shows that the islands are the most disadvantaged, followed by other parts of the exposed coast (sea facing upazilas). Poverty is more acute in these areas in terms of human deprivation. Hence, any strategy for investments should have more focus on these areas.

7.4   Priority actions

Different social strata have different problems and needs. The PDSCL survey has identified how different groups respond to different problems and situations, how they cope with these problems, what obstructions they face and what they suggest to resolve those problems (PDO-ICZM, 2002: 82-86). Some of these suggestions are summarized in Table 11.

Table 11: Suggested actions for livelihood enhancement

Group	Problem/issue	Suggested action
Agriculture laborer	Unemployment	Job facility; credit support
Small farmer	Lack of capital	Credit service
Salt farmer	Heavy rain/cyclone	Storage for salt
Fisher	Cyclone/bad weather	Improved warning system
	Loss incurred due to piracy	Improved law and order
	Declining fish resources	Restrict fishing/ fish fry collection
Fish processor (dry fish)	Lack of capital	Credit support; storage
Industrial laborer	Lack of cash	Credit support
Women	Lack of potable water	Support for tubewell
	Lack of sanitation	Support for sanitary latrine
	Poor health	Free medical service
	Law and order	Active police department
	Restricted mobility	Social awareness
	Cyclone	Strong house
	Land erosion	Land settlement

Suggested actions are of different nature. These entails, among others, the following:

◊ national policy action (such as free medical service, land settlement, resource conservation);

◊ radical management reforms (such as, improvement in law and order);

◊ extension of services (such as water and sanitation);

◊ reorientation of programs (such as micro-credit framework of NGOs);

◊ improvement of services (such as cyclone warning system);

◊ investments in physical infrastructure (such as storage, housing); and

◊ developing social awareness (such as social mobilization against coercion and discrimination).

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APPENDIX : TABLES

APPENDIX 1: HOUSEHOLD AND POPULATION DATA OF CENSUS 2001

District	Number of households	Population			Sex ratio	Average size of households
		Both sex	**Male**	**Female**		
Barguna	179,189	837,955	417,995	419,960	100	4.68
Barisal	474,840	2,330,960	1,165,303	1,165,657	100	4.91
Bhola	328,559	1,676,600	857,961	818,639	105	5.10
Jhalakati	145,868	696,055	343,581	352,474	97	4.77
Patuakhali	288,605	1,444,340	722,259	722,081	100	5.00
Pirojpur	231,983	1,126,525	563,529	562,996	100	4.86
Chandpur	422,697	2,210,162	1,075,658	1,134,504	95	5.23
Chittagong	1,234,682	6,545,078	3,414,052	3,131,026	109	5.30
Cox's Bazar	294,094	1,757,321	904,831	852,490	106	5.98
Feni	213,030	1,196,219	583,375	612,844	95	5.62
Lakshmipur	288,214	1,479,371	728,065	751,306	97	5.13
Noakhali	455,321	2,533,394	1,239,158	1,294,236	96	5.56
Gopalganj	217,445	1,132,046	566,589	565,457	100	5.21
Shariatpur	213,239	1,057,181	524,152	533,029	98	4.96
Bagerhat	321,634	1,515,815	777,647	738,168	105	4.71
Jessore	521,360	2,440,693	1,250,230	1,190,463	105	4.68
Khulna	494,603	2,334,285	1,210,699	1,123,586	108	4.72
Narail	140,013	689,021	343,608	345,413	99	4.92
Satkhira	390,179	1,843,194	931,468	911,726	102	4.72
Total CZ	6,855,555	34,846,215	17,620,160	17,226,055	102	5.08
Non-CZ	18,506,766	88,305,031	45,115,828	43,189,203	104	4.77
BD[1]	25,362,321	123,151,246	62,735,988	60,415,258	104	4.86

[1]Enumerated census data

Source: BBS, 2002a

APPENDIX 2: PERCENTAGE DISTRIBUTION OF POPULATION BY AGE GROUP, 1991

District	Age group (year)															Total	<15	Dependency Ratio[1]
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+			
Shariatpur	19.0	18.0	12.4	7.3	6.5	6.9	5.5	5.2	4.3	3.2	3.1	1.8	2.6	1.2	2.9	100.0	49	1.28
Bhola	19.3	19.2	12.4	7.6	6.5	7.2	5.7	5.4	4.3	3.1	2.7	1.6	2.0	0.9	2.0	100.0	51	1.27
Cox's Bazar	20.6	18.3	12.7	8.4	7.6	7.4	5.6	4.9	3.7	2.7	2.5	1.5	1.7	0.7	1.6	100.0	52	1.26
Noakhali	18.9	17.9	12.8	8.3	7.2	7.1	5.3	4.9	4.1	3.1	2.9	1.7	2.3	1.0	2.6	100.0	50	1.24
Lakshmipur	18.6	18.1	12.5	8.0	7.1	7.3	5.4	5.1	4.2	3.1	2.9	1.8	2.3	1.1	2.5	100.0	49	1.23
Chandpur	18.4	17.5	12.4	8.1	7.0	7.2	5.4	5.2	4.1	3.4	3.0	1.9	2.4	1.2	2.8	100.0	48	1.21
Feni	16.8	17.2	13.4	8.6	7.7	7.4	5.6	5.0	4.2	3.1	3.0	1.7	2.4	1.1	2.8	100.0	47	1.16
Gopalganj	15.7	16.8	13.1	8.5	7.1	7.3	5.7	5.5	4.5	4.0	3.2	2.2	2.4	1.4	2.4	100.0	46	1.08
Patuakhali	15.0	17.3	13.7	8.7	7.1	7.6	6.0	5.7	4.6	3.5	3.1	1.9	2.4	1.1	2.3	100.0	46	1.07
Barisal	15.8	16.5	13.1	8.5	7.5	7.6	6.0	5.6	4.7	3.5	3.2	1.9	2.5	1.1	2.6	100.0	45	1.06
Jhalakati	14.0	15.5	14.0	9.0	7.5	7.5	5.8	5.5	4.9	3.7	3.6	2.0	2.8	1.2	2.9	100.0	44	1.02
Narail	13.9	16.4	13.6	9.0	8.0	7.9	5.7	5.5	4.3	3.8	3.1	2.3	2.4	1.5	2.6	100.0	44	1.02
Barguna	13.7	16.4	14.1	8.8	7.4	7.8	6.3	5.7	4.8	3.6	3.4	2.0	2.5	1.1	2.5	100.0	44	1.01
Satkhira	15.5	16.6	11.9	8.3	8.6	8.8	6.1	5.5	4.1	3.7	2.8	2.3	2.1	1.3	2.2	100.0	44	0.99
Pirojpur	13.9	15.5	13.6	8.9	7.8	7.8	6.1	5.7	4.6	3.9	3.3	2.2	2.5	1.4	2.7	100.0	43	0.99
Chittagong	15.4	15.1	13.0	9.8	9.2	8.4	6.3	5.5	4.4	3.2	2.9	1.7	2.2	0.9	2.0	100.0	44	0.95
Jessore	14.0	16.2	12.9	9.1	9.2	9.3	6.3	5.6	4.0	3.5	2.7	2.0	2.0	1.2	2.1	100.0	43	0.94
Bagerhat	13.6	15.5	12.7	8.8	8.4	8.4	6.2	5.8	4.6	4.0	3.2	2.3	2.4	1.4	2.5	100.0	42	0.93
Khulna	13.3	15.1	12.6	8.9	9.1	9.2	6.7	6.2	4.7	3.9	2.9	2.1	2.0	1.2	2.1	100.0	41	0.86
Total CZ	16.1	16.6	12.9	8.7	8.0	7.9	5.9	5.5	4.3	3.4	3.0	1.9	2.3	1.1	2.3	100.0	46	1.06
Non-CZ	16.7	16.5	11.8	8.3	8.4	8.7	6.3	5.7	4.3	3.4	2.9	1.8	2.0	1.0	2.2	100.0	45	1.01
BD	16.5	16.5	12.1	8.4	8.3	8.5	6.2	5.6	4.3	3.4	2.9	1.8	2.1	1.0	2.2	100.0	45	1.02

[1] Ratio of dependent population (0-14 + 60 and above) to population of working age (14-59)

Source: BBS, 1994, Analytical Report Vol-1

APPENDIX 3: DISTRIBUTION OF RURAL HOUSEHOLDS BY FARM SIZE AND DISTRICT

District	Number of households					Percentage			
	Total	Non-farm	Small	Medium	Large	Non-farm	Small	Medium	Large
Chittagong	565,703	268,429	255,819	38,553	2,902	47.5	45.2	6.8	0.5
Cox's Bazar	237,095	100,845	115,785	18,525	1,940	42.5	48.8	7.8	0.8
Satkhira	306,877	104,107	161,924	35,095	5,751	33.9	52.8	11.4	1.9
Bhola	268,680	90,520	139,835	32,660	5,665	33.7	52.0	12.2	2.1
Khulna	211,196	66,366	105,626	33,089	6,115	31.4	50.0	15.7	2.9
Feni	185,093	58,119	114,940	11,550	484	31.4	62.1	6.2	0.3
Chandpur	359,978	106,025	237,447	15,868	638	29.5	66.0	4.4	0.2
Jessore	390,716	112,032	220,998	51,189	6,497	28.7	56.6	13.1	1.7
Narail	106,380	28,032	54,248	22,118	1,982	26.4	51.0	20.8	1.9
Gopalganj	183,501	45,999	101,836	32,362	3,304	25.1	55.5	17.6	1.8
Noakhali	373,120	92,363	242,740	31,254	6,763	24.8	65.1	8.4	1.8
Jhalakati	110,635	27,292	66,137	15,700	1,506	24.7	59.8	14.2	1.4
Patuakhali	243,330	59,306	132,518	41,761	9,745	24.4	54.5	17.2	4.0
Bagerhat	251,453	58,782	147,965	37,922	6,784	23.4	58.8	15.1	2.7
Lakshmipur	237,716	54,585	162,509	17,845	2,777	23.0	68.4	7.5	1.2
Shariatpur	189,056	42,851	123,973	20,154	2,078	22.7	65.6	10.7	1.1
Barisal	366,421	77,926	248,337	37,238	2,920	21.3	67.8	10.2	0.8
Barguna	146,470	30,185	83,365	27,525	5,395	20.6	56.9	18.8	3.7
Pirojpur	216,480	40,650	142,458	29,874	3,498	18.8	65.8	13.8	1.6
Total CZ	4,949,900	1,464,414	2,858,460	550,282	76,744	29.6	57.7	11.1	1.6
Non-CZ	12,878,287	4,565,545	6,564,319	1,527,502	220,921	35.5	51.0	11.9	1.7
Bangladesh	17,828,187	6,029,959	9,422,779	2,077,784	297,665	33.8	52.9	11.7	1.7

Source: BBS, 1999

APPENDIX 4: DISTRIBUTION OF RURAL HOUSEHOLDS BY FARM SIZE

Strata	Number of households in the coastal zone					Percentage	
	Greater district (1960)					1960	1996
	Khulna	Noakhali	Chittagong	Barisal	Total		
Non farm	44,600	77,980	75,080	69,360	267,020	19	30
Small	94,210	169,400	108,380	195,500	567,490	41	58
Medium	113,760	64,170	67,770	184,570	430,270	31	11
Large	40,770	13,070	14,390	58,280	126,510	9	2
Total	293,340	324,620	265,620	507,710	1,391,290	100	100

Source: BBS, 1999; Establishment Division

Note: data of 1960 corresponds to that 14 coastal districts belonging to of greater districts of Khulna, Noakhali, Chittagong and Barisal (including Patuakhali, while data of 1996 corresponds to 19 coastal districts.

APPENDIX 5: PER CAPITA GDP

District	Per capita GDP at current market price (Tk)				
	1995-96	1996-97	1997-98	1998-99	1999-00
Bagerhat	13,164	14,509	15,918	17,839	19,210
Barguna	13,716	14,558	16,624	17,938	19,180
Barisal	11,461	12,810	13,719	15,259	16,339
Bhola	13,114	14,624	15,112	17,137	18,506
Chandpur	10,072	10,610	12,816	13,558	14,569
Chittagong	22,837	24,665	27,567	30,009	32,297
Cox's Bazar	15,968	17,760	19,196	21,412	22,735
Feni	10,952	11,773	12,855	14,146	15,253
Gopalganj	11,181	12,067	13,201	14,477	15,587
Jessore	15,733	17,121	18,956	20,765	22,297
Jhalakati	10,762	11,273	11,715	13,120	14,350
Khulna	19,096	20,981	22,875	25,227	27,173
Lakshmipur	12,831	13,453	13,824	15,964	17,609
Narail	13,052	14,085	15,526	17,013	18,114
Noakhali	11,000	12,059	13,439	14,862	15,974
Patuakhali	14,707	15,686	16,863	18,891	20,328
Pirojpur	11,034	11,686	12,887	14,081	15,242
Satkhira	12,634	13,971	15,280	16,956	18,228
Shariatpur	10,112	11,101	12,212	13,448	14,511
CZ	14,852	16,153	17,795	19,624	21,149
Non-CZ	15,981	17,355	19,267	21,104	22,784
Bangladesh	15,642	16,994	18,826	20,661	22,295

Source: BBS, 2002c

APPENDIX 6: AVERAGE WAGE RATE OF AGRICULTURE LABORER AT CURRENT PRICE (TAKA)

Greater district	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Chittagong	56	57	57	56	55	56	70
Noakhali	46	47	46	46	48	48	50
Barisal	31	33	32	30	31	34	47
Patuakhali	32	33	32	30	32	32	52
Khulna	31	32	32	36	36	36	45
Jessore	28	30	30	30	33	36	38
Faridpur	30	30	30	30	32	32	44
Comilla	31	32	32	34	38	38	47
CZ weighted average	36	37	37	37	39	40	49
Bangladesh	33	35	35	36	37	38	46
Tk/US$	38	39	40	40	41	43	45

Source: BBS, 2002

APPENDIX 7: DISTRIBUTION OF HOUSEHOLDS BY POVERTY MEASURES, 1998

District	Household (1998)	Absolute poor		Extreme poor	
		Number	%	Number	%
Jhalkati	145,868	55,838	38.28	26,606	18.24
Cox's Bazar	294,094	118,814	40.4	55,878	19
Narail	140,013	56,845	40.6	20,036	14.31
Gopalganj	217,445	92,632	42.6	44,794	20.6
Pirojpur	231,983	100,889	43.49	49,737	21.44
Shariatpur	213,239	92,972	43.6	45,633	21.4
Barisal	474,840	207,885	43.78	91,549	19.28
Bhola	328,559	145,223	44.2	76,226	23.2
Jessore	521,360	237,740	45.6	87,588	16.8
Patuakhali	288,605	132,499	45.91	39,164	13.57
Chittagong	1,234,682	622,156	50.39	319,536	25.88
Barguna	179,189	93,375	52.11	40,013	22.33
Feni	213,030	113,992	53.51	42,691	20.04
Satkhira	390,179	213,584	54.74	55,835	14.31
Khulna	494,603	271,982	54.99	128,745	26.03
Chandpur	422,697	255,309	60.4	133,107	31.49
Noakhali	455,321	297,097	65.25	156,175	34.3
Bagerhat	321,634	221,541	68.88	117,429	36.51
Lakshmipur	288,214	208,926	72.49	111,106	38.55
Total CZ	6,855,555	3,539,301	51.63	1,641,848	23.95
Non-CZ	18,506,766	8,794,395	47.52	4,232,065	22.87
Bangladesh	25,362,321	12,333,697	48.63	5,873,914	23.16

Source: BBS, 1998

APPENDIX 8: DISTRIBUTION OF AGRICULTURE LABOR HOUSEHOLDS, 1996

District	Number of households		
	Total rural	Agri. labor	Percentage
Chittagong	565,703	126,480	22
Cox's Bazar	237,095	78,375	33
Satkhira	306,877	142,511	46
Bhola	268,680	127,270	47
Khulna	211,196	83,671	40
Feni	185,093	21,823	12
Chandpur	359,978	116,358	32
Jessore	390,716	159,370	41
Narail	106,380	32,470	31
Gopalganj	183,501	59,332	32
Noakhali	373,120	123,638	33
Jhalakati	110,635	29,030	26
Patuakhali	243,330	74,360	31
Bagerhat	251,453	89,867	36
Lakshmipur	237,716	82,468	35
Shariatpur	189,056	57,943	31
Barisal	366,421	122,207	33
Barguna	146,470	46,915	32
Pirojpur	216,480	69,348	32
Total CZ	4,949,900	1,643,436	33
Non-CZ	12,878,287	4,758,017	37
Bangladesh	17,828,187	6,401,453	36

Source: BBS, 1999

APPENDIX 9: DISTRIBUTION OF AGRICULTURE LABOR HOUSEHOLDS

District	Number of agriculture labor households					Percentage			
	Total	Non farm	Small	Medium	Large	Non farm	Small	Medium	Large
Barguna	46,915	18,070	27,795	925	125	38.5	59.2	2.0	0.3
Barisal	122,209	37,959	81,870	2,295	85	31.1	67.0	1.9	0.1
Bhola	127,270	63,460	61,510	2,175	125	49.9	48.3	1.7	0.1
Jhalakati	29,032	11,447	16,866	687	32	39.4	58.1	2.4	0.1
Patuakhali	74,361	31,226	42,001	1,014	120	42.0	56.5	1.4	0.2
Pirojpur	69,348	19,284	48,468	1,482	114	27.8	69.9	2.1	0.2
Chandpur	116,361	50,079	64,989	1,249	44	43.0	55.9	1.1	0.0
Chittagong	126,478	78,842	44,516	2,902	218	62.3	35.2	2.3	0.2
Cox's Bazar	78,375	42,590	33,510	2,160	115	54.3	42.8	2.8	0.1
Feni	36,945	19,058	17,414	462	11	51.6	47.1	1.3	0.0
Lakshmipur	82,467	29,547	51,695	1,145	80	35.8	62.7	1.4	0.1
Noakhali	123,639	47,657	71,614	3,827	541	38.5	57.9	3.1	0.4
Gopalganj	59,332	23,649	32,816	2,738	129	39.9	55.3	4.6	0.2
Shariatpur	57,944	24,444	32,475	935	90	42.2	56.0	1.6	0.2
Bagerhat	89,868	30,391	56,286	2,968	223	33.8	62.6	3.3	0.2
Jessore	159,370	62,746	93,937	2,565	122	39.4	58.9	1.6	0.1
Khulna	83,671	38,128	42,917	2,468	158	45.6	51.3	2.9	0.2
Narail	32,472	11,805	18,620	1,993	54	36.4	57.3	6.1	0.2
Satkhira	142,512	68,445	71,534	2,430	103	48.0	50.2	1.7	0.1
Total CZ	1,658,569	708,827	910,833	36,420	2,489	42.7	54.9	2.2	0.2
Non-CZ	4,742,884	2,672,264	2,002,452	63,209	4,959	56.3	42.2	1.3	0.1
Bangladesh	6,401,453	3,381,091	2,913,285	99,629	7,448	52.8	45.5	1.6	0.1
% CZ	**25.9**	**21.0**	**31.3**	**36.6**	**33.4**				

Source: BBS, 1999

APPENDIX 10: STATISTICS ON FISHER HOUSEHOLDS

District	Total farm households (000)	Fish catching households (000)				% of fish catching households
		Small	Medium	Large	Total	
Barguna	117	27	14	3	44	38
Barisal	289	15	4	0	19	7
Bhola	177	18	6	1	25	14
Jhalakati	84	16	6	0	22	26
Patuakhali	185	16	12	4	32	17
Pirojpur	175	20	7	1	28	16
Chandpur	254	17	2	0	19	7
Chittagong	298	16	4	0	20	7
Cox's Bazar	136	20	5	0	25	18
Feni	126	20	4	0	24	19
Lakshmipur	182	22	5	1	28	15
Noakhali	281	30	12	4	46	16
Gopalganj	138	1	1	0	2	1
Shariatpur	146	9	1	0	10	7
Bagerhat	193	14	8	1	23	12
Jessore	278	18	9	1	28	10
Khulna	144	23	15	4	42	29
Narail	79	1	2	0	3	4
Satkhira	202	28	13	3	44	22
Total CZ	3484	331	130	23	484	14
CZ %		68	27	5	100	
Non-CZ	8313	301	156	37	494	6
Non-CZ %		61	32	7	100	
Bangladesh	11797	632	286	60	978	8
Bangladesh %		65	29	6	100	

Source: BBS, 1999

APPENDIX 11: ADULT LITERACY RATE (%), 1991

District	Both sexes	Male	Female
Bagerhat	49	56	41
Barguna	45	53	37
Barisal	47	55	40
Bhola	27	34	20
Chandpur	42	49	34
Chittagong	47	57	36
Cox's Bazar	23	32	14
Feni	44	55	33
Gopalganj	41	50	32
Jessore	37	47	26
Jhalkati	55	62	47
Khulna	48	59	36
Lakshmipur	37	45	31
Narail	39	48	30
Noakhali	41	50	32
Patuakhali	41	50	32
Pirojpur	54	61	47
Satkhira	34	46	21
Shariatpur	27	36	19
Bangladesh	35	44	26

Source: BBS, 1994

APPENDIX 12: STATISTICS ON PRIMARY SCHOOLS

District	Area (km²)	Population (2001)	Number of schools		Number of students				Children 6-10 years		Enrolment rate		No. of schools per 10,000 population	
			Govt.	Total	Government schools		All schools		Total	Girls	Total	Girls	Govt.	Total
					Total	Girls	Total	Girls						
Barguna	1,832	837,955	379	981	56,905	28,536	114,471	57,582	107,164	52,589	107	109	4.5	11.7
Patuakhali	3,205	1,444,340	582	1,594	105,791	52,980	213,494	106,033	215,096	107,521	99	99	4.0	11.0
Pirojpur	1,308	1,126,525	606	1,224	87,148	44,369	149,738	74,215	153,813	75,470	97	98	5.4	10.9
Jhalakati	758	696,055	363	642	60,815	31,137	94,130	47,849	94,066	46,716	100	102	5.2	9.2
Bagerhat	3,959	1,515,815	602	1,343	85,895	43,407	179,115	88,974	183,194	90,367	98	98	4.0	8.9
Khulna	4,395	2,334,285	895	1,982	199,999	104,629	371,078	185,777	385,525	189,208	96	98	3.8	8.5
Narail	990	689,021	287	547	85,306	27,192	125,322	47,162	93,409	45,725	134	103	4.2	7.9
Barisal	2,791	2,330,960	954	1,817	220,436	114,050	344,845	173,917	358,516	177,576	96	98	4.1	7.8
Gopalganj	1,490	1,132,046	518	878	90,978	45,352	134,012	67,154	171,253	83,416	78	81	4.6	7.8
Bhola	3,403	1,676,600	424	1,288	126,710	65,349	294,328	145,827	308,163	148,198	96	98	2.5	7.7
Shariatpur	1,181	1,057,181	397	772	110,142	56,775	164,029	83,011	197,412	96,302	83	86	3.8	7.3
Satkhira	3,858	1,843,194	622	1,311	142,051	71,438	247,418	124,046	268,255	130,709	92	95	3.4	7.1
Jessore	2,567	2,440,693	662	1,631	165,613	82,302	313,847	154,500	319,867	155,228	98	100	2.7	6.7
Chandpur	1,704	2,210,162	786	1,324	287,534	147,386	383,172	194,650	383,548	190,452	100	102	3.6	6.0
Feni	928	1,196,219	408	714	131,906	68,891	189,989	93,932	179,723	87,597	106	107	3.4	6.0
Noakhali	3,601	2,533,394	776	1,438	276,811	143,613	430,085	217,656	445,337	217,160	97	100	3.1	5.7
Cox's Bazar	2,492	1,757,321	376	925	137,350	77,494	240,702	128,377	304,072	148,611	79	86	2.1	5.3
Lakshmipur	1,458	1,479,371	512	702	164,069	84,155	217,771	109,441	234,686	103,418	93	106	3.5	4.7
Chittagong	5,283	6,545,078	1,634	2,781	558,086	280,618	784,494	397,030	836,007	408,203	94	97	2.5	4.2
Total CZ	47,203	34,846,215	11,783	23,894	3,093,545	1,569,673	4,992,040	2,497,133	5,239,106	2,554,466	95	98	3.4	6.9
Non-CZ	100,367	88,305,031	25,888	54,232	7,737,197	3,794,170	12,667,180	6,172,292	12,875,092	6,323,309	98	98	2.9	6.1
Bangladesh	147,570	123,151,246	37,671	78,126	10,830,742	5,363,843	17,659,220	8,669,425	18,114,198	8,877,775	97	98	3.1	6.3

Source: MIS, Directorate of Primary Education, 2003.

APPENDIX 13: STATUS OF CHILDREN IN 2000

District	IMR	Severe malnutrition of children aged 12-59 months (MUAC<12.5cm)		
		Male	Female	Total
Cox's Bazar	80	4	5	4
Jessore	84	5	9	7
Barisal	87	6	9	8
Jhalakati	87	5	11	8
Bagerhat	87	3	5	4
Satkhira	87	2	2	2
Noakhali	89	4	14	9
Bhola	90	11	17	14
Khulna	90	3	2	3
Barguna	94	2	5	4
Pirojpur	94	2	8	5
Narail	94	5	9	7
Lakshmipur	95	7	7	7
Gopalganj	96	7	12	10
Shariatpur	96	4	13	8
Patuakhali	97	4	10	7
Feni	98	6	6	6
Chandpur	99	1	4	3
Chittagong	103	4	5	5
CZ		4	8	6
Non-CZ[1]		4	5	6
Bangladesh	92	4	6	5

[1]Estimates are based on population below 5 years, 1991

Source: BBS & UNICEF, 2001

APPENDIX 14: NUMBER OF HOSPITAL BEDS AND POPULATION-BED RATIO, 1996

District	Population (1996)	Government Hospital				NGO	Total Bed (Govt. + NGO)	Population bed ratio (Govt.)	Population bed ratio (Govt. + NGO)
		District Hospital	Other Hospital	Upazila Health Complex	Total Bed				
Barisal	2,312,665	100	670	310	1,080	40	1,120	2,141	2,065
Khulna	2,143,656	150	370	310	830	176	1,006	2,583	2,131
Chittagong	5,757,252	100	1,116	496	1,712	413	2,125	3,363	2,709
Barguna	818,247	100		155	255	10	265	3,209	3,088
Bagerhat	1,502,533	100		248	348	125	473	4,318	3,177
Cox's Bazar	1,515,350	50		186	236	207	443	6,421	3,421
Jhalakati	707,354	50		155	205		205	3,451	3,451
Patuakhali	1,335,945	150		155	305		305	4,380	4,380
Gopalganj	1,074,074	50		155	205	30	235	5,239	4,571
Shariatpur	999,310	50		155	205		205	4,875	4,875
Pirojpur	1,117,177	50		155	205	10	215	5,450	5,196
Jessore	2,120,279	100	20	217	337	50	387	6,292	5,479
Feni	1,110,028	50	20	124	194		194	5,722	5,722
Bhola	1,545,644	50		217	267		267	5,789	5,789
Narail	669,003	50		62	112		112	5,973	5,973
Noakhali	2,360,293	150		186	336	10	346	7,025	6,822
Satkhira	1,673,194	50		186	236		236	7,090	7,090
Lakshmipur	1,404,607	50		93	143	30	173	9,822	8,119
Chandpur	2,163,103	50		186	236		236	9,166	9,166
Total CZ	32,329,705	1,500	2,196	3,751	7,447	1,101	8,548	4,341	3,782
Non-CZ	73,998,570	3,050	7,971	9,176	20,197	6,924	27,121	3,664	2,728
Bangladesh	106,328,275	4,550	10,167	12,927	27,644	8,025	35,669	3,846	2,981

Source: BBS, 2002

APPENDIX 15: NUMBER OF MEMBERS OF FOUR MAJOR NATIONAL NGOS (ASA, BRAC, PROSHIKA AND CARITAS) IN 2001

District	Total households	Number of members					Members as % of households
		ASA	BRAC	Proshika	Caritas	Total	
Lakshmipur	288,214	21,133	30,518			51,651	17.92
Chittagong	1,234,682	47,653	54,772	116,393	20,554	239,372	19.39
Chandpur	422,697	28,753	60,352	10,454		99,559	23.55
Noakhali	455,321	44,729	46,478	29,738		120,945	26.56
Satkhira	390,179	21,813	74,020		8,141	103,974	26.65
Bhola	328,559	10,529	35,996	39,095	3,041	88,661	26.98
Cox's Bazar	294,094	9,202	40,212	35,385	5,467	90,266	30.69
Jhalkati	145,868	7,885	25,904	11,990		45,779	31.38
Jessore	521,360	40,461	117,338	11,433	4,831	174,063	33.39
Feni	213,030	22,201	37,689	15,048		74,938	35.18
Patuakhali	288,605	36,303	46,233	18,995	5,530	107,061	37.10
Bagerhat	321,634	28,206	63,993	28,730	9,083	130,012	40.42
Pirojpur	231,983	12,713	46,828	39,206		98,747	42.57
Barguna	179,189	26,607	32,634	18,064		77,305	43.14
Narail	140,013	11,800	34,783	14,405		60,988	43.56
Khulna	494,603	40,360	99,855	87,553	5,656	233,424	47.19
Barisal	474,840	30,571	73,163	105,677	20,687	230,098	48.46
Shariatpur	213,239	7,641	78,265	31,799		117,705	55.20
Gopalganj	217,445	9,335	71,719	61,440	8,344	150,838	69.37
Total CZ	6,855,555	457,895	1,070,752	675,405	91,334	2,295,386	33.48
Non-CZ	18,506,766	1,121,477	3,067,381	1,972,385	236,411	6,397,654	34.57
Bangladesh	25,362,321	1,579,372	4,138,133	2,647,790	327,745	8,693,040	34.28

Source: Respective Organizations

APPENDIX 16: AVERAGE AREA AND POPULATION OF UNIONS

District	Area (km^2)	Population	Number of Union	Average Area (km^2)	Average population
Narail	908	588,951	37	25	15,918
Barguna	1,773	708,547	36	49	19,682
Jhalkati	708	580,612	31	23	18,729
Cox's Bazar	2,382	1,226,446	47	51	26,095
Feni	889	1,000,867	43	21	23,276
Gopalganj	1,442	986,617	68	21	14,509
Bhola	3,277	1,286,754	51	64	25,230
Barisal	2,678	1,876,451	86	31	21,819
Satkhira	3,783	1,465,194	77	49	19,028
Shariatpur	1,142	884,046	61	19	14,493
Noakhali	3,492	1,988,916	83	42	23,963
Chandpur	1,638	1,843,973	89	18	20,719
Khulna	4,055	1,003,388	59	69	17,007
Chittagong	4,139	2,889,010	160	26	18,056
Lakshmipur	1,305	1,126,891	47	28	23,976
Bagerhat	3,850	1,241,917	75	51	16,559
Patuakhali	3,113	1,141,400	62	50	18,410
Pirojpur	1,243	933,527	51	24	18,304
Jessore	2,450	1,824,516	91	27	20,050
Total CZ	44,270	24,598,023	1,254	35	19,616
Non-CZ	93,723	60,844,765	3,064	31	19,858
Bangladesh	137,993	85,442,788	4,318	32	19,788

Source: BBS, 1994

APPENDIX 17: PER CAPITA AGRICULTURE LAND HOLDING IN 1996

District	Population	Area (ha)			Per capita land (ha)		
		Homestead	Net cultivated area	Gross cropped area	Homestead	Net cultivated area	Gross cropped area
Chittagong	5,757,252	19,995	142,759	237,992	0.003	0.025	0.041
Chandpur	2,163,103	9,860	81,435	142,591	0.005	0.038	0.066
Cox's Bazar	1,515,350	8,890	64,562	91,478	0.006	0.043	0.060
Khulna	2,143,656	5,854	109,837	128,105	0.003	0.051	0.060
Lakshmipur	1,404,607	6,110	79,103	128,378	0.004	0.056	0.091
Barisal	2,312,665	8,924	133,169	210,035	0.004	0.058	0.091
Noakhali	2,360,293	10,325	144,460	218,791	0.004	0.061	0.093
Jhalakati	707,354	2,698	46,414	65,521	0.004	0.066	0.093
Satkhira	1,673,194	8,669	119,696	158,219	0.005	0.072	0.095
Shariatpur	999,310	4,560	74,254	144,027	0.005	0.074	0.144
Bhola	1,545,644	5,982	117,412	208,841	0.004	0.076	0.135
Jessore	2,120,279	12,208	169,454	270,052	0.006	0.080	0.127
Pirojpur	1,117,177	4,609	96,266	112,889	0.004	0.086	0.101
Bagerhat	1,502,533	6,142	130,631	131,089	0.004	0.087	0.087
Narail	669,003	3,910	59,131	100,206	0.006	0.088	0.150
Gopalganj	1,074,074	6,421	97,975	151,470	0.006	0.091	0.141
Patuakhali	1,335,945	5,965	143,979	231,355	0.004	0.108	0.173
Barguna	818,247	4,331	88,866	123,664	0.005	0.109	0.151
Feni	378,952	5,559	49,138	85,848	0.015	0.130	0.227
Total CZ	31,598,629	141,012	1,948,541	2,940,551	0.004	0.062	0.093
Non-CZ	74,729,646	392,544	5,243,422	8,640,368	0.005	0.070	0.116
Bangladesh	106,328,275	533,555	7,191,962	11,580,919	0.005	0.068	0.109

Source: BBS, 1999

APPENDIX 18: LAND OWNERSHIP PATTERN

Appendix 18.1: Distribution of households by land holding group

District	Total	Non farm holdings			Farm holdings (land holding group in acre)					
		No operated area	No cultivable area	Cultivable area <0.04 acre	Small				Medium	Large
					.05-.49	.50-.99	1.0-1.49	1.5-2.49	2.5-7.49	7.5+
Barguna	146,470	335	18,465	11,385	41,335	14,690	12,130	15,210	27,525	5,395
Barisal	366,421	461	45,045	32,420	103,085	60,394	42,156	42,702	37,238	2,920
Bhola	268,680	350	64,250	25,920	56,760	30,280	22,580	30,215	32,660	5,665
Jhalakati	110,635	202	16,569	10,521	34,026	12,909	8,171	11,031	15,700	1,506
Patuakhali	243,330	286	24,066	34,954	77,714	19,672	14,368	20,764	41,761	9,745
Pirojpur	216,480	342	19,374	20,934	74,556	28,674	18,372	20,856	29,874	3,498
Chandpur	359,978	446	73,926	31,653	102,234	68,426	37,180	29,607	15,868	638
Chittagong	565,703	1,248	232,268	34,913	95,768	63,747	45,578	50,726	38,553	2,902
Cox's Bazar	237,095	795	83,960	16,090	47,165	26,360	21,840	20,420	18,525	1,940
Feni	185,093	1,304	31,691	25,124	41,976	31,636	21,489	19,839	11,550	484
Lakshmipur	237,715	270	31,731	22,583	77,449	39,225	22,785	23,050	17,845	2,777
Noakhali	373,120	514	44,260	47,589	108,687	62,365	35,134	36,554	31,254	6,763
Gopalganj	183,500	722	41,518	3,758	23,531	26,477	23,027	28,801	32,362	3,304
Shariatpur	189,055	638	25,564	16,649	46,586	30,145	22,299	24,942	20,154	2,078
Bagerhat	251,455	403	39,374	19,006	65,068	32,643	22,557	27,698	37,922	6,784
Jessore	390,717	571	100,506	10,955	74,598	58,023	42,437	45,941	51,189	6,497
Khulna	211,197	281	54,244	11,842	37,541	24,276	19,691	24,118	33,089	6,115
Narail	106,379	367	23,765	3,899	15,514	12,107	11,016	15,611	22,118	1,982
Satkhira	306,872	1,091	85,023	17,993	61,711	39,798	30,229	30,186	35,095	5,746
Total CZ	4,949,895	10,626	1,055,599	398,188	1,185,304	681,847	473,039	518,271	550,282	76,739
Non-CZ	12,878,292	27,619	4,015,113	522,800	2,171,096	1,755,384	1,284,034	1,353,818	1,527,502	220,926
BD	17,828,187	38,245	5,070,712	920,988	3,356,400	2,437,231	1,757,073	1,872,089	2,077,784	297,665

Source: BBS, 1999

Appendix 18.2: Distribution of households by land owned

District	Owned area (acre)									
	Non farm holdings			Farm holdings						
	No operated area	No cultivable area	Cultivable area <0.04	Small				Medium	Large	Total
				.05-.49	.50-.99	1.0-1.49	1.5-2.49	2.5-7.49	7.5+	
Barguna	11	5,063	3,282	27,845	17,126	17,168	26,944	86,642	49,533	233,614
Barisal	4	8,954	7,649	51,924	49,291	52,285	72,332	116,196	25,891	384,526
Bhola	2	5,656	3,823	21,937	22,061	26,305	44,648	100,819	46,859	272,110
Jhalakati	6	6,656	3,551	24,180	16,263	12,290	17,879	42,292	13,756	136,873
Patuakhali	25	5,811	12,443	69,220	28,246	21,860	34,446	116,375	83,295	371,721
Pirojpur	7	4,761	2,799	36,622	31,956	27,954	35,966	89,267	32,505	261,837
Chandpur	26	13,550	5,036	33,233	46,272	42,104	52,258	55,907	5,947	254,333
Chittagong	74	75,415	9,384	46,359	44,467	49,536	72,609	104,143	25,862	427,849
Cox's Bazar	6	16,652	3,019	16,464	13,792	20,495	29,520	55,953	17,905	173,806
Feni	11	5,974	7,389	19,948	24,231	25,128	34,312	35,486	4,361	156,840
Lakshmipur	4	2,566	2,170	26,772	29,248	28,424	40,463	57,405	24,603	211,655
Noakhali	23	4,598	6,702	45,682	50,888	44,406	62,905	92,937	53,531	361,672
Gopalganj	62	20,809	1,431	12,743	20,992	28,211	49,273	110,778	33,886	278,185
Shariatpur	73	3,951	2,892	18,192	20,977	25,550	43,709	74,232	23,058	212,634
Bagerhat	6	4,050	2,595	26,359	28,836	30,065	49,536	126,567	63,659	331,673
Jessore	33	25,683	1,429	22,672	38,205	49,300	85,894	199,170	72,520	494,906
Khulna	2	10,239	2,598	17,528	20,064	27,923	43,042	112,821	61,240	295,457
Narail	112	10,587	1,796	10,300	11,615	13,873	25,568	76,855	21,991	172,697
Satkhira	97	21,193	6,026	24,650	28,280	38,458	56,973	139,519	68,816	384,012
Total CZ	584	252,168	86,014	552,630	542,810	581,335	878,277	1,793,364	729,218	5,416,400
Non-CZ	2,271	834,912	129,494	763,987	1,138,259	1,414,432	2,331,054	5,704,691	2,597,832	14,916,932
BD	2,855	1,087,080	215,508	1,316,617	1,681,069	1,995,767	3,209,331	7,498,055	3,327,050	20,333,332

Source: BBS, 1999

APPENDIX 19: SOURCES OF DRINKING WATER, 1991

District	Total HH	Sources of drinking water									
		Tap		Tube-well		Well		Pond		Canal / river	
		HH	%	HH	%	HH	%	HH	%	HH	%
Bagerhat	270,675	6,917	2.56	126,073	46.58	1,640	0.61	129,362	47.79	6,683	2.47
Barguna	145,211	391	0.27	105,183	72.43	740	0.51	30,191	20.79	8,706	6.00
Barisal	404,637	20,330	5.02	277,696	68.63	2,748	0.68	67,872	16.77	35,991	8.89
Bhola	262,798	1,253	0.48	209,787	79.83	1,696	0.65	38,828	14.77	11,234	4.27
Chandpur	350,200	8,428	2.41	275,384	78.64	1,249	0.36	51,810	14.79	13,329	3.81
Chittagong	854,450	92,986	10.88	586,372	68.63	29,174	3.41	134,733	15.77	11,185	1.31
Cox's Bazar	212,873	1,132	0.53	172,796	81.17	22,640	10.64	11,056	5.19	5,249	2.47
Feni	180,382	1,557	0.86	158,333	87.78	1,671	0.93	17,592	9.75	1,229	0.68
Gopalganj	189,869	1,169	0.62	165,161	86.99	2,614	1.38	11,015	5.80	9,910	5.22
Jessore	377,478	6,200	1.64	362,099	95.93	4,079	1.08	3,846	1.02	1,254	0.33
Jhalkati	123,854	1,882	1.52	62,701	50.62	435	0.35	41,500	33.51	17,336	14.00
Khulna	362,636	31,158	8.59	281,308	77.57	1,625	0.45	47,098	12.99	1,447	0.40
Lakshmipur	235,381	350	0.15	168,794	71.71	2,546	1.08	57,130	24.27	6,561	2.79
Narail	117,356	309	0.26	111,018	94.60	754	0.64	3,346	2.85	1,929	1.64
Noakhali	371,684	883	0.24	280,522	75.47	3,947	1.06	85,583	23.03	749	0.20
Patuakhali	224,284	3,886	1.73	163,387	72.85	2,116	0.94	39,570	17.64	15,325	6.83
Pirojpur	201,395	2,839	1.41	104,137	51.71	781	0.39	71,719	35.61	21,919	10.88
Satkhira	289,402	1,240	0.43	232,833	80.45	1,134	0.39	54,018	18.67	177	0.06
Shariatpur	173,367	148	0.09	148,933	85.91	860	0.50	15,352	8.86	8,074	4.66
Total CZ	5,347,932	183,058	3.42	3,992,517	74.66	82,449	1.54	911,621	17.05	178,287	3.33
Non-CZ	13,672,557	635,416	4.65	10,412,116	76.15	1,717,595	12.56	586,646	4.29	320,784	2.35
Bangladesh	19,020,489	818,474	4.30	14,404,633	75.73	1,800,044	9.46	1,498,267	7.88	499,071	2.62

Source: BBS, 1994

APPENDIX 20: RURAL WATER SUPPLY

District	Population (2001)	Area (km²)	Number of tube wells (2002)		Average number of persons per running tube-well	Choked tube wells as % of total tube wells	Number of running tube wells per km²
			Running	Choked			
Bagerhat	1,515,815	1,832	16,624	582	91	3.38	9
Barguna	837,955	2,791	11,492	358	73	3.02	4
Barisal	2,330,960	3,403	27,069	1,124	86	3.99	8
Bhola	1,676,600	758	9,832	431	171	4.20	13
Chandpur	2,210,162	3,205	19,659	553	112	2.74	6
Chittagong	6,545,078	1,308	42,306	4,819	155	10.23	32
Cox's Bazar	1,757,321	1,704	14,711	701	119	4.55	9
Feni	1,196,219	5,283	13,808	1,411	87	9.27	3
Gopalganj	1,132,046	2,492	14,121	536	80	3.66	6
Jessore	2,440,693	928	21,427	439	114	2.01	23
Jhalakati	696,055	1,458	9,711	1,040	72	9.67	7
Khulna	2,334,285	3,601	15,807	779	148	4.70	4
Lakshmipur	1,479,371	1,490	13,307	364	111	2.66	9
Narail	689,021	1,181	7,442	163	93	2.14	6
Noakhali	2,533,394	3,959	25,840	815	98	3.06	7
Patuakhali	1,444,340	2,567	11,007	419	131	3.67	4
Pirojpur	1,126,525	4,395	13,466	917	84	6.38	3
Satkhira	1,843,194	990	16,428	933	112	5.37	17
Shariatpur	1,057,181	3,858	12,629	461	84	3.52	3
Total CZ	34846215	47,203	316,686	16,845	110	5.05	7
Non-CZ	88305031	100,367	759,711	30,080	116	3.81	8
Bangladesh	123151246	147,570	1,076,397	46,925	114	4.18	7

Source: DPHE

APPENDIX 21: DISTRIBUTION OF HOUSEHOLDS BY SOURCE OF WATER FOR HOUSEHOLD WORK

District	Household (2001)	Source of water for household work					
		Only Tube well/tap/ring well		Only pond/river/other		Combine (TW/Tap/RW+Pond/River/Other)	
		%	Number	%	Number	%	Number
Bagerhat	321,634	8	26,374	85	271,781	7	23,158
Pirojpur	231,983	5	10,903	84	194,634	11	26,446
Satkhira	390,179	40	157,632	34	133,441	25	99,105
Khulna	494,603	43	211,195	41	202,787	16	80,620
Chandpur	422,697	11	44,806	59	249,814	30	128,077
Barguna	179,189	5	8,243	84	149,623	12	21,503
Chittagong	1,234,682	31	383,986	48	586,474	21	264,222
Bhola	328,559	14	45,998	72	236,562	14	46,327
Jhalakati	145,868	15	22,026	68	98,461	17	25,235
Noakhali	455,321	14	61,468	68	310,529	18	83,324
Gopalganj	217,445	39	84,151	47	101,764	15	31,530
Barisal	474,840	5	24,217	69	329,539	26	121,084
Feni	213,030	19	39,837	20	41,754	62	131,226
Shariatpur	213,239	28	59,280	41	87,002	32	67,170
Cox's Bazar	294,094	82	239,981	13	37,938	6	16,175
Patuakhali	288,605	4	12,699	65	187,305	31	88,602
Lakshmipur	288,214	5	13,258	79	228,842	16	45,826
Jessore	521,360	79	409,789	5	24,504	17	87,067
Narail	140,013	50	70,147	14	19,742	36	50,125
Total CZ	6,855,555	28	1,925,990	51	3,492,495	21	1,436,822
Non-CZ	18,506,766	77	14,229,808	10	1,909,679	13	2,367,526
Bangladesh	25,362,321	64	16,155,798	21	5,402,174	15	3,804,348

Source: Progotir Pathey-2000

APPENDIX 22: DISTRIBUTION OF HOUSEHOLD BY TYPE OF LATRINE

District	Household (2001)	Type of latrine							
		Water-sealed		Pit		Hanging		Open defecation	
		%	No.	%	No.	%	No.	%	No.
Bagerhat	321,634	7.4	23,801	48.6	156,314	41.8	134,443	6	19,298
Barguna	179,189	2.5	4,480	56.4	101,063	39.9	71,496	2.5	4,480
Barisal	474,840	8.3	39,412	45.8	217,477	40.8	193,735	7.3	34,663
Bhola	328,559	1.4	4,600	8.6	28,256	87.9	288,803	2.7	8,871
Chandpur	422,697	9.1	38,465	26.6	112,437	60.2	254,464	6.5	27,475
Chittagong	1,234,682	15.8	195,080	22.5	277,803	57.9	714,881	6.8	83,958
Cox's Bazar	294,094	3.9	11,470	17.9	52,643	47.2	138,812	31.4	92,346
Feni	213,030	23.1	49,210	38	80,951	37.1	79,034	4.5	9,586
Gopalganj	217,445	5.6	12,177	36.5	79,367	51.7	112,419	7.1	15,439
Jessore	521,360	13.5	70,384	43.4	226,270	8.7	45,358	39.4	205,416
Jhalkati	145,868	4.7	6,856	50.5	73,663	46.2	67,391	1.9	2,771
Khulna	494,603	19.4	95,953	36.2	179,046	42.9	212,185	4.2	20,773
Lakshmipur	288,214	10.4	29,974	38.6	111,251	51.5	148,430	7.1	20,463
Narail	140,013	28.2	39,484	39.9	55,865	23.5	32,903	18.9	26,462
Noakhali	455,321	9.6	43,711	18.5	84,234	68.7	312,806	5.8	26,409
Patuakhali	288,605	5.4	15,585	28	80,809	67.7	195,386	2.8	8,081
Pirojpur	231,983	14.9	34,565	74	171,667	11.4	26,446	0.9	2,088
Satkhira	390,179	15.4	60,088	56.7	221,231	18.7	72,963	9.2	35,896
Shariatpur	213,239	4.3	9,169	31	66,104	58.6	124,958	7	14,927
Total CZ	6,855,555	11.44	784,462	34.66	2376454	47.07	3226914	9.62	659403
Non-CZ	18,506,766	14.26	2,639,451	28.14	5,206,880	33.95	6,283,957	28.92	5,351,467
Bangladesh	25,362,321	13.5	3,423,913	29.9	7,583,334	37.5	9,510,870	23.7	6,010,870

Source: BBS and UNICEF 2000

APPENDIX 23: DISTRIBUTION OF HOUSEHOLD BY ELECTRICITY CONNECTION, 1991

District	Upazila/thana	Total households	With electricity connection	
			Number	**Percentage**
Patuakhali		224,284	7,702	3.43
	Baophal	50,029	628	1.26
	Dashmina	19,461	364	1.87
	Galachipa	48,797	975	2.00
	Kalapara	30,924	946	3.06
	Mirzaganj	20,844	630	3.02
	Patuakhali Sadar	54,229	4,159	7.67
Bhola		262,798	7,693	2.93
	Bhola	60,784	4,812	7.92
	Burhanuddin	36,909	831	2.25
	Char Fasson	62,841	847	1.35
	Daulatkhan	28,837	657	2.28
	Lalmohon	44,493	194	0.44
	Manpura	8,841	123	1.39
	Tazumuddin	20,093	229	1.14
Barisal		404,637	39,932	9.87
	Agailjhara	29,885	1,818	6.08
	Babuganj	24,717	2,562	10.37
	Bakerganj	61,947	955	1.54
	Banaripara	26,170	1,659	6.34
	Gournadi	31,005	3,641	11.74
	Hizla	29,711	403	1.36
	Barisal Sadar	71,404	25,026	35.05
	Mehendiganj	54,330	440	0.81
	Muladi	32,028	650	2.03
	Wazirpur	43,440	2,778	6.40
Jhalakati		123,854	7,103	5.73
	Jhalakati	35,516	3,794	10.68
	Kathalia	23,562	762	3.23
	Nalchity	37,053	1,782	4.81
	Rajapur	27,723	765	2.76
Pirojpur		201,395	12,147	6.03
	Bhandaria	27,491	2,089	7.60
	Kawkhali	13,519	846	6.26
	Mathbaria	47,564	879	1.85
	Nazirpur	31,351	877	2.80
	Pirojpur (Indurkani)	41,212	4,996	12.12
	Swarupkati	40,258	2,460	6.11
Barguna		145,211	3,822	2.63
	Amtali	44,952	893	1.99
	Bamna	12,589	144	1.14
	Barguna Sadar	40,757	1,926	4.73
	Betagi	21,773	484	2.22
	Patharghata	25,140	375	1.49
Gopalganj		189,869	5,305	2.79
	Gopalganj	50,922	3,084	6.06
	Kasiani	36,485	621	1.70
	Kotwalipara	37,084	237	0.64
	Muksudpur	49,448	1,043	2.11
	Tungipara	15,930	320	2.01
Shariatpur		173,367	5,853	3.38
	Bhedarganj	35,867	504	1.41

District	Upazila/thana	Total households	With electricity connection	
			Number	Percentage
	Damudya	17,923	1,213	6.77
	Goshairhat	22,526	431	1.91
	Naria	39,007	1,354	3.47
	Shariatpur Sadar	29,691	1,929	6.50
	Zanjira	28,353	422	1.49
Jessore		377,478	54,604	14.47
	Abhaynagar	36,595	5,870	16.04
	Bagherpara	28,448	1,502	5.28
	Chowgacha	33,662	1,337	3.97
	Jhikargachha	43,285	4,430	10.23
	Keshabpur	37,393	3,015	8.06
	Jessore Sadar	92,900	29,179	31.41
	Manirampur	59,400	5,851	9.85
	Sharsha	45,795	3,420	7.47
Khulna		362,636	120,343	33.19
	Batia ghata	23,486	616	2.62
	Dacope	25,026	1,139	4.55
	Daulatpur	15,979	11,646	72.88
	Dumuria	45,849	3,346	7.30
	Dighalia	20,063	8,951	44.61
	Khalishpur	31,817	26,339	82.78
	Khan Jahan Ali	16,296	10,669	65.47
	Khulna Sadar	33,825	26,686	78.89
	Koyra	27,927	59	0.21
	Paikgachha	40,749	1,246	3.06
	Phultala	12,830	2,259	17.61
	Rupsha	27,575	8,116	29.43
	Sonadanga	23,001	18,638	81.03
	Terokhada	18,213	633	3.48
Narail		117,356	2,986	2.54
	Kalia	36,248	379	1.05
	Lohagara	36,703	640	1.74
	Narail Sadar	44,405	1,967	4.43
Satkhira		289,402	16,245	5.61
	Assasuni	40,505	746	1.84
	Debhata	17,586	988	5.62
	Kalaroa	35,284	915	2.59
	Kaliganj	40,984	904	2.21
	Satkhira Sadar	61,443	9,892	16.10
	Shyamnagar	46,318	676	1.46
	Tala	47,282	2,124	4.49
Bagerhat		270,675	21,441	7.92
	Bagerhat Sadar	44,952	6,996	15.56
	Chitalmari	24,087	549	2.28
	Fakirhat	24,133	1,637	6.78
	Kachua	18,392	833	4.53
	Mollahat	21,228	1,310	6.17
	Mongla	25,029	5,016	20.04
	Morrelganj	60,840	2,614	4.30
	Rampal	32,770	961	2.93
	Sarankhola	19,244	1,525	7.92
Feni		180,382	24,993	13.86
	Chhagalnaiya	26,084	5,151	19.75
	Daganbhuiyan	33,514	3,527	10.52
	Feni Sadar	55,043	12,302	22.35

| District | Upazila/thana | Total households | With electricity connection | |
			Number	Percentage
	Parshuram	29,940	2,042	6.82
	Sonagazi	35,801	1,971	5.51
Chandpur		350,200	33,453	9.55
	Chandpur Sadar	67,961	14,296	21.04
	Faridganj	61,687	3,659	5.93
	Haimchar	20,820	630	3.03
	Hajiganj	43,914	4,816	10.97
	Kachua	49,734	2,662	5.35
	Matlab	75,163	4,341	5.78
	Shahresti	30,921	3,049	9.86
Lakshmipur		235,381	7,394	3.14
	Lakshmipur Sadar	94,047	3,418	3.63
	Raipur	39,919	1,329	3.33
	Ramganj	43,288	1,815	4.19
	Ramgati	58,127	832	1.43
Chittagong		854,450	318,051	37.22
	Anowara	37,120	3,679	9.91
	Banshkhali	54,989	1,483	2.70
	Boalkhali	32,449	5,314	16.38
	Chandanaish	29,097	3,840	13.20
	Chandgaon	35,000	28,199	80.57
	Chittagong Port	27,023	23,671	87.60
	Double Mooring	48,495	46,488	95.86
	Fatikchhari	64,610	15,061	23.31
	Hat Hazari	50,453	21,226	42.07
	Kotwali	32,593	38,072	116.81
	Lohagara	32,640	3,255	9.97
	Mirsarai	54,870	3,645	6.64
	Pahartali	31,736	26,950	84.92
	Panchlaish	29,851	25,567	85.65
	Patiya	67,432	24,798	36.77
	Rangunia	44,724	6,876	15.37
	Rawzan	44,762	7,760	17.34
	Sandwip	44,527	1,319	2.96
	Satkania	48,853	7,224	14.79
	Sitakunda	43,226	23,624	54.65
Cox's Bazar		212,873	11,784	5.54
	Chakaria	61,876	1,259	2.03
	Cox's Bazar	36,604	5,283	14.43
	Kutubdia	14,163	376	2.65
	Maheshkhali	32,341	1,906	5.89
	Ramu	26,254	1,601	6.10
	Teknaf	22,841	936	4.10
	Ukhia	18,794	423	2.25
Noakhali		371,684	37,424	10.07
	Begumganj	113,521	18,231	16.06
	Chatkhil	33,245	4,621	13.90
	Companiganj	29,706	2,421	8.15
	Hatiya	47,055	365	0.78
	Senbagh	36,839	2,884	7.83
	Noakhali Sadar	111,318	8,902	8.00
Total CZ		1,261,193	129,264	10.25
Non-CZ		17,759,296	2,643,142	14.88
Bangladesh		19,020,489	2,772,406	14.58

Source: BBS, 1994

APPENDIX 24: SALE OF PV BY DISTRICT

District	Up to 1977	1998	1999	2000	2001	2002 (up to June)	Total	Watts
Satkhira	0	54	148	207	211	156	775	41,714
Khulna	0	29	209	372	571	400	1,582	81,800
Cox's Bazar	0	0	0	25	127	92	244	12,063
Chittagong	0	0	0	4	217	293	514	26,746
Patuakhali-Barguna	0	4	91	162	407	306	970	49,956
Total CZ	0	87	448	770	1,533	1,247	4,085	212,279
Bangladesh	228	373	1,202	1,760	3,196	2,359	9,118	455,953

Source : Islam, 2002

APPENDIX 25: DISTRIBUTION OF HOUSEHOLDS BY WALL MATERIAL USED

District	Upazila/ Thana	Total households	Wall material									
			Straw/bamboo		Mud/unburnt brick		C.I/metal sheet		Wood		Cement/brick	
			Number	%	Number	%	Number	%	Number	%	Number	%
Barguna	Amtali	44,952	34,121	75.91	260	0.58	8,300	18.46	2,058	4.58	213	0.47
	Bamna	12,589	5,174	41.10	962	7.64	2,308	18.33	4,059	32.24	86	0.68
	Barguna sadar	40,757	27,388	67.20	314	0.77	7,159	17.57	5,425	13.31	471	1.16
	Betagi	21,773	8,689	39.91	198	0.91	4,980	22.87	7,742	35.56	164	0.75
	Patharghata	25,140	13,413	53.35	2,859	11.37	2,855	11.36	5,866	23.33	147	0.58
Barisal	Agailjhara	29,885	16,846	56.37	203	0.68	7,394	24.74	5,083	17.01	359	1.20
	Babuganj	24,717	11,324	45.81	287	1.16	9,832	39.78	2,680	10.84	594	2.40
	Bakerganj	61,947	27,000	43.59	865	1.40	19,498	31.48	13,369	21.58	1,215	1.96
	Banaripara	26,170	11,796	45.07	285	1.09	5,589	21.36	7,811	29.85	689	2.63
	Gauronadi	31,005	16,308	52.60	244	0.79	11,136	35.92	2,545	8.21	772	2.49
	Hizla	29,711	20,323	68.40	136	0.46	8,492	28.58	641	2.16	119	0.40
	Barisal Sadar	71,404	30,610	42.87	930	1.30	24,571	34.41	6,540	9.16	8,753	12.26
	Mehendiganj	54,330	31,830	58.59	332	0.61	19,854	36.54	1,995	3.67	319	0.59
	Muladi	32,028	18,251	56.98	171	0.53	12,949	40.43	517	1.61	140	0.44
	Wazirpur	43,440	21,228	48.87	388	0.89	11,088	25.52	10,216	23.52	520	1.20
Bhola	Bhola sadar	60,784	38,858	63.93	490	0.81	13,282	21.85	6,678	10.99	1,476	2.43
	Burhannuddin	36,909	27,423	74.30	555	1.50	6,164	16.70	2,371	6.42	396	1.07
	Char fassion	62,841	50,477	80.32	278	0.44	10,684	17.00	1,135	1.81	267	0.42
	Daulatkhan	28,837	18,422	63.88	296	1.03	7,057	24.47	2,886	10.01	176	0.61
	Lalmohan	44,493	34,742	78.08	203	0.46	7,142	16.05	2,247	5.05	159	0.36
	Manpura	8,841	7,458	84.36	45	0.51	1,100	12.44	77	0.87	161	1.82
	Tazumuddin	20,093	15,384	76.56	103	0.51	3,421	17.03	1,108	5.51	77	0.38
Jhalakati	Jhalkathi	35,516	12,605	35.49	548	1.54	9,416	26.51	11,335	31.92	1,612	4.54
	Kathaliya	23,562	7,822	33.20	426	1.81	2,790	11.84	12,267	52.06	257	1.09
	Nalchhiti	37,053	13,455	36.31	1,653	4.46	11,286	30.46	9,824	26.51	835	2.25
	Rajapur	27,723	9,815	35.40	352	1.27	4,137	14.92	12,895	46.51	524	1.89
Patuakhali	Baophal	50,029	26,410	52.79	537	1.07	16,104	32.19	6,673	13.34	305	0.61
	Dashmina	19,461	14,264	73.30	109	0.56	3,799	19.52	1,162	5.97	127	0.65
	Galachipa	48,797	38,198	78.28	273	0.56	8,581	17.59	1,472	3.02	273	0.56

District	Upazila/ Thana	Total households	Wall material									
			Straw/bamboo		Mud/unburnt brick		C.I/metal sheet		Wood		Cement/brick	
			Number	%	Number	%	Number	%	Number	%	Number	%
	Kalapara	30,924	25,391	82.11	200	0.65	4,201	13.58	889	2.87	243	0.79
	Mirzaganj	20,844	8,416	40.38	128	0.61	6,289	30.17	5,783	27.74	228	1.09
	Patuakhali sadar	54,229	29,294	54.02	268	0.49	18,526	34.16	4,705	8.68	1,436	2.65
Pirojpur	Bhandaria	27,491	9,860	35.87	822	2.99	1,915	6.97	14,543	52.90	351	1.28
	Kawkhali	13,519	3,428	25.36	104	0.77	1,314	9.72	8,317	61.52	356	2.63
	Mathbaria	47,564	18,297	38.47	7,770	16.34	6,439	13.54	14,550	30.59	508	1.07
	Nazirpur	31,351	17,797	56.77	781	2.49	1,119	3.57	11,437	36.48	217	0.69
	Pirojpur sadar	41,212	13,928	33.80	416	1.01	2,044	4.96	23,700	57.51	1,124	2.73
	Swarupkathi	40,258	14,165	35.19	346	0.86	2,745	6.82	22,343	55.50	659	1.64
Chandpur	Chandpur sadar	67,961	43,200	63.57	1,110	1.63	19,086	28.08	486	0.72	4,079	6.00
	Faridganj	61,687	35,528	57.59	580	0.94	24,457	39.65	272	0.44	850	1.38
	Haimchar	20,820	14,203	68.22	116	0.56	6,424	30.85	28	0.13	49	0.24
	Hajiganj	43,914	29,375	66.89	362	0.82	13,134	29.91	259	0.59	784	1.79
	Kachua	49,734	34,711	69.79	497	1.00	13,966	28.08	234	0.47	326	0.66
	Matlab	75,163	44,763	59.55	573	0.76	28,906	38.46	107	0.14	814	1.08
	Shahrasti	30,921	22,284	72.07	270	0.87	7,690	24.87	326	1.05	351	1.14
Chittagong	Anowara	37,120	12,767	34.39	20,992	56.55	313	0.84	64	0.17	2,984	8.04
	Banshkhali	54,989	12,649	23.00	40,353	73.38	558	1.01	110	0.20	1,319	2.40
	Boalkhali	32,449	16,649	51.31	13,403	41.30	335	1.03	85	0.26	1,977	6.09
	Chandonaish	29,097	12,844	44.14	14,835	50.98	215	0.74	122	0.42	1,081	3.72
	Chandgaon	35,000	19,259	55.03	3,360	9.60	722	2.06	397	1.13	11,262	32.18
	Chittagong port	27,023	12,574	46.53	892	3.30	376	1.39	327	1.21	12,854	47.57
	Double mooring	48,495	23,201	47.84	1,762	3.63	897	1.85	212	0.44	22,423	46.24
	Fatikchari	64,610	33,343	51.61	25,966	40.19	1,051	1.63	511	0.79	3,739	5.79
	Hathazari	50,453	26,865	53.25	13,725	27.20	874	1.73	517	1.02	8,472	16.79
	Kotwali	32,593	10,568	32.42	783	2.40	948	2.91	297	0.91	19,997	61.35
	Lohagara	32,640	6,216	19.04	24,750	75.83	409	1.25	34	0.10	1,231	3.77
	Mirsarai	54,870	43,526	79.33	6,003	10.94	2,962	5.40	831	1.51	1,548	2.82
	Pahartali	31,736	14,523	45.76	2,582	8.14	567	1.79	50	0.16	14,014	44.16
	Panchlaish	29,851	12,399	41.54	4,289	14.37	503	1.69	136	0.46	12,524	41.96
	Patiya	67,432	28,946	42.93	33,713	50.00	732	1.09	232	0.34	3,809	5.65
	Rangunia	44,724	18,829	42.10	23,784	53.18	312	0.70	73	0.16	1,726	3.86

District	Upazila/ Thana	Total households	Wall material									
			Straw/bamboo		Mud/unburnt brick		C.I/metal sheet		Wood		Cement/brick	
			Number	%	Number	%	Number	%	Number	%	Number	%
	Rawzan	44,762	22,724	50.77	16,067	35.89	931	2.08	478	1.07	4,562	10.19
	Sandwip	44,527	33,584	75.42	372	0.84	9,739	21.87	260	0.58	572	1.28
	Satkania	48,853	21,071	43.13	24,304	49.75	422	0.86	125	0.26	2,931	6.00
	Sitakunda	43,226	31,214	72.21	7,150	16.54	594	1.37	457	1.06	3,811	8.82
Cox's Bazar	Chakaria	61,876	40,817	65.97	17,765	28.71	869	1.40	358	0.58	2,067	3.34
	Cox'sbazar sadar	36,604	22,354	61.07	9,292	25.39	591	1.61	1,628	4.45	2,739	7.48
	Kutubdia	14,163	4,093	28.90	9,678	68.33	121	0.85	6	0.04	265	1.87
	Maheshkhali	32,341	7,785	24.07	23,281	71.99	513	1.59	119	0.37	643	1.99
	Ramu	26,254	18,159	69.17	5,072	19.32	258	0.98	2,096	7.98	669	2.55
	Teknaf	22,841	17,838	78.10	3,589	15.71	132	0.58	449	1.97	833	3.65
	Ukhia	18,794	9,753	51.89	8,193	43.59	151	0.80	267	1.42	430	2.29
Feni	Chagalnaiya	26,084	15,615	59.86	6,299	24.15	2,540	9.74	395	1.51	1,235	4.73
	Dagonbhuiya	33,514	26,702	79.67	645	1.92	4,170	12.44	552	1.65	1,445	4.31
	Feni	55,043	36,642	66.57	6,222	11.30	5,456	9.91	856	1.56	5,867	10.66
	Parshuram	29,940	19,557	65.32	6,932	23.15	2,197	7.34	107	0.36	1,147	3.83
	Sonagaji	35,801	30,762	85.92	1,173	3.28	2,873	8.02	273	0.76	720	2.01
Lakshmipur	Lakshmipur sadar	94,047	70,230	74.68	1,026	1.09	18,956	20.16	1,979	2.10	1,856	1.97
	Raipur	39,919	27,202	68.14	382	0.96	11,067	27.72	362	0.91	906	2.27
	Ramganj	43,288	29,975	69.25	310	0.72	11,975	27.66	392	0.91	636	1.47
	Ramgati	58,127	48,075	82.71	343	0.59	6,677	11.49	2,711	4.66	321	0.55
Noakhali	Chatkhil	33,245	23,932	71.99	394	1.19	7,818	23.52	279	0.84	822	2.47
	Companiganj	29,706	25,194	84.81	243	0.82	3,605	12.14	160	0.54	504	1.70
	Hatiya	47,055	41,421	88.03	210	0.45	4,078	8.67	1,020	2.17	326	0.69
	Senbagh	36,839	26,779	72.69	642	1.74	8,235	22.35	372	1.01	811	2.20
	Noakhali Sadar	111,318	94,299	84.71	992	0.89	10,456	9.39	2,290	2.06	3,281	2.95
Gopalganj	Gopalganj	50,922	34,582	67.91	433	0.85	13,083	25.69	1,385	2.72	1,439	2.83
	Kasiani	36,485	25,623	70.23	198	0.54	8,748	23.98	1,314	3.60	602	1.65
	Kowtalipara	37,084	27,449	74.02	179	0.48	8,157	22.00	1,096	2.96	203	0.55
	Muksudpur	49,448	34,873	70.52	343	0.69	12,940	26.17	643	1.30	649	1.31
	Tungipara	15,930	11,940	74.95	136	0.85	2,738	17.19	991	6.22	125	0.78
Shariatpur	Bhedarganj	35,867	25,604	71.39	222	0.62	9,812	27.36	104	0.29	125	0.35

District	Upazila/ Thana	Total households	Wall material										
			Straw/bamboo		Mud/unburnt brick		C.I/metal sheet		Wood		Cement/brick	
			Number	%	Number	%	Number	%	Number	%	Number	%
	Damudya	17,923	12,004	66.98	93	0.52	5,594	31.21	52	0.29	180	1.00
	Goshairhat	22,526	17,578	78.03	101	0.45	4,713	20.92	58	0.26	76	0.34
	Naria	39,007	20,912	53.61	282	0.72	17,187	44.06	326	0.84	300	0.77
	Shariatpur sadar	29,691	19,913	67.07	241	0.81	8,851	29.81	332	1.12	354	1.19
	Zanjira	28,353	19,697	69.47	152	0.54	8,393	29.60	20	0.07	91	0.32
Bagerhat	Bagerhat sadar	44,952	21,840	48.59	6,561	14.60	679	1.51	10,195	22.68	5,677	12.63
	Chitolmari	24,087	16,411	68.13	436	1.81	1,621	6.73	5,404	22.44	215	0.89
	Fakirhat	24,133	12,719	52.70	4,973	20.61	140	0.58	3,707	15.36	2,594	10.75
	Kachua	18,392	8,268	44.95	1,149	6.25	213	1.16	8,492	46.17	270	1.47
	Mollahat	21,228	16,333	76.94	106	0.50	2,034	9.58	2,518	11.86	237	1.12
	Mongla	25,029	17,481	69.84	2,051	8.19	513	2.05	3,873	15.47	1,111	4.44
	Morelganj	60,840	30,295	49.79	1,484	2.44	2,796	4.60	25,615	42.10	650	1.07
	Rampal	32,770	19,817	60.47	2,067	6.31	647	1.97	9,646	29.44	593	1.81
	Sarankhola	19,244	9,638	50.08	915	4.75	552	2.87	7,939	41.25	200	1.04
Jessore	Abhaynagar	36,595	11,787	32.21	14,841	40.55	187	0.51	1,933	5.28	7,847	21.44
	Bagherpara	28,448	11,138	39.15	13,716	48.21	213	0.75	1,432	5.03	1,949	6.85
	Chowgacha	33,662	3,984	11.84	24,091	71.57	179	0.53	33	0.10	5,375	15.97
	Jhikorgacha	43,285	4,068	9.40	31,492	72.75	35	0.08	81	0.19	7,609	17.58
	Keshabpur	37,393	2,962	7.92	28,677	76.69	21	0.06	118	0.32	5,615	15.02
	Jessore sadar	92,900	24,186	26.03	39,455	42.47	548	0.59	1,082	1.16	27,629	29.74
	Manirampur	59,400	7,832	13.19	43,109	72.57	69	0.12	89	0.15	8,301	13.97
	Sharsha	45,795	5,647	12.33	33,897	74.02	88	0.19	83	0.18	6,080	13.28
Khulna	Batiaghata	23,486	7,767	33.07	13,269	56.50	162	0.69	1,431	6.09	857	3.65
	Dacope	25,026	10,972	43.84	11,485	45.89	219	0.88	1,577	6.30	773	3.09
	Daulatpur	15,979	8,233	51.52	1,239	7.75	450	2.82	516	3.23	5,541	34.68
	Dumuria	45,849	6,806	14.84	33,526	73.12	99	0.22	549	1.20	4,869	10.62
	Dighalia	20,063	9,981	49.75	5,267	26.25	338	1.68	1,329	6.62	3,148	15.69
	Khalishpur	31,817	15,476	48.64	742	2.33	374	1.18	610	1.92	14,615	45.93
	Khan Jahan Ali	16,296	5,885	36.11	4,381	26.88	77	0.47	249	1.53	5,704	35.00
	Khulna	33,825	16,567	48.98	645	1.91	436	1.29	2,270	6.71	13,907	41.11
	Koyra	27,927	5,260	18.83	21,101	75.56	8	0.03	1,036	3.71	522	1.87
	Paikgachha	40,749	8,631	21.18	27,419	67.29	45	0.11	905	2.22	3,749	9.20
	Phultala	12,830	2,674	20.84	6,148	47.92	16	0.12	227	1.77	3,765	29.35

District	Upazila/ Thana	Total households	Wall material									
			Straw/bamboo		Mud/unburnt brick		C.I/metal sheet		Wood		Cement/brick	
			Number	%	Number	%	Number	%	Number	%	Number	%
	Rupsha	27,575	14,336	51.99	7,041	25.53	333	1.21	1,842	6.68	4,023	14.59
	Sonadanga	23,001	11,737	51.03	864	3.76	331	1.44	274	1.19	9,795	42.59
	Tarokhada	18,213	13,215	72.56	653	3.59	1,649	9.05	2,343	12.86	353	1.94
Narail	Kalia	36,248	24,887	68.66	1,119	3.09	2,580	7.12	5,998	16.55	1,664	4.59
	Lohagara	36,703	27,767	75.65	344	0.94	2,554	6.96	4,325	11.78	1,713	4.67
	Narail sadar	44,405	31,347	70.59	3,839	8.65	747	1.68	5,040	11.35	3,432	7.73
Satkhira	Asasuni	40,505	4,208	10.39	33,369	82.38	62	0.15	923	2.28	1,943	4.80
	Debhata	17,586	1,300	7.39	14,011	79.67	9	0.05	74	0.42	2,192	12.46
	Kalaroa	35,284	1,311	3.72	28,974	82.12	15	0.04	21	0.06	4,963	14.07
	Kaliganj	40,984	6,032	14.72	31,867	77.75	38	0.09	359	0.88	2,688	6.56
	Satkhira sadar	61,443	5,471	8.90	44,980	73.21	80	0.13	135	0.22	10,777	17.54
	Shyamnagar	46,318	7,517	16.23	36,292	78.35	33	0.07	1,301	2.81	1,175	2.54
	Tala	47,282	6,700	14.17	33,916	71.73	44	0.09	300	0.63	6,322	13.37
Total CZ		5,234,411	2,753,870	52.61	1,024,304	19.57	666,871	12.74	400,840	7.66	388,526	7.42
Non-CZ		13,786,078	7,938,131	57.58	3,287,009	23.84	1,369,656	9.94	49,053	0.36	1,142,229	8.29
Bangladesh		19,020,489	10,692,001	56.21	4,311,313	22.67	2,036,527	10.71	449,893	2.37	1,530,755	8.05

Source: BBS, 1995

APPENDIX 26: DISTRIBUTION OF HOUSEHOLDS BY ROOF MATERIAL USED, 1991

District	Upazila/thana	Total household	Roof material					
			Straw/bamboo/ polythene		Tiles/C.I/metal sheet		Cement	
			Number	%	Number	%	Number	%
Barguna	Amtali	44,952	35,242	78.40	9,562	21.27	148	0.33
	Bamna	12,589	7,054	56.03	5,473	43.47	62	0.49
	Barguna sadar	40,757	29,332	71.97	11,127	27.30	298	0.73
	Betagi	21,773	8,923	40.98	12,753	58.57	97	0.45
	Patharghata	25,140	19,525	77.67	5,508	21.91	107	0.43
Barisal	Agailjhara	29,885	7,456	24.95	22,175	74.20	254	0.85
	Babuganj	24,717	7,353	29.75	16,954	68.59	410	1.66
	Bakerganj	61,947	18,616	30.05	42,863	69.19	468	0.76
	Banaripara	26,170	11,621	44.41	14,067	53.75	482	1.84
	Gauronadi	31,005	8,757	28.24	21,752	70.16	496	1.60
	Hizla	29,711	14,704	49.49	14,919	50.21	88	0.30
	Barisal Sadar	71,404	23,639	33.11	41,723	58.43	6,042	8.46
	Mehendiganj	54,330	24,606	45.29	29,551	54.39	173	0.32
	Muladi	32,028	12,664	39.54	19,277	60.19	87	0.27
	Wazirpur	43,440	15,347	35.33	27,771	63.93	322	0.74
Bhola	Bhola sadar	60,784	34,857	57.35	25,289	41.60	638	1.05
	Burhannuddin	36,909	24,357	65.99	12,402	33.60	150	0.41
	Char fassion	62,841	49,072	78.09	13,641	21.71	128	0.20
	Daulatkhan	28,837	15,693	54.42	13,072	45.33	72	0.25
	Lalmohan	44,493	32,804	73.73	11,617	26.11	72	0.16
	Manpura	8,841	7,122	80.56	1,568	17.74	151	1.71
	Tazumuddin	20,093	14,553	72.43	5,477	27.26	63	0.31
Jhalakati	Jhalkathi	35,516	12,731	35.85	21,784	61.34	1,001	2.82
	Kathaliya	23,562	10,369	44.01	13,055	55.41	138	0.59
	Nalchhiti	37,053	11,102	29.96	25,493	68.80	458	1.24
	Rajapur	27,723	12,934	46.65	14,494	52.28	295	1.06
Patuakhali	Baophal	50,029	22,300	44.57	27,562	55.09	167	0.33
	Dashmina	19,461	13,192	67.79	6,225	31.99	44	0.23
	Galachipa	48,797	38,469	78.83	10,196	20.89	132	0.27
	Kalapara	30,924	26,449	85.53	4,294	13.89	181	0.59
	Mirzaganj	20,844	8,414	40.37	12,339	59.20	91	0.44
	Patuakhali sadar	54,229	26,377	48.64	27,000	49.79	852	1.57
Pirojpur	Bhandaria	27,491	15,637	56.88	11,636	42.33	218	0.79
	Kawkhali	13,519	6,096	45.09	7,232	53.50	191	1.41
	Mathbaria	47,564	30,264	63.63	17,023	35.79	277	0.58
	Nazirpur	31,351	21,660	69.09	9,580	30.56	111	0.35
	Pirojpur sadar	41,212	23,234	56.38	17,326	42.04	652	1.58
	Swarupkathi	40,258	19,753	49.07	20,108	49.95	397	0.99
Chandpur	Chandpur sadar	67,961	11,796	17.36	53,814	79.18	2,351	3.46
	Faridganj	61,687	8,536	13.84	52,745	85.50	406	0.66
	Haimchar	20,820	6,594	31.67	14,209	68.25	17	0.08
	Hajiganj	43,914	6,037	13.75	37,429	85.23	448	1.02
	Kachua	49,734	15,901	31.97	33,656	67.67	177	0.36
	Matlab	75,163	8,398	11.17	66,349	88.27	416	0.55
	Shahrasti	30,921	6,972	22.55	23,738	76.77	211	0.68
Chittagong	Anowara	37,120	25,398	68.42	9,997	26.93	1,725	4.65
	Banshkhali	54,989	43,329	78.80	10,994	19.99	666	1.21
	Boalkhali	32,449	15,314	47.19	15,730	48.48	1,405	4.33
	Chandonaish	29,097	17,049	58.59	11,450	39.35	598	2.06
	Chandgaon	35,000	14,144	40.41	13,372	38.21	7,484	21.38

District	Upazila/thana	Total household	Roof material					
			Straw/bamboo/ polythene		Tiles/C.I/metal sheet		Cement	
			Number	%	Number	%	Number	%
	Chittagong port	27,023	6,885	25.48	10,564	39.09	9,574	35.43
	Double mooring	48,495	17,970	37.06	14,899	30.72	15,626	32.22
	Fatikchari	64,610	40,053	61.99	22,549	34.90	2,008	3.11
	Hathazari	50,453	20,937	41.50	24,354	48.27	5,162	10.23
	Kotwali	32,593	5,718	17.54	11,519	35.34	15,356	47.11
	Lohagara	32,640	22,258	68.19	9,664	29.61	718	2.20
	Mirsarai	54,870	25,562	46.59	28,396	51.75	912	1.66
	Pahartali	31,736	12,901	40.65	9,551	30.10	9,284	29.25
	Panchlaish	29,851	12,884	43.16	9,060	30.35	7,907	26.49
	Patiya	67,432	39,643	58.79	25,194	37.36	2,595	3.85
	Rangunia	44,724	25,769	57.62	18,007	40.26	948	2.12
	Rawzan	44,762	16,505	36.87	25,254	56.42	3,003	6.71
	Sandwip	44,527	22,799	51.20	21,413	48.09	315	0.71
	Satkania	48,853	29,905	61.21	17,459	35.74	1,489	3.05
	Sitakunda	43,226	24,364	56.36	16,520	38.22	2,342	5.42
Cox's Bazar	Chakaria	61,876	49,442	79.90	11,561	18.68	873	1.41
	Cox'sbazar sadar	36,604	23,401	63.93	11,906	32.53	1,297	3.54
	Kutubdia	14,163	10,244	72.33	3,776	26.66	143	1.01
	Maheshkhali	32,341	23,412	72.39	8,653	26.76	276	0.85
	Ramu	26,254	20,052	76.38	5,982	22.79	220	0.84
	Teknaf	22,841	20,052	87.79	2,415	10.57	374	1.64
	Ukhia	18,794	15,991	85.09	2,657	14.14	146	0.78
Feni	Chagalnaiya	26,084	5,778	22.15	19,803	75.92	503	1.93
	Dagonbhuiya	33,514	11,246	33.56	21,600	64.45	668	1.99
	Feni	55,043	13,276	24.12	39,200	71.22	2,567	4.66
	Parshuram	29,940	10,627	35.49	18,969	63.36	344	1.15
	Sonagaji	35,801	15,685	43.81	19,753	55.17	363	1.01
Lakshmipur	Lakshmipur sadar	94,047	32,603	34.67	60,533	64.36	911	0.97
	Raipur	39,919	12,727	31.88	26,748	67.01	444	1.11
	Ramganj	43,288	4,973	11.49	37,993	87.77	322	0.74
	Ramgati	58,127	44,011	75.72	13,976	24.04	140	0.24
Noakhali	Chatkhil	33,245	3,937	11.84	28,873	86.85	435	1.31
	Companiganj	29,706	11,751	39.56	17,703	59.59	252	0.85
	Hatiya	47,055	36,702	78.00	10,171	21.62	182	0.39
	Senbagh	36,839	13,238	35.93	23,236	63.07	365	0.99
	Noakhali Sadar	111,318	66,120	59.40	43,307	38.90	1,891	1.70
Gopalganj	Gopalganj	50,922	17,848	35.05	32,229	63.29	845	1.66
	Kasiani	36,485	14,417	39.51	21,764	59.65	304	0.83
	Kowtalipara	37,084	15,249	41.12	21,665	58.42	170	0.46
	Muksudpur	49,448	15,031	30.40	33,985	68.73	432	0.87
	Tungipara	15,930	8,175	51.32	7,661	48.09	94	0.59
Shariatpur	Bhedarganj	35,867	14,734	41.08	21,033	58.64	100	0.28
	Damudya	17,923	5,611	31.31	12,189	68.01	123	0.69
	Goshairhat	22,526	11,227	49.84	11,250	49.94	49	0.22
	Naria	39,007	10,560	27.07	28,243	72.40	204	0.52
	Shariatpur sadar	29,691	11,392	38.37	18,076	60.88	223	0.75
	Zanjira	28,353	13,716	48.38	14,567	51.38	70	0.25
Bagerhat	Bagerhat sadar	44,952	28,785	64.03	13,238	29.45	2,929	6.52
	Chitolmari	24,087	14,735	61.17	9,226	38.30	126	0.52
	Fakirhat	24,133	15,799	65.47	7,578	31.40	756	3.13
	Kachua	18,392	13,234	71.96	4,989	27.13	169	0.92
	Mollahat	21,228	11,102	52.30	10,031	47.25	95	0.45
	Mongla	25,029	21,562	86.15	2,680	10.71	787	3.14

District	Upazila/thana	Total household	Roof material					
			Straw/bamboo/ polythene		Tiles/C.I/metal sheet		Cement	
			Number	%	Number	%	Number	%
	Morelganj	60,840	48,171	79.18	12,273	20.17	396	0.65
	Rampal	32,770	26,886	82.04	5,518	16.84	366	1.12
	Sarankhola	19,244	15,995	83.12	3,103	16.12	146	0.76
Jessore	Abhaynagar	36,595	16,805	45.92	16,936	46.28	2,854	7.80
	Bagherpara	28,448	12,894	45.32	15,192	53.40	362	1.27
	Chowgacha	33,662	15,036	44.67	17,317	51.44	1,309	3.89
	Jhikorgacha	43,285	16,920	39.09	23,777	54.93	2,588	5.98
	Keshabpur	37,393	11,284	30.18	23,851	63.78	2,258	6.04
	Jessore sadar	92,900	36,018	38.77	42,515	45.76	14,367	15.47
	Manirampur	59,400	23,515	39.59	33,656	56.66	2,229	3.75
	Sharsha	45,795	20,290	44.31	23,439	51.18	2,066	4.51
Khulna	Batiaghata	23,486	19,556	83.27	3,394	14.45	536	2.28
	Dacope	25,026	22,823	91.20	1,762	7.04	441	1.76
	Daulatpur	15,979	9,515	59.55	3,007	18.82	3,457	21.63
	Dumuria	45,849	28,062	61.21	15,283	33.33	2,504	5.46
	Dighalia	20,063	12,332	61.47	6,218	30.99	1,513	7.54
	Khalishpur	31,817	17,053	53.60	4,442	13.96	10,322	32.44
	Khan Jahan Ali	16,296	8,341	51.18	4,562	27.99	3,393	20.82
	Khulna	33,825	19,626	58.02	3,269	9.66	10,930	32.31
	Koyra	27,927	26,503	94.90	1,135	4.06	289	1.03
	Paikgacha	40,749	30,066	73.78	8,702	21.36	1,981	4.86
	Phultala	12,830	5,053	39.38	6,286	48.99	1,491	11.62
	Rupsha	27,575	19,439	70.50	6,400	23.21	1,736	6.30
	Sonadanga	23,001	13,453	58.49	2,121	9.22	7,427	32.29
	Tarokhada	18,213	8,893	48.83	9,147	50.22	173	0.95
Narail	Kalia	36,248	16,976	46.83	18,696	51.58	576	1.59
	Lohagara	36,703	17,831	48.58	18,164	49.49	708	1.93
	Narail sadar	44,405	26,041	58.64	16,942	38.15	1,422	3.20
Satkhira	Asasuni	40,505	31,993	78.99	7,430	18.34	1,082	2.67
	Debhata	17,586	13,575	77.19	2,908	16.54	1,103	6.27
	Kalaroa	35,284	6,928	19.63	26,597	75.38	1,759	4.99
	Kaliganj	40,984	36,720	89.60	2,752	6.71	1,512	3.69
	Satkhira sadar	61,443	28,009	45.59	28,447	46.30	4,987	8.12
	Shyamnagar	46,318	44,088	95.19	1,634	3.53	596	1.29
	Tala	47,282	21,598	45.68	22,923	48.48	2,761	5.84
Total CZ		5,234,411	2,642,632	50.49	2,370,791	45.29	220,988	4.22
Non-CZ		13,786,078	6,345,720	46.03	6,880,034	49.91	560,324	4.06
Bangladesh		19,020,489	8,988,352	47.26	9,250,825	48.64	781,312	4.11

Source: BBS, 1995

APPENDIX 27: DISTRIBUTION OF HOUSEHOLD AS PER CATTLE HOLDING IN 1996

District	Total holding	Holding reporting cattle		Number of cattle	Cattle per holding
		No.	**%**		
Bagerhat	251,453	88,631	35.25	265,244	2.99
Bhola	268,680	95,185	35.43	241,950	2.54
Cox's Bazar	237,095	84,555	35.66	247,440	2.93
Lakshmipur	237,716	85,565	35.99	180,629	2.11
Noakhali	373,120	136,258	36.52	303,394	2.23
Pirojpur	216,480	80,442	37.16	244,938	3.04
Chandpur	359,978	137,596	38.22	279,825	2.03
Khulna	211,196	92,636	43.86	305,714	3.30
Shariatpur	189,056	83,602	44.22	172,719	2.07
Barisal	366,421	164,342	44.85	403,665	2.46
Jhalakati	110,635	49,827	45.04	146,380	2.94
Feni	185,093	83,734	45.24	176,992	2.11
Chittagong	565,703	257,510	45.52	623,919	2.42
Gopalganj	183,501	87,222	47.53	209,440	2.40
Patuakhali	243,330	117,936	48.47	382,443	3.24
Satkhira	306,877	150,735	49.12	421,081	2.79
Barguna	146,470	74,200	50.66	256,100	3.45
Jessore	390,716	224,552	57.47	604,769	2.69
Narail	106,380	62,899	59.13	163,572	2.60
Total CZ	4,949,900	2,157,427	43.59	5,630,214	2.61
Non-CZ	12,878,287	6,013,867	46.70	15,941,926	2.65
Bangladesh	17,828,187	8,171,294	45.83	21,572,140	2.64

Source: BBS, 1999

APPENDIX 28: ROAD DENSITY

District	Area (km²)	Length of road (km)					Density of road (km/km²)
		RHD	FRB	Rural Road Class 1	Rural Road Class 2	Total	
Bhola	3,403	218	74	549	432	1,273	0.37
Narail	990	91	80	128	137	435	0.44
Khulna	4,395	306	307	621	829	2,063	0.47
Cox's Bazar	2,492	297	30	421	447	1,195	0.48
Bagerhat	3,959	259	149	764	947	2,120	0.54
Satkhira	3,858	221	185	1,029	1,174	2,609	0.68
Patuakhali	3,205	194	151	607	1,242	2,194	0.68
Barguna	1,832	194	154	412	532	1,291	0.70
Noakhali	3,601	366	97	619	1,573	2,656	0.74
Chandpur	1,704	207	152	358	540	1,257	0.74
Lakshmipur	1,458	203	44	434	405	1,086	0.75
Chittagong	5,283	799	95	1,107	1,978	3,979	0.75
Gopalganj	1,490	190	115	505	385	1,195	0.80
Barisal	2,791	325	178	1,049	893	2,445	0.88
Shariatpur	1,181	306	75	378	336	1,094	0.93
Jhalakati	758	138	108	70	420	736	0.97
Pirojpur	1,308	147	80	416	718	1,361	1.04
Jessore	2,567	366	125	1,119	1,589	3,199	1.25
Feni	928	235	52	258	792	1,337	1.44
Total CZ	47,203	5,063	2,251	10,844	15,369	33,527	0.71
Non-CZ	100,367	10,155	6,153	21,830	29,492	67,630	0.67
Bangladesh	147,570	15,218	8,403	32,674	44,861	101,156	0.69
% CZ	32	33	27	33	34	33	

Source: World Bank, 1996.

APPENDIX 29: OWNERSHIP OF SELECTED PHYSICAL ASSETS

District	% of households possessing		
	Radio	TV	Bicycle
Shariatpur	8.8	0.9	2.5
Chandpur	12.6	1.5	4.4
Cox's Bazar	12.9	2.1	1.9
Bhola	14.1	0.9	5.1
Patuakhali	14.4	1.1	17.0
Lakshmipur	14.7	0.5	6.5
Narail	14.7	1.6	14.5
Noakhali	16.2	1.9	7.5
Pirojpur	17.0	1.4	1.7
Gopalganj	18.2	1.1	4.9
Jhalakati	18.5	0.9	2.4
Barguna	18.7	0.7	2.2
Barisal	20.4	0.6	6.7
Feni	21.0	3.7	8.5
Chittagong	22.0	10.7	6.4
Bagerhat	23.1	2.9	9.6
Jessore	26.6	3.9	33.9
Khulna	28.7	7.9	14.0
Satkhira	33.5	2.8	31.6
CZ weighted average	19.8	3.7	10.2
Bangladesh	17.7	3.8	11.9

Source: BBS, 1994.

APPENDIX 30: DISTRIBUTION OF GROWTH CENTERS

District	Area (km^2)	Number of growth centers	Average area/growth center (km^2)
Feni	928	20	46
Chandpur	1,704	36	47
Shariatpur	1,181	24	49
Jhalakati	758	14	54
Pirojpur	1,308	23	57
Jessore	2,567	41	63
Barisal	2,791	43	65
Narail	990	15	66
Lakshmipur	1,458	22	66
Chittagong	5,283	72	73
Gopalganj	1,490	20	75
Cox's Bazar	2,492	33	76
Barguna	1,832	23	80
Bagerhat	3,959	39	102
Satkhira	3,858	38	102
Patuakhali	3,205	28	114
Khulna	4,395	38	116
Noakhali	3,601	31	116
Bhola	3,403	28	122
Total CZ	47,203	588	80
Non-CZ	100,367	1,512	66
Bangladesh	147,570	2,100	70
% CZ	32	28	

Source: World Bank, 1996.

APPENDIX 31: STATISTICS ON GRAMEEN BANK BRANCHES, 2001

District	Population	Number of branches	Average population per branch
Barisal	2,330,960	49	47,571
Patuakhali	1,444,340	30	48,145
Feni	1,196,219	22	54,374
Jhalokathi	696,055	10	69,606
Lakshmipur	1,479,371	20	73,969
Barguna	837,955	11	76,178
Narail	689,021	8	86,128
Cox's Bazar	1,757,321	17	103,372
Perojpur	1,126,525	10	112,653
Chittagong	6,545,078	56	116,876
Satkhira	1,843,194	13	141,784
Bagerhat	1,515,815	9	168,424
Jessore	2,440,693	12	203,391
Chandpur	2,210,162	9	245,574
Noakhali	2,533,394	10	253,339
Khulna	2,334,285	7	333,469
Bhola	1,676,600	0	
Gopalganj	1,132,046	0	
Shariatpur	1,057,181	0	
Total CZ	34,846,215	293	118,929
Non - CZ	88,305,031	867	101,851
Bangladesh	123,151,246	1,160	106,165
%		25	

Source: Grameen Bank, 2001.

APPENDIX 32: DISBURSEMENT OF MICRO - CREDIT BY MAJOR NATIONAL NGOS, 2001

District	Population	Household	Number of borrowers					Disbursement (million TK)					Borro-wer as % of HH	Per capita disbursement (Tk)
			ASA	BRAC	Proshika	Caritas	Total	ASA	BRAC	Proshika	Caritas	Total		
Bagerhat	1,515,815	321,634	25,558	39,219	12,945	6,007	83,729	225.9	273.1	47.0	29.7	575.7	26	380
Barguna	837,955	179,189	24,383	17,842	4,185		46,410	233.7	93.1	18.1	0.0	344.9	26	412
Barisal	2,330,960	474,840	26,942	48,971	13,708	6,386	96,007	228.7	292.7	95.2	28.5	645.1	20	277
Bhola	1,676,600	328,559	9,540	24,746	3,919	65	38,270	80.7	111.7	30.4	1.3	224.2	12	134
Chandpur	2,210,162	422,697	26,021	46,710	6,999		79,730	230.1	383.1	39.3	0.0	652.5	19	295
Chittagong	6,545,078	1,234,682	43,486	38,485	43,103	10,874	135,948	375.6	259.2	285.0	73.1	993.0	11	152
Cox's Bazar	1,757,321	294,094	8,359	22,090	8,347	1,886	40,682	65.3	127.0	35.2	7.6	235.1	14	134
Feni	1,196,219	213,030	20,562	24,735	3,142		48,439	175.6	157.4	26.6	0.0	359.6	23	301
Gopalganj	1,132,046	217,445	8,318	38,434	17,672	5,226	69,650	60.2	194.3	96.5	22.2	373.2	32	330
Jessore	2,440,693	521,360	34,500	69,759	2,500	2,723	109,482	273.0	409.8	13.4	12.5	708.7	21	290
Jhalkati	696,055	145,868	6,874	20,130	3,391		30,395	60.4	119.1	12.7	0.0	192.1	21	276
Khulna	2,334,285	494,603	36,243	61,293	32,398	1,957	131,891	296.7	350.8	156.0	10.7	814.1	27	349
Lakshmipur	1,479,371	288,214	19,684	20,615			40,299	144.8	123.2	0.0	0.0	268.0	14	181
Narail	689,021	140,013	10,418	25,209	4,957		40,584	79.8	152.6	27.5	0.0	259.8	29	377
Noakhali	2,533,394	455,321	41,581	25,701	9,612		76,894	344.2	127.0	50.3	0.0	521.6	17	206
Patuakhali	1,444,340	288,605	33,376	29,185	2,748	1,070	66,379	327.4	144.0	16.9	7.8	496.2	23	344
Pirojpur	1,126,525	231,983	11,403	29,476	10,629		51,508	96.3	201.4	47.9	0.0	345.7	22	307
Satkhira	1,843,194	390,179	18,244	47,634		2,198	68,076	152.7	276.5	0.0	7.8	437.0	17	237
Shariatpur	1,057,181	213,239	6,812	42,863	8,986		58,661	61.5	267.2	47.8	0.0	376.5	28	356
Total CZ	34,846,215	6,855,555	412,304	673,097	189,241	38,392	1,313,034	3512.8	4063.2	1045.8	201.1	8823.0	19	253
Non-CZ	88,305,031	18,506,766	1,002,627	2,303,689	550,562	176,266	4,033,144	7929.2	10386.5	2895.2	460.2	21671.1	22	245
Bangladesh	123,151,246	25,362,321	1,414,931	2,976,786	739,803	214,658	5,346,178	11442.0	14449.8	3941.0	661.3	30494.1	21	248

Source: Respective organizations

APPENDIX 33: SELECTED SAFETY NETS AND MICRO-CREDIT PROGRAMS

Program	Activity	Implementing agency	Particulars[1]	Coverage		
				Bangladesh	CZ	% in CZ
Safety nets	Boyoshka Bhata	DSS	Number of beneficiaries	415,170	125,280	30
	Dustha Mohila Bhata	DSS		207,585	62,640	30
	RDP	LGED		3,815	936	25
	VGD	DWA, DRR		479,160	119,764	25
	RMP	LGED		42,000	13,500	32
Micro credit	Loan to KSS	BRDB	Million taka	10,566	3,490	33
	Loan to BSS			5,119	104	2
	Loan to MSS			1,847	456	25
	Loan to members	Local NGOs	No. of NGOs	558	159	29
			Million taka	25,196	6,409	25
		BRAC		14,450	4,063	28
		ASA		11,442	3,513	31
		Proshika		3,941	1,046	27
		Caritas		661	201	30
		GB	No. of branch	1,160	293	25

[1] Micro credit data of BRDB refers to cumulative disbursement from 1972 to 2002. Number of beneficiaries of the DSS is of the financial year 2001/02. All other figures are of calendar year 2001.

APPENDIX 34: DISTRIBUTION OF HOUSEHOLDS BY CRISIS ENCOUNTERED

Crises	Percentage of households		
	All	Poor	Non-poor
Death of main income earner	28.5	29.0	28.1
Large medical expenses due to illness	25.3	22.4	27.1
Crop loss	11.3	12.2	10.7
Eviction from land	5.0	6.6	4.0
Unexpected death of other members	4.5	3.9	4.9
Dacoity/theft	2.8	2.7	2.8
Livestock theft	2.6	1.5	3.3
Livestock death	2.4	2.0	2.7
Property damage due to flood/cyclone	2.0	3.7	0.9
Law/Court and Police expenditure	1.5	1.1	1.7
Dismissal / removal from service	1.4	1.2	1.5
Litigation	1.4	1.7	1.3
Money extortion	1.1	0.9	1.2
Abduction (Kidnap)	0.9	0.8	1.0
Snatching	0.7	0.3	1.0
Death threat	0.7	1.1	0.4
Eviction from household	0.6	0.2	0.9
River erosion	0.5	0.2	0.7
Dowry	0.3	0.3	0.2
Others	6.7	8.3	5.6
Total	**100.0**	**100.0**	**100.0**

Components may not add to totals due to rounding.
Source: BBS, 2002b.

APPENDIX 35: MONTHLY DISTRIBUTION OF SEVERE CYCLONES

Month	Frequency	Three months' moving average[1]
Jan	1	8
Feb	1	1
Mar	1	4
Apr	10	15
May	33	16
Jun	6	16
Jul	8	6
Aug	4	9
Sep	14	16
Oct	31	31
Nov	47	33
Dec	21	23

[1]Average of the current, previous and the following month to smoothen the curve (see Figure 6)

Source: CDL, 1992

APPENDIX 36: POPULATION GROWTH

District	Population		Annual growth (%)
	1991	2001	
Bagerhat	1,431,332	1,515,815	0.58
Barguna	775,693	837,955	0.78
Barisal	2,207,426	2,330,960	0.55
Bhola	1,476,328	1,676,600	1.28
Chandpur	2,032,449	2,210,162	0.84
Chittagong	5,296,127	6,545,078	2.14
Cox's Bazar	1,419,260	1,757,321	2.16
Feni	1,096,745	1,196,219	0.87
Gopalganj	1,060,791	1,132,046	0.65
Jessore	2,106,996	2,440,693	1.48
Jhalkati	666,139	696,055	0.44
Khulna	2,010,643	2,334,285	1.50
Lakshmipur	1,312,337	1,479,371	1.21
Narail	655,720	689,021	0.50
Noakhali	2,217,134	2,533,394	1.34
Patuakhali	1,273,872	1,444,340	1.26
Perojpur	1,063,185	1,126,525	0.58
Satkhira	1,597,178	1,843,194	1.44
Shariatpur	953,021	1,057,181	1.04
Total CZ	30,652,376	34,846,215	1.29
Non-CZ	75,662,616	88,305,031	1.56
Bangladesh	106,314,992	123,151,246	1.48
CZ%	28.8	28.3	

Source: BBS, 1994; 2001

APPENDIX 37: MIGRANT POPULATION

District	Percentage of immigrants
Khulna	33.2
Chittagong	27.0
Narail	10.5
Jessore	10.3
Shariatpur	6.5
Noakhali	6.5
Bagerhat	6.5
Satkhira	6.4
Barguna	6.0
Chandpur	5.7
Jhalakati	5.3
Cox's Bazar	4.5
Barisal	4.5
Patuakhali	4.1
Pirojpur	4.1
Gopalganj	3.9
Bhola	3.5
Feni	3.0
Lakshmipur	2.0
CZ weighted average	11.1
Non-CZ weighted average	10.3
Bangladesh	10.5

Source: BBS, 1994

APPENDIX 38: DAILY WAGE IN AGRICULTURE (TK) IN CHAR MORA DONA

Month	Wage rate		Three months' moving average	
	Male	Female	Male	Female
May	49	20	45	25
Jun	39	27	50	25
Jul	62	28	57	28
Aug	70	29	64	29
Sep	60	29	59	29
Oct	46	30	62	31
Nov	81	33	69	31
Dec	81	31	74	32
Jan	59	31	65	30
Feb	54	27	54	28
Mar	49	27	50	27
Apr	46	27	48	25

Source: CDSP, 2000

APPENDIX 39: SECTORAL DISTRIBUTION OF GDP AT CURRENT PRICE

District	GDP (million Tk)		Sectoral contribution (%)					
	1995-96	1999-00	1995-1996			1999-2000		
			Agriculture	Industry	Services	Agriculture	Industry	Services
Jhalakati	7,584	10,265	34	14	52	31	16	53
Narail	8,697	12,263	46	12	43	45	13	43
Shariatpur	10,078	14,617	36	16	47	37	17	46
Barguna	11,187	15,847	47	12	41	46	12	42
Gopalganj	11,980	16,866	34	15	51	34	16	49
Feni	12,134	17,053	30	21	49	30	20	50
Pirojpur	12,298	17,149	35	14	50	34	15	50
Lakshmipur	17,989	24,874	44	11	44	42	13	45
Patuakhali	19,609	27,319	47	11	42	45	12	43
Bhola	20,235	28,751	44	12	44	43	13	44
Bagerhat	19,744	29,017	40	14	47	40	14	46
Satkhira	21,105	30,645	38	18	44	38	18	44
Chandpur	21,759	31,631	35	16	49	35	17	48
Cox's Bazar	24,154	34,633	38	21	41	39	19	41
Noakhali	25,935	37,831	35	16	48	36	17	48
Barisal	26,475	37,916	29	17	54	29	18	53
Jessore	33,316	47,454	32	23	46	31	24	45
Khulna	40,884	58,467	21	21	58	22	21	57
Chittagong	131,418	186,202	12	35	54	11	36	53
Total CZ	476,581	678,800	29	22	50	29	22	49
Non-CZ	1,186,591	1,691,940	31	24	45	25	26	49
Bangladesh	1,663,172	2,370,740	21	26	53	26	25	49

Components may not add to totals due to rounding

Source: BBS, 2002c

APPENDIX 40: CRISIS COPING MEASURES ADOPTED BY HOUSEHOLDS

Coping measure	Percentage of households		
	All	**Poor**	**Non-Poor**
Using up savings	14.8	12.1	16.5
Sale of land	4.3	4.6	4.0
Sale of other permanent assets	4.3	4.8	4.0
High interest loans from money lenders	11.8	14.7	10.0
Loans from institutional sources	16.1	14.9	16.9
Loans from relatives/friends	8.5	11.0	6.9
Loans without interest	11.8	11.3	12.1
Organizational help/support from a society	1.2	1.1	1.3
Help/support from influential person	3.7	3.3	4.0
Land mortgage	4.6	3.8	5.1
Other permanent asset mortgage	0.9	1.1	0.8
Farming/milch animal sale	2.2	2.4	2.1
Household decomposition	1.2	0.5	1.7
Others	14.5	14.3	14.7
Total	**100.0**	**100.0**	**100.0**

Components may not add to totals due to rounding.

Source: BBS, 2002b

APPENDIX 41: SOURCES OF CREDIT

Source of credit	Percentage of households		
	All	**Poor**	**Non-poor**
Institutional sources			
Bank	17	11	21
Grameen Bank	14	16	13
Co-operative	10	11	10
NGO	4	3	4
BRDB/Youth Development	1	1	1
Sub-total	**45**	**42**	**48**
Non-institutional Sources			
Relative	23	24	23
Non-relative	14	17	13
Money lenders	11	12	11
Others	6	6	6
Sub-total	**55**	**58**	**52**
Total	**100**	**100**	**100**

Components may not add to totals due to rounding.

Source: BBS, 2002b