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Bangladesh
Promoting the Rural Non-Farm Sector in Bangladesh

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ABBREVIATIONS

BIMAS	Bimbigan Massal or Mass Guidance
BKB	Bangladesh Krishi Bank
BPDB	Bangladesh Power Development Board
BRAC	Bangladesh Rural Advancement Committee
BRI	Bank Rakyat Indonesia
BSCIC	Bangladesh Small and Cottage Industries Corporation
BTTB	Bangladesh Telephone and Telegraph Board
Ha	Hectares
HIES	Household Expenditure and Income Survey
ICA	Investment Climate Assessment
ICG	International Consulting Group
IPP	Independent Power Provider
I-PRSP	Interim Poverty Reduction Strategy Paper
Km	Kilometer
KUPEDES	Kredit Umum Pedesaan or general rural credit
MIDAS	Micro Industries Development Assistance and Services
MDG	Millennium Development Goals
MFI	Microfinance Institution
MSM	Micro, Small, and Medium
NGO	Non-Governmental Organization
NPSEB	National Private Sector Enterprise Survey of Bangladesh
PBS	Palli Bidyut Samities
PCO	Public Call Office
RAPSS	Remote Area Power Supply Systems
REB	Rural Electrification Board
RKUB	Rajshahi Krishi Unnanyan Bank
RNF	Rural Non-Farm Sector
SIMPEDES	Simpanan Pedesaan or village saving
SMA	Statistical Metropolitan Area
WLL	Wireless Local Loop Technology

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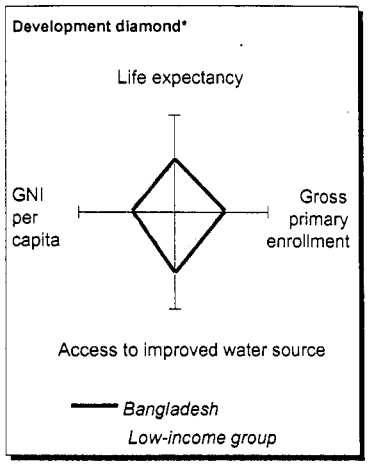
Bangladesh at a glance

9/17/04

POVERTY and SOCIAL

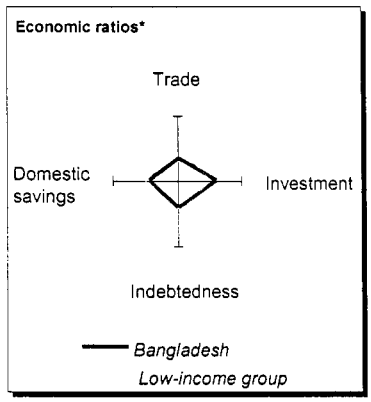
	Bangladesh	South Asia	Low-income
2003			
Population, mid-year *(millions)*	138.1	1,425	2,310
GNI per capita *(Atlas method, US$)*	400	510	450
GNI *(Atlas method, US$ billions)*	55.0	726	1,038
Average annual growth, 1997-03			
Population *(%)*	1.7	1.8	1.9
Labor force *(%)*	2.6	2.3	2.3
Most recent estimate (latest year available, 1997-			
Poverty *(% of population below national poverty line)*	50	..	..
Urban population *(% of total population)*	24	28	30
Life expectancy at birth *(years)*	62	63	58
Infant mortality *(per 1,000 live births)*	48	68	82
Child malnutrition *(% of children under 5)*	48	48	44
Access to an improved water source *(% of population)*	97	84	75
Illiteracy *(% of population age 15+)*	59	41	39
Gross primary enrollment *(% of school-age population)*	98	95	92
Male	97	103	99
Female	98	88	85



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

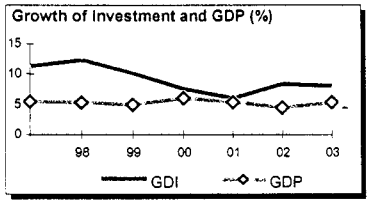
	1983	1993	2002	2003
GDP *(US$ billions)*	17.2	33.2	47.6	51.9
Gross domestic investment/GDP	17.0	17.9	23.1	23.4
Exports of goods and services/GDP	5.7	9.0	14.3	14.2
Gross domestic savings/GDP	7.6	12.9	18.2	17.6
Gross national savings/GDP	17.3	18.0	23.4	24.5
Current account balance/GDP	-2.3	-0.8	0.5	0.3
Interest payments/GDP	0.4	0.5	0.3	0.3
Total debt/GDP	31.8	43.0	35.9	36.2
Total debt service/exports	14.4	13.7	7.8	6.4
Present value of debt/GDP	..	..	23.1	..
Present value of debt/exports	..	..	117.4	..

	1983-93	1993-03	2002	2003	2003-07
(average annual growth)					
GDP	3.8	5.1	4.4	5.3	5.2
GDP per capita	1.4	3.3	2.6	3.4	3.4
Exports of goods and services	7.6	10.9	-2.3	6.9	3.4

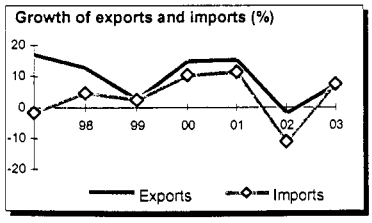


STRUCTURE of the ECONOMY

	1983	1993	2002	2003
(% of GDP)				
Agriculture	30.7	26.3	22.7	21.8
Industry	21.9	23.8	26.4	26.3
Manufacturing	14.7	14.9	15.9	15.8
Services	47.4	49.9	50.9	52.0
Private consumption	87.9	82.2	76.6	77.1
General government consumption	4.4	5.0	5.0	5.3
Imports of goods and services	15.1	14.1	19.0	20.0



	1983-93	1993-03	2002	2003
(average annual growth)				
Agriculture	2.2	3.6	0.0	3.1
Industry	6.0	6.9	6.5	7.3
Manufacturing	5.8	6.2	5.5	6.7
Services	3.7	5.0	5.4	5.4
Private consumption	3.1	3.0	4.9	4.1
General government consumption	3.3	5.1	19.2	13.2
Gross domestic investment	6.2	9.3	8.2	7.9
Imports of goods and services	3.5	7.1	-11.2	7.4

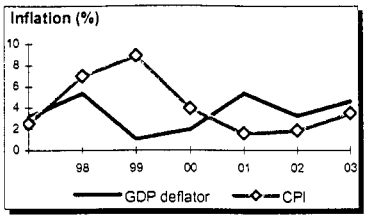


Note: 2003 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond be incomplete.

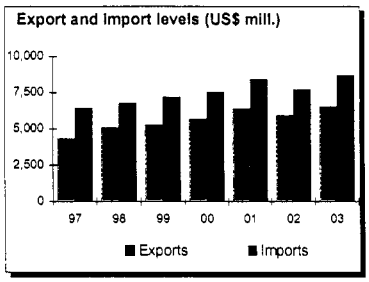
PRICES and GOVERNMENT FINANCE

	1983	1993	2002	2003
Domestic prices				
(% change)				
Consumer prices	..	2.8	1.9	3.5
Implicit GDP deflator	8.5	0.3	3.2	4.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	9.1	10.1	10.3
Current budget balance	..	2.3	2.1	2.5
Overall surplus/deficit	-5.9	-4.4	-4.6	-3.5



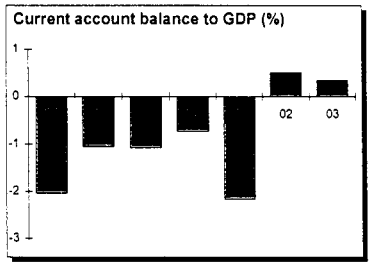
TRADE

	1983	1993	2002	2003
(US$ millions)				
Total exports (fob)	..	2,364	5,929	6,549
Raw jute	..	74	61	82
Leather and leather products	..	159	207	191
Manufactures	..	1,925	5,367	6,086
Total imports (cif)	..	4,071	7,697	8,707
Food	..	176	437	581
Fuel and energy	..	177	723	950
Capital goods	..	1,346	2,617	3,439
Export price index *(1995=100)*	..	92	127	130
Import price index *(1995=100)*	..	93	151	162
Terms of trade *(1995=100)*	..	99	84	80



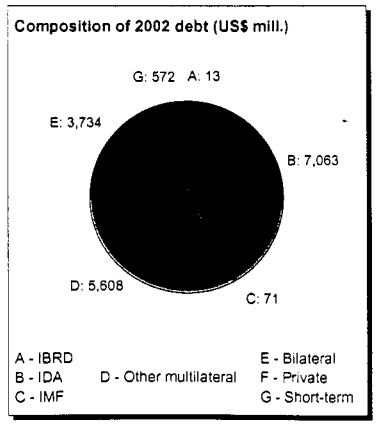
BALANCE of PAYMENTS

	1983	1993	2002	2003
(US$ millions)				
Exports of goods and services	889	2,906	6,794	7,379
Imports of goods and services	2,517	4,518	9,061	10,285
Resource balance	-1,628	-1,612	-2,267	-2,906
Net income	-108	-73	-319	-358
Net current transfers	1,337	1,430	2,826	3,440
Current account balance	-399	-255	240	176
Financing items (net)	608	728	35	716
Changes in net reserves	-209	-473	-275	-892
Memo:				
Reserves including gold *(US$ millions)*	..	2,082	1,583	2,470
Conversion rate *(DEC, local/US$)*	23.8	37.8	57.4	57.9



EXTERNAL DEBT and RESOURCE FLOWS

	1983	1993	2002	2003
(US$ millions)				
Total debt outstanding and disbursed	5,464	14,256	17,061	18,778
IBRD	55	58	13	7
IDA	1,459	4,824	7,063	8,062
Total debt service	215	539	727	672
IBRD	5	7	7	7
IDA	10	64	156	180
Composition of net resource flows				
Official grants	508	455	410	428
Official creditors	428	378	220	428
Private creditors	45	-10	85	-18
Foreign direct investment	0	7	65	376
Portfolio equity	0	9	-6	2
World Bank program				
Commitments	232	72	321	554
Disbursements	202	306	301	519
Principal repayments	2	32	112	130
Net flows	200	274	190	388
Interest payments	13	40	51	56
Net transfers	187	234	138	332



EXECUTIVE SUMMARY

1. The rural economy in Bangladesh has made significant strides during the 1990s, with rural income rising by about 2.2 percent and rural poverty declining by about 1 percent per annum. These impressive achievements are the result of both robust growth in the rural non-farm (RNF) sector (4.4 percent per annum) and enhanced performance in the agriculture sector. Despite this progress, more than half of the rural population still lives in poverty and more than a third in extreme poverty. Even if the current rate of growth is sustained, however, that will not be sufficient to achieve the Millennium Development Goals (MDG) of reducing rural poverty by half by 2015. For that to happen, the rural income growth rate would have to double.[1] This would depend to a great extent on the ability of the RNF sector to generate income and employment in rural areas, since the amount of land available for cultivation has been shrinking, due to extremely high population density and competing demands for land use. Thus agriculture has a limited ability to absorb an incremental labor force, and the RNF sector is left to shoulder the main burden of generating employment and income for nearly 800,000 new entrants to rural labor force every year. Moreover, during the post-Green Revolution era, a strong and resilient food processing sector – an important component of RNF activities – is needed to support the growth and diversification of agriculture. The creation of a virtuous circle of rural growth essential to meeting the MDG target will require significant acceleration of RNF growth, to at least double its current level.

2. Despite signs of dynamism displayed by the RNF sector during the 1990s, the sector is characterized by many structural weaknesses. First, a small percentage of better educated and endowed individuals and households located in regions with better infrastructure have better access to high-return RNF jobs, and hence future growth in the sector need not be pro-poor. Second, because of the centralization of key public services in a few metropolitan cities and inefficient transportation links, the rural towns, smaller cities, and peri-urban areas that serve as hubs for RNF activities have not experienced the same accelerated growth as the large metropolitan cities, thus contributing to regional imbalances. Third, the food processing sector is still nascent because of tax and tariff anomalies, weak research and extension services for non-cereal crops, lack of a trusted system of quality and safety assurance, and lack of access to basic physical and financial infrastructure. Finally, the predominance of trading activities and relative insignificance of rural industries signify a rather early stage of development of the RNF sector. The huge variations in labor productivity across micro, small, and medium (MSM) firms engaged in RNF activities suggest the presence of significant constraints to upgrading the technology and improving the performance of existing firms, as well as large entry and exit costs. The removal of these constraints can unleash significant productivity and employment growth in the RNF sector.

3. The major constraints to RNF growth, according to a large survey of rural entrepreneurs,[2] include (i) flood and natural disasters; (ii) access to electricity; (iii) road conditions, (iv) access to finance and (v) transportation to markets. Bangladesh's vulnerability to frequent floods and other natural disasters severely hampers operations of more than a third of rural firms. The next most important constraint to RNF growth is the lack of access to electricity, which is available to only 19 percent of rural households (as compared to 31 percent of all households). Third, Bangladesh ranks quite high in terms of road density; however – because of poor construction of roads and bridges, lack of maintenance of roads and waterways, lack of integration of different modes of transportation due to inefficiencies at the container port and in

[1] Government of Bangladesh, Ministry of Finance (2003).
[2] International Consulting Group and Micro Industries Development Assistance and Services (2003).

the rail system – road conditions and transportation to markets are reported to be severe problems by 36 and 18 percent of rural firms, respectively. In addition, inadequate access to investment finance and to working capital disproportionately affects small and medium-sized firms(the "missing middles").[3] The lack of access to telecommunications adversely affects the start up, growth, and performance of the micro small and medium sized (MSM) firms. As most of the constraints impeding RNF growth relate to the provision of public goods and services, and to macroeconomic and trade policies, the government has a critical role in removing these constraints. Actual actions to remove these constraints have lagged significantly because of the country's lack of: (i) an institutional mechanism to mainstream RNF issues into rural development; and (ii) a decentralized local government structure capable of ensuring the efficient delivery of services to rural entrepreneurs.

4. To unleash the growth potential of the RNF sector and create a pro-poor virtuous circle of rural growth, Bangladesh will need to implement the two-pronged strategy of (i) *maintaining an enabling rural investment climate,* and (ii) *ensuring an institutional set-up for the efficient delivery of services*. This strategy would involve comprehensive policy and institutional reforms in both of these areas.

- The rural investment climate could be improved by:
    - Rationalizing the tariff structure, and particularly reducing tariff dispersions that hurt the small entrepreneurs, and revising special incentive schemes that bypass small and rural entrepreneurs.
    - Ensuring access to basic physical infrastructure, by investing in rural electrification, removing regulatory obstacles to expansion of telecommunications coverage in rural areas, ensuring adequate funding for maintenance of rural road infrastructure, reforming the container port management in Chittagong port, and ensuring integration of inter-modal transport links.
    - Reforming the rural financial system, along with the overall financial sector reforms, to mobilize rural savings and to improve delivery of credit particularly to small and medium sized firms while ensuring credit discipline and the sustainability of financial institutions. Legal reforms will also be necessary to enable greater financial intermediation, the sustainable expansion of micro-finance programs, and the securitization of transactions.
    - Providing a regulatory framework that promotes competition, enforces property rights and food safety, and monitors and disseminates market information in order to facilitate development of agro-food supply chains and refocusing research and extension services to non-cereal crops.
    - Sustaining progress in natural disaster management.

- The institutional environment for efficient service delivery and promoting growth could be improved by:
    - Establishing an institutional framework that includes all major stakeholders (government, private sector, civil society, development partners); and a government monitoring unit that keeps track of implementation of RNF policies and reforms by line ministries.
    - Decentralizing service delivery, so it is more responsive to local demands. This would require fiscal, administrative, and political decentralization to local levels, and the capacity building of local governments.

[3] Among policy makers and practitioners, this group of small and medium sized firms and entrepreneurs are often referred to as the "missing middles".

- Establishing a legal framework that ensures the transparency and accountability of NGO operations. This would pave the way for collaboration among local government, NGOs, and the private sector in service delivery.

5. This set of measures assigns a pivotal role for the government in maintaining an enabling an investment climate in rural areas, and ensuring efficient delivery of services. Without these institutional and policy reforms, the dynamism in the RNF sector observed during the last decade risks being eroded. The success of the RNF sector in spurring a virtuous circle of pro-poor growth in Bangladesh will depend critically on the timely implementation of these policy and institutional reforms.

POLICY OPTIONS TO PROMOTE THE RURAL NON FARM SECTOR: SHORT TO MEDIUM TERM.

ISSUE	*SHORT TERM*	*SHORT TO MEDIUM TERM*
I. Maintaining An Enabling Rural Investment Climate		
A. Removing Anti-Rural Bias of Macroeconomic and Trade Policies		
Trade Policy	➢ Undertake review of all tariffs applying to agro-industry and small equipment import to examine option for rationalizing tariff structure	➢ Implement tariff reforms to reduce average tariff and tariff dispersions ➢ Rationalize tariffs on inputs to agro-industry (e.g. sugar) and small equipment sector (e.g. low capacity electric motor.
Industrial Policy	➢ Undertake review of access to special incentives (duty draw back, cash incentive) by firms of different sizes	➢ Remove/Rationalize special incentives that discriminate against small and medium firms
B. Improving Access to Infrastructure		
Transport	➢ Re-direct public expenditure to O&M of rural roads ➢ Undertake assessment of the feasibility and modality of implementing a second generation roads fund for O&M ➢ Allow greater use of private sector in execution of O&M under strict supervision of the road users/communities and government ➢ Re-assess Jamuna bridge toll to encourage better utilization ➢ Reduce tariffs on import of smaller trucks	➢ Set and enforce the standards for the bridge work and berthing facilities to allow movement of water borne traffic ➢ Undertake de-silting of major waterways, ➢ Encourage self financing and management of berthing facilities by local communities ➢ Reform port management and define rules of competition to encourage private participation in capacity expansion and management of ports ➢ Implement road funds for O&M ➢ Enforce traffic laws and maintain national highways
Electricity	➢ Discontinue the practice of load switching from rural areas to urban suppliers during peak demand times	➢ Implement the broader power sector reform involving rationalization of power tariff, un-bundling of generation, transmission and distribution, provision of legal framework for private sector participation in generation and distribution ➢ Encourage scaling up of community based Remote Area Power Supply Systems and decentralized power generation (e.g. alternative energy and micro-grids)
Telecommunications	➢ Implement fair and competitive inter-connection pricing regime by revising revenue sharing agreements	➢ Implement broader telecommunication reforms (strengthen capacity of BTRC, financial and management capacity of BTTB and its future privatization, deregulating controls on international gateways and long distance service market) ➢ Invest in inter-connection capacity and in public switching equipments ➢ Improve access to Public Call offices by requiring mobile operators to operate them ➢ Promote private investment in fixed line by granting more licenses

ISSUE	*SHORT TERM*	*SHORT TO MEDIUM TERM*
C. Improving Access to Rural Finance		
Public Sector Agricultural Banks	➢ Undertake external portfolio audit of BKB and RKUB to identify reforms options	➢ Extend financial sector reforms to include BKB & RKUB
Micro Finance Institutions		➢ Provide a legal framework for ensuring transparency and accountability in the financial operations of microfinance institutions
Reducing Transaction costs		➢ Provide legal framework for securitization of transaction through better land titling and registration systems, facilitating use of information technology and establishment of a credit information bureau
D. Developing the Agro-food System and Agro-Enterprises		
Agricultural Research and Technology Dissemination	➢ Undertake a study to identify different options for reforms in research and extension system	➢ Refocus research and extension on technology development and dissemination beyond cereal crops
Private Sector Participation		➢ Provide legal framework for private investment in agro-food system including a system for food quality and safety assurance ➢ Invest in information collection and dissemination, monitor market abuses, enforce bio-safety standards, negotiate favorable terms of market access and make strategic investment benefiting the small players
E. Mitigating Natural Disaster		
Disaster Management		➢ Implement National Water Policy (1998)
II. Institutions for Promoting the RNF Sector and for Efficient Service Delivery		
Main streaming RNF issues in Rural Development	➢ Convene a stakeholder coalition including all different actors (government, civil society, development partners, private sector, academics) to provide strategic directions	➢ Establish a monitoring unit in Prime Ministers Office to monitor implementation by line Ministries
Local Governments in service delivery	➢ Undertake a comprehensive review of options for effective fiscal, administrative and political decentralization given the political reality of Bangladesh	➢ Decentralize service delivery to local governments and invest in capacity building at local levels
Non-Government Organization as Service providers		➢ Establish a legal framework ensuring transparency and accountability in NGO operations
Private Service Providers		➢ Facilitate entry of private providers in the provision of business development services through provision of strategic incentive to private providers and matching grants to users

PROMOTING THE RURAL NON-FARM SECTOR IN BANGLADESH

1.1 The rural economy in Bangladesh has made remarkable strides during the last three decades. The widespread adoption of Green Revolution technology, facilitated by liberalization of input and output markets during the 1980s and early 1990s, resulted in the cereal (mainly rice) production more than doubling) since 1975. This impressive productivity gain in agriculture not only eliminated the threats of hunger and famine, but also allowed diversification into other higher-value crops, livestock, and fisheries; and fueled a rapid expansion in Rural Non-Farm (RNF) activities during the 1990s. The strong performance of both rural sectors during the 1990s led to an annual growth of rural income of about 2.2 percent, and to an annual decline in rural poverty of about 1 percent. Despite this progress, about 53 percent of rural population still lives in poverty and 37 percent in extreme poverty. The Interim Poverty Reduction Strategy Paper (I-PRSP) for Bangladesh[4] estimates that a per capita rural consumption growth of at least 4 percent per annum is needed to reduce rural poverty by half by 2015 – as envisioned by the Millennium Development Goals (MDGs). Such strong growth in per capita consumption, in turn, requires a doubling of the rural income growth rate from the 2.2 percent trend level registered during the 1990s. The doubling of rural growth rate can be achieved by significantly enhancing the performances of the agriculture and RNF sectors, and by creating a virtuous circle of growth between these sectors through multitudes of inter-linkages. Creating a virtuous circle of pro-poor rural growth, however, will require significant policy and institutional reforms to improve the rural investment climate; facilitate the development of agricultural supply chains and the food processing sector; spread the momentum of growth to rural towns and smaller cities; remove critical bottlenecks of physical and financial infrastructure; and ensure the efficient and timely delivery of services.

1.2 To enhance and deepen rural growth in the post-Green Revolution era, Bangladesh will have to implement a comprehensive and well-sequenced series of policy and institutional reforms that will enable the RNF sector to take the lead in rural productivity growth and employment generation. These reforms should aim to provide

1. *an enabling rural investment climate*

2. *effective institutional mechanisms for implementing reforms, and delivering public services.*

THE RNF SECTOR IN THE BANGLADESH ECONOMY

1.3 ***The demographic, geographic, and economic reality of Bangladesh underscores the urgency of policy and institutional reforms needed for unleashing the growth potential of the RNF sector.*** With 1000 people per square kilometer (km), population density in Bangladesh is among the highest in the world – more than three times the density of India. As a result, nearly all available cultivable land is already under cultivation. Agricultural land is increasingly being diverted to competing uses such as housing, roads, and industrial development. The total cultivated area declined from 8.15 million hectares (ha) to 7.20 million ha between 1984 and 1996,[5] and will continue to decline in coming years. Cropping intensity has almost reached its limit, further restricting agriculture's ability to create incremental employment. Despite a significant decline in population growth rate, there are nearly a million new entrants into the total

[4] Government of Bangladesh, Ministry of Finance (2003)

[5] Bangladesh Bureau of Statistics (BBS), (1999).

labor force every year. The urban areas currently employ only about 18 percent of the country's total labor force of 58 million people, and even a very significant rise in growth rate in urban areas will not be able to absorb a large proportion of the new entrants. In fact, the majority of the new entrants (80 percent) will need to find a job in rural areas. Given the limited opportunity for employment expansion in agriculture, the labor force joining the RNF sector will continue to swell in the foreseeable future. Only stimulated productivity growth in the RNF sector can ensure that those joining the sector are able to escape poverty. Those left in agriculture would benefit because of rising productivity and wage levels resulting from the exodus of labor from agriculture, and from the tightening of rural labor market due to expansion in the RNF sector. However, for such broad-based rural growth and poverty reduction to occur, the growth in RNF sector has to be accelerated much beyond its current rate of 4 percent. In this context, the I-PRSP[6] correctly views the RNF sector as the "leading sector" in Bangladesh's rural economy. In the following sections, this report discusses the recent trends, challenges, opportunities and critical constraints to non-farm development, provides an overall strategy to tackle those constraints and outlines specific policy directions for promoting this sector in Bangladesh.

RECENT TRENDS IN THE RNF SECTOR

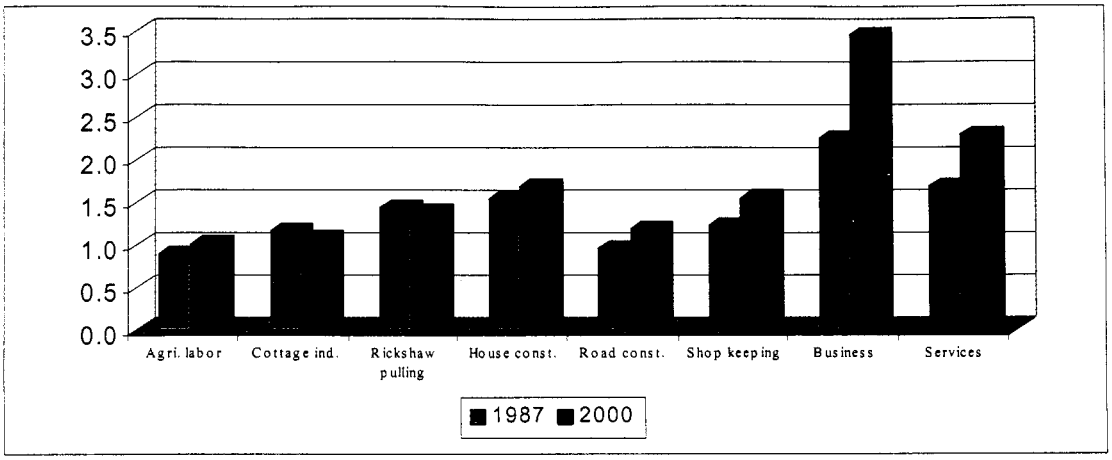
1.4 ***The RNF economy has taken a lead in generating income and employment during the 1990s.*** The contribution of the RNF sector to the Bangladesh economy depends on how the sector is defined. Following the emerging consensus among practitioners, *this report defines the RNF sector as all activities located in villages, rural towns, and peri-urban areas excluding the primary production of crops, fish, trees, and livestock.* According to this definition, the RNF sector accounts for more than 40 percent of all rural employment and more than half of rural household income. The sector has displayed impressive dynamism during the 1990s with faster growth of income and employment (4.2 and 2.7 percent) relative to the growth of agricultural income and employment (0.3 and 1 percent).

1.5 ***The employment growth in RNF activities during the 1990s was fueled by productivity growth (the pull factor) in the RNF sector, rather than the push of agriculture.*** RNF activities are, on average, quite productive, and are far from being residual-type activities that supplement agricultural income and employment.[7] Evidence from the Household Income and Expenditure Survey (HIES 2000)[8]suggests that employment for men in manufacturing or other non-agricultural occupations provides a 25-34 percent premium compared to daily wage work in agriculture, even after controlling for differences in education and other individual and locational characteristics.[9] Labor productivity is highest in human and physical capital-intensive activities (e.g., business activities), followed by human capital-intensive activities (e.g., services) (Figure 1). These two types of activities also experienced the highest growth in labor productivity. Even self-employment in RNF activities are not part-time occupations or occupations of last resort. Most RNF enterprises are operated year round (11 months per year and 27 days per month), and tend to have a long working day (11 hour/day). The HIES 2000 data show that the incidence of poverty among self-employed in the non-farm sector (42 percent) is comparable to that in

[6] Government of Bangladesh, Ministry of Finance (2003).
[7] Mandal and Asaduzzaman (2002).
[8] BBS (2000).
[9] Hossain (2003) indicates an even higher labor productivity differential.

agriculture (40 percent), implying that the self-employed in this sector have not taken this profession as a last resort.[10]

Figure 1. Labor productivity in the farm and non-farm sectors (US$/day)



Source: Hossain (2003)

1.6 ***Along with its impressive dynamism, the RNF sector has been undergoing structural transformation, with its productive segments becoming more prominent during the 1990s.*** Evidence from a large-scale enterprise survey[11] shows that between 1990 and 2003, the number and employment of micro, small, and medium (MSM) enterprises with permanent establishments, which tend to be more productive, grew by 3 percent and 4.5 percent per year, respectively, implying an increase in the average size of the enterprises. In contrast, the number of less productive home-based enterprises grew at a much faster rate (6.3 percent per year) compared with employment growth (2.9 percent). In the manufacturing sector, the home-based industries actually experienced a decline in employment (about 1 percent), as well as decline in labor productivity (Figure 1).[12]

1.7 ***The RNF sector has played an important role in reducing the incidence of poverty and vulnerability of the rural households during the 1990s.*** Evidence from the household survey[13] indicates a negative association between access to RNF employment and the incidence of poverty (table 1). The poor in rural areas are engaged disproportionately in agricultural wage labor; the incidence of poverty is 73 percent among wage laborers in agriculture, as compared to 49 percent among wage laborers in the non-farm sector. Employment in the RNF sector has allowed households to diversify their income sources and guard against the vulnerability of farm income to natural calamities. The household-level data point to a dramatic decline in purely farm households (from 33 to 18 percent), and an increase in the share of rural households depending on both farming and non-farm income (from 48 to 63 percent), during the second half of the 1990s. The economic rationale for such income diversification is evident from the fact that purely farm

[10] Had self employment in RNF activities been occupation of last resort, one would expect to find a higher incidence of poverty among those self employed in RNF activities compared with those self employed in agriculture.

[11] International Consulting Group (ICG) and Micro Industries Development Assistance and Services (MIDAS) (2003). The survey collected information from about 10,000 firms, of which 8,135 are engaged in RNF activities.

[12] Hossain (2003).

[13] BBS (2000).

households are more likely to be poor (incidence of poverty 71 percent) compared with other households (50 percent). While non-farm activities are distributed throughout the country, they are more prominent in the Dhaka and Chittagong divisions. Farming, on the other hand, is more frequently observed in the poorer Rajshahi division (Northwest region); indeed, 34 percent of all agricultural employment in Bangladesh is generated in this division. Such negative association between poverty and access to RNF employment, even at the regional level, does not automatically imply a pro-poor bias of RNF growth. This negative association between poverty and access to RNF employment may arise simply because households better endowed with physical and human capital are often able to secure high return non-farm jobs more frequently than the poor. Evidence from a panel survey of 66 villages shows that while the non-poor may have benefited more from the RNF expansion during the 1990s, the poor have not been left out.[14] The proportion of agricultural wage labor, the poorest of the poor in rural areas, has fallen by half – from 22 percent of rural employment in 1987 to 11 percent in 2000. Such occupational mobility, particularly for the asset poor, on average represents an upward income mobility, since the average productivity of non-farm activities is much higher. In addition, agricultural wages grew in real terms by about 0.9 percent per year during the 1987-2000, even in the face of continued mechanization in agriculture and robust growth in the rural labor force. Thus, the benefits of expansion of RNF activities have percolated to the poor both directly and indirectly.

Table 1. Poverty and inequality by employment group, rural only (percent)

		Wage farm	*Self-employed farm*	*Wage non-farm*	*Self-employed non-farm*	*All rural workers*
Poor	**Upper poverty Line**	73	40	49	42	48
Extreme Poor	**Lower poverty Line**	56	25	32	27	33
Income Inequality	**(Gini, in percent)**	26	39	37	45	39

Source: World Bank calculations using Bangladesh HIES (BBS (2000)).

CHALLENGES AND CONSTRAINTS

1.8 ***The performance of the RNF sector will have to be enhanced significantly in order to achieve the I-PRSP's target of 4 percent annual growth in per capita rural consumption.*** The performance the RNF sector during the 1990s has been encouraging, but the 4 percent annual growth in income falls well short of the 8 percent needed to fulfill the MDG target of cutting rural poverty by half in another 11 years. A number of recent economic trends in Bangladesh suggest that the RNF sector is poised to enter a phase of accelerated growth. Significant yield improvements in cereal crops and accelerated growth in nearly all agricultural sub-sectors have already satisfied some essential pre-conditions for faster growth in the RNF sector. In addition, faster growth in per capita income has stimulated the demand for higher value agricultural products, as well as for processed food and RNF services, which have a higher income elasticity. However, the export potential for processed and fresh food remains largely untapped, particularly outside the ethnic markets. There is also significant room for productivity growth in RNF activities, as suggested by the large intra-sector variations of labor productivity. The rapid expansion of the sector resulting from such improvements will be supported by the country's vast pool of skilled and unskilled workers and entrepreneurial talent.

[14] Hossain (2003).

1.9 ***Unleashing the growth potential of the RNF will depend on how effectively and promptly the critical challenges and constraints facing the sector are addressed.*** The RNF economy involves a spatial dimension running from villages to rural towns to cities and metropolises, and linking producers and consumers in each layer and across layers. The RNF economy also encompasses activities ranging from farm input-producing units, to traditional agriculture, to agro-processing, to the marketing and distribution of agricultural and RNF products to specialized urban manufacturing and urban services. The sector faces critical challenges and constraints with regard to both of these dimensions. The major challenges to unleashing RNF growth include: (i) developing the agro-food supply chains; (ii) ensuring pro-poor RNF growth; (iii) stimulating the economies of the rural towns, smaller cities and peri-urban areas; and (iv) providing an enabling rural investment climate.

Developing the Agro-Food Supply Chains: A Small and Nascent Food Processing Sector

1.10 ***The marketing and processing facilities for the agro-food system – important components of the RNF economy – remain weak, and represent a major challenge to creating and sustaining a virtuous circle of rural productivity growth.*** Growth in the RNF sector during the 1990s was triggered primarily by the rapid growth and transformation of agriculture. In particular, the robust growth of pump irrigation (15 percent per year for shallow tube-wells since the early 1970s) and power tillage technologies stimulated various manufacturing, repair, and other service activities at the local level. At the same time, accelerated growth in the fisheries and livestock sector helped develop the feed supply chain. The forward link of the supply chain, involving collection from farmers, processing, storing, and distributing to urban consumers, is now in place for most agricultural products, but its level of development remains uneven across commodities. While rice processing and storage capacity have increased significantly over the years, the processing capacity for high-value horticulture crops (vegetables and fruits) has yet to be developed. Similarly, processing and certifying capabilities are already in place for export items such as fish and shrimp, but remain weak for fruits, vegetables, and livestock products.

1.11 ***The removal of a number of constraints is essential for the agro-food system to develop to its fullest potential.*** The level and sustainability of growth of agriculture-related RNF activities, such as agricultural machinery and agro-processing, will depend on the removal of critical constraints that impede development of the agriculture and agro-processing sectors. The major constraints to developing the agricultural supply chain include: (i) lack of investment in appropriate technology to improve yields for horticulture (e.g., seed) and livestock products, and to ensure a year-round supply of horticulture crops; (ii) lack of an effective and trusted system of food quality and safety assurance (the system exists currently mainly for fishery products); (iii) underdeveloped marketing systems for handling, processing, transporting, and storage of perishable products (horticulture and livestock products); (iv) lack of reliable and year-round transport capacity (with refrigeration); (v) tariff and tax anomalies (such as higher tariffs on key food processing inputs, small tools and equipment, etc.); and (vi) lack of access to infrastructure (power, phone) and finance.

Pro-Poor RNF Growth: Rising Income Inequality and Inequitable Access to RNF Jobs

1.12 ***Despite the evidence that the benefits of RNF growth have trickled down to the poorest through tightening of the rural labor market, future RNF growth cannot be simply assumed to be pro-poor.*** The high degree of heterogeneity and diversity of the RNF sector implies that opportunities for escaping poverty through RNF employment may not be evenly distributed. RNF growth during the 1990s has actually benefited the non-poor more than the poor. In particular, income inequality is higher in the RNF sector compared with agriculture (table 1). Using panel

survey data, Hossain (2003) reports that the Gini ratio- indicating inequality in the distribution of household income- increased from 40 percent in 1987 to 45 percent in 2000, due primarily to a rise in the inequality of income coming from the non-farm sector and non-rice agriculture. In addition, despite higher average income in the RNF sector, a significant proportion (29 percent) of those employed in the sector are in fact employed in residual types of activities, in the sense that they earn less than the median agricultural wage.[15] Finally, regression analysis explaining access to RNF activities indicates that better educated and well-endowed individuals and households located in regions with better infrastructure (road, power, and telecommunication) are more frequently employed in high-return non-farm activities. Being female, on the other hand, reduces the probability of participation in high-return non-farm jobs, irrespective of location, which indicates a gender bias in accessibility. Thus, the poor and the disadvantaged (e.g., women) tend to end up in less remunerative non-farm jobs more frequently, and expansion of the RNF sector may even bypass the poor. On the positive side, analysis using methodology similar to the marginal benefit incidence of public spending shows that if everything stays the same (including physical and financial infrastructure), future growth in RNF sector is likely to be more pro-poor compared with the past.[16]

1.13 ***Ensuring significant pro-poor RNF growth will require prioritizing policies and investments at the regional level or above.*** The household-level regression analysis suggests the existence of important constraints to participation in high-return non-farm jobs. These constraints include: (i) access to power supply; (ii) access to markets; and (iii) education, in integrated and semi-integrated areas, where integrated, semi-integrated, and isolated areas are defined in terms of their accessibility (travel time) to two growth poles (Dhaka and Chittagong). For isolated and semi-integrated areas, accessibility to urban markets is also important. Given the importance of access to large urban markets, the major expansion in non-farm activities is expected to take place in the semi-integrated regions. To have a significant impact on poverty, RNF activities also need to be expanded in isolated regions. The regression results suggest that prioritization of investment in the provision of services, and in human and physical capital investment, has to consider the specific regional context.

Balanced Regional Development: The Slow Growth of Rural Towns, Smaller Cities, and Peri-Urban Areas

1.14 ***Rural towns, smaller cities, and peri-urban areas have experienced relatively slower growth during the 1990s.*** Stimulating their economies and ensuring a more balanced pattern of regional development remain major challenges for overall RNF growth. Historical evidence from developing countries suggests that, despite the spatial dispersion of RNF activities, growth in these activities occurs in clusters. Because of this clustering tendency, the development of the RNF activities, and of smaller towns, cities, and peri-urban areas as hubs of RNF activities, are closely intertwined. Several trends of urbanization and regional growth raise concerns about the future prospects of RNF growth. First, during the last couple of decades, urban population has increasingly been concentrated in few large cities. The share of the Dhaka Statistical Metropolitan Area (SMA) in total urban population has increased from 25 percent in 1981 to 34 percent in 2001. Such increases in primacy (concentration of urban population in few cities) are observed to

[15] These non-farm workers are engaged mainly in manufacturing (39 percent), transport (8 percent), and other services (31 percent). In terms of occupation, most are employed as domestic help, transport conductors, salesmen and production workers in textile, food processing and tobacco industries.

[16] In other words, the marginal odds of participation in non-farm activities are much higher for the poor compared with non-poor.

be associated with a reduction in economic growth.[17] Second, the imbalance in the urbanization process has led to regional imbalances at the national level. Five zilas (Dhaka, Mymensingh, Gazipur, and Narayanganj in Dhaka Division, and Chittagong) generate 32 percent of the country's GDP but account for only 18 percent of the country's population.[18] Moreover, the growth of district-level GDP over time is not accompanied by a dissipation of the regional disparity in income; instead, regions with low levels of per capita GDP do not seem to be catching up with more productive districts.

1.15 ***Centralization of government services in the metropolitan cities, inadequate provision of critical urban services, lack of efficient and timely transportation links, and inability to attract a significant amount of foreign direct investment have contributed to the slower growth of rural towns, smaller cities, and peri-urban areas, despite their potential to become vibrant centers of RNF activities.*** The high population density of Bangladesh has historically supported the emergence and growth of numerous towns and cities all over the country. Despite the Government's longstanding policy of promoting growth centers in rural areas, these towns and smaller cities have yet to become significant players in the Bangladesh economy. Because of lack of political, administrative, and fiscal decentralization, public services critical for RNF enterprises such as infrastructure (e.g., electricity) and technical services (e.g., regulatory agency) remain centralized mostly in two metropolitan cities (Dhaka and Chittagong). Major industries and specialized services supporting those industries, want to be located in areas where they have easier access to regulatory agencies, licensing, and ports. The concentration of manufacturing, particularly the modern textile and ready-made garments industries in Dhaka and Chittagong, is an example of this agglomeration tendency.[19] At the same time, agriculture-related RNF activities have continued to dominate the economies of numerous smaller cities and towns. Second, diversification of the economies of rural towns and smaller cities into more modern and specialized industrial and service activities requires developing sub-contracting relationships with major urban centers. Lack of an efficient transportation system has been a major barrier to developing such relationships. Third, the degree of openness of an economy to international trade contributes to de-concentration, as foreign investors are often more cost sensitive and tend to locate in low wage regions.[20] Finally, international experience demonstrates that dynamic small towns are most often a consequence of dynamic rural areas. Instead of thinly spreading public investment over wider regions, it should be targeted in those areas where a supporting dynamic rural economy can enter into a mutually reinforcing relationship with a small town or urban center.

[17] Henderson (2002).

[18] Dhaka Zila alone produced 15 percent of the total GDP with 6.2 percent of the population.

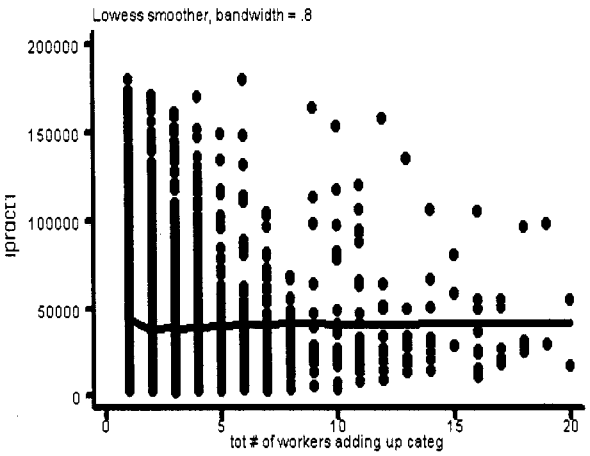
[19] The ease of transport due to lighter weight and durability of garments, and the advantages of cheaper labor, make rural areas attractive for locating garment factories. This has indeed happened in East Asian countries and even in Sri Lanka. However, the benefits of rural location are more than offset in Bangladesh by amenities and services offered in urban areas. Easy access to major infrastructure (roads, electricity, gas, communications); services (financial services, public agencies); and export links (Chittagong port and Dhaka airport), along with availability of skilled workers (particularly entrepreneurs experienced in claiming duty draw-back benefits and cash incentives offered by the Government), have led to the concentration of garment industries primarily in Dhaka and Chittagong.

[20] Historical experience shows that large investment in inter-city infrastructure, for example, was the main factor behind the industrial de-concentration in South Korea during the 1980s.

Vibrant Micro, Small, and Medium Enterprises: Weakness in the Investment Climate

1.16 ***Despite the signs of dynamism during the 1990s, the RNF economy in Bangladesh is still at an early stage of development, and providing an enabling investment environment to accelerate the transformation of the RNF sector into a more efficient and productive sector represents a major challenge.*** According to a recent enterprise survey,[21] 87 percent of 4.3 million micro, small, and medium enterprises engaged in RNF activities are located in villages, rural towns, smaller cities, and peri-urban areas. The strength and capability of the RNF economy to transform itself into more productive sector will depend crucially on the environment in which these numerous RNF enterprises emerge, operate, and often fail. While the RNF sector is a rich breeding ground for entrepreneurs, a number of its characteristics point to its rather early stage of its development. First, only a quarter of all enterprises in rural areas are engaged in manufacturing activities. The sector is dominated by wholesale and retail trade across the geographical spectrum, with its share ranging from 60 percent in smaller towns, to 57 percent in rural areas, to 54 percent in metropolitan areas. The predominance of trade in the RNF sector signifies its relatively early stage of development.[22] Second, productivity, as measured by labor productivity, varies widely across MSM enterprises. For instance, among firms of size equal to one, labor productivity varies from approximately TK 1 to about TK 180 thousand (Figure 2). Such large variations are observed for firms in each sub-sector (manufacturing, trade, etc.), for each type of firms (home based, with permanent structure, etc.), and at each location (rural vs. urban). In a competitive and efficient market with free entry and exit, the force of competition is likely to push the inefficient firms out of business; therefore, wide productivity differences across firms are not likely to persist. Such high dispersion in productivity suggests that there are significant constraints to upgrading technology and improving performance of the existing firms, and that entry and exit costs are very high.

Figure 2. Labor productivity by firm size



Source: World Bank Staff Estimates based on National Private Sector Enterprise Survey of Bangladesh, (ICG and MIDAS (2003)).

1.17 ***According to the entrepreneurs surveyed,[23] flood and natural disasters, access to physical infrastructure (electricity, road conditions), access to finance, and transport to market are the five main constraints to starting and operating an MSM enterprise.*** The entrepreneurs were asked to rate the severity of different problems of starting and operating enterprises. The responses to the fixed-response questionnaire indicated that floods and natural disasters rank first

[21] International Consulting Group (ICG) and Micro Industries Development Assistance and Services (MIDAS) (2003).. The survey used both open-ended and fixed questions.

[22] Historical evidence indicates that at later stage of RNF development, the predominance of relatively low productive trading is replaced by more skilled service activities and manufacturing.

[23] International Consulting Group (ICG) and Micro Industries Development Assistance and Services (MIDAS) (2003).

among rural firms, with 37.1 percent of firms calling them a severe problem (Figure 3).[24] Nearly an equal percentage of rural firms (37 percent) reported electricity availability as a severe problem. Road conditions ranked a close third (36 percent); followed by access to finance (34 percent); transportation to market (18 percent); with crime, theft, and disorder of significantly less importance (10 percent). There are some interesting differences between rural and urban firms. Among the urban firms, electricity is ranked as a severe problem by largest number of firms (24 percent), followed by flood and natural disasters (21 percent), access to finance (20 percent), road condition (18 percent) and too many competitors (15 percent). Among major constraints identified by both rural and urban firms (electricity, floods and natural disasters, road conditions, etc.), the percentage of firms reporting these as severe constraints are significantly larger in rural areas. For example, the percentage of rural firms complaining about road conditions is double the percentage of firms in urban areas. On the other hand, more urban firms complained about competition and anti-competitive practices (20 percent versus 9 percent); water availability; sewer and rubbish disposal (23 percent vs 11 percent); and corruption, political influence, and taxes (11 percent vs. 4 percent).

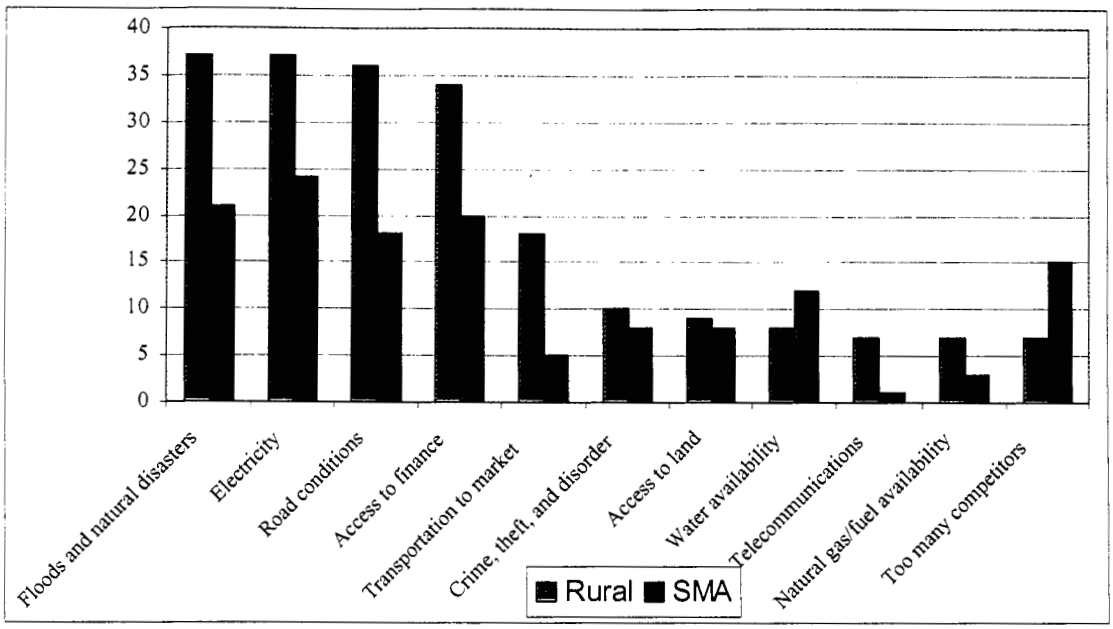
1.18 ***The MSM firms located in rural areas face different constraints than those faced by large firms located in two main urban centers (Dhaka and Chittagong).*** For instance, more than half of large firms in another survey[25] ranked corruption as a severe or major problem. While about 30 percent of the MSM firms complained about crime, theft, and disorder as somewhat or serious problems, only 13 percent of urban and 4 percent of rural MSM firms reported corruption to be a somewhat or severe problem. In terms of physical infrastructure, electricity was rated the biggest obstacle followed by customs, transportation (roads), and telecommunications (a distant fourth). For the rural firms and for MSM firms in general, access to power itself appears to be a more pressing problem, with a large number (60 percent) reporting no access. Only a small fraction of rural firms and MSM firms in general own a generator (4 percent), compared with large firms in urban metropolitan areas (72 percent). Thus, electricity problems appear to impose much higher costs in rural areas, because of: (i) lack of access, (ii) power outages and surges (no generators) even for those with access; and (iii) high cost (those with a generator are estimated to pay 50 percent more per unit of power than the cost of grid power.[26] In the urban large firm sample, the third source of costs appears to dominate, as most firms have electricity connections and use generators in the case of power outages.

1.19 ***The severity of constraints varies across sectors, firms of different sizes, and regions, with the "missing middle" problem evident in the access to finance and electricity.***[27] For instance, electricity is rated as a severe problem more frequently by firms in the manufacturing (42 percent) and services (38 percent) sectors. Floods and natural disasters appear to cause frequent and severe problems for firms in the transportation and construction sectors. About 40 percent of the firms in transportation sector rated road conditions as severe problem. Complaints about access to finance came more often from firms engaged in services, trade, and manufacturing. The Barisal and Rajshahi divisions come out to be the areas where firms face a disproportionate share of problems, by most measures. In the case of finance, firms with more

[24] When asked to indicate most severe problem in starting and running an enterprise using the open-ended questionnaire, more than half of the firms reported lack of access to finance as the most pressing problem in starting an enterprise. About 44 percent of entrepreneurs noted it as the biggest problem in running a firm.
[25] World Bank (2003a).
[26] ibid.
[27] The small and medium sized firms, which suffer from inadequate access to finance and other services, are popularly known as the "missing middles" among policy makers and practitioners in Bangladesh.

than one employee but less than or equal to 10 employees complained much more than micro and medium-sized firms, thus confirming the popular concerns about the peril of missing middles.

Figure 3. Severe constraints to enterprise operation



Source: World Bank Staff Estimates using National Private Sector Enterprise Survey (ICG and MIDAS (2003)).

1.20 ***As to enterprise dynamics, access to markets and urban centers, access to electricity and telecommunications, access to formal finance, and education of the enterprise owner, are significant correlates of enterprise start-up, performance (measured by TFP), and growth.*** Regression analysis shows, for instance, that even after controlling for a large number of household and other characteristics, a household access to electricity and telephone is significantly positively correlated with the probability of starting up an enterprise. The marginal effect of access to a telephone is quite large (0.15) compared with electricity (0.08). Villages with phone connections have a significantly higher probability of start-ups by households. While household heads with primary education have the highest probability of starting up an enterprise, entrepreneurs with higher than secondary education are more successful in ensuring the growth of their firms. Access to formal bank loans is associated with better enterprise performance and growth, while lack of access is associated with enterprise failure. Government regulation is cited as a reason for closure by 26 percent of failed firms in the transport sector. Overall, government regulation caused business closure only for 4 percent of the firms.

Rural Infrastructure: Inadequate Access and Unreliable Services

Transport

1.21 ***Road density per square kilometer (sq. km) in Bangladesh is among the highest in South Asia, yet the rural entrepreneurs lack access to reliable, timely, and year-round transportation services.*** As a result of many years of public investment in road construction, Bangladesh has an extensive road network, consisting of nearly 220,539 km of different types of

roads.[28] In 1999, Bangladesh ranked 24th in terms of road density among 178 countries for which data were available. This road density is approximately the same as that of the UK, and higher than in many other OECD countries. Increasing traffic congestion, poor maintenance, lack of integration of different modes of transportation, and lack of complementary trade and transport services, impose heavy costs on entrepreneurs in terms of time, money, and personal safety. The demand for transport services will have to continue to grow at least 8 or 9 percent a year in order to sustain the GDP growth of 7 percent per year envisioned in the I-PRSP. Growth in more transport-intensive activities in the farm and non-farm sectors will suffer disproportionately if critical bottlenecks in the transport sector remained unaddressed.

1.22 ***Poor construction and maintenance of roads, particularly rural roads, impose high costs on the users.*** A large proportion of rural roads were constructed through the Food for Work and other rural development programs. Because of the emphasis on labor- intensive technology, and lack of attention to engineering design, nearly 80 percent of the roads are of poor quality.[29] In addition to the roads themselves, there is also a large need for bridges and other infrastructure to cross the huge number of streams and rivers. Many of those are in poor repair. Public spending on road maintenance routinely falls short of what is required. For example, expenditure by Local Government Engineering Department (LGED) on rural road maintenance was about TK 1.7 billion in FY2000 as opposed to the required amount of TK 2.4 billion.[30] The considerable under-funding of maintenance for many years has already contributed to a large backlog of deferred maintenance and will continue to threaten the sustainability of newly constructed or rehabilitated roads.

1.23 ***With economic activity outpacing road construction and lack of proper maintenance and upgrading, major highways have become overly congested, contributing to major delays and higher transport costs.*** A large proportion of the major highway network carries a heavy volume of traffic that approaches or surpasses its capacity. For instance, the most heavily used national road (Tongi-Joydevpur road, with four traffic lanes) carries about 34,000 vehicles per day. Along with traffic delays, road death has emerged as a major source of accident-related death among young and adults.

1.24 Long haul transport in Bangladesh remains underdeveloped because of poor integration of different modes of transportation, caused by lack of bridges for river crossing, improper management of waterways, and lack of reforms in the port and rail systems.

- *Road-ferry:* The major rivers – especially the Padma (Ganges) and Jamuna (Brahmaputra) – effectively divide the country into three zones. River crossings by ferry delays freight by many hours. Bridges across these vast rivers, which are characterized by shifting riverbeds, is expensive, yet they can significantly contribute to increased inter-regional trade. The Jamuna bridge linking Tangail and Sirajganj zilas, for example, has

[28] Bangladesh's primary road network consists of national and regional highways and zila roads which has a length of 12,400 km and is managed by the Roads and Highways Department. Another 92,000 km make up the secondary road network—Upazila and Union roads, which is managed by the Local Government Engineering Department (LGED). The remaining tertiary village roads represent more than half of the total road network, and are managed by local government institutions.

[29] Only a relatively small proportion of the total road network consists of paved roads. For instance, among the Upazila roads (Feeder Road B), only about one third are paved roads, and about 60 percent are dirt roads. Almost none of the Union roads is an all-weather road.

[30] World Bank (2003b).

reduced travel time from Bogra to Dhaka by about four hours. The under-utilization of the Jamuna bridge at the current toll rate calls for a reassessment of tolls.

- *Road-river transport.* Only about half of Bangladesh's 6,000 km of waterways is available for navigation in the dry season. Major barriers to the more efficient use of waterways include lack of dredging, poor management and maintenance of landing infrastructure (jetties), and obstructions caused by low or narrow road bridges or irrigation sluices. In recent years, bridges built as part of the highway network have proliferated in an ad hoc fashion, resulting in numerous obstructions to waterborne traffic.

- *Road-rail.* Because of the inefficiency and resulting high cost of the rail system, rail transport has lost a considerable share of both passengers (from 20 percent to 13 percent) and freight (from 17 percent to 7 percent) between 1985 and 1998.[31] This trend is likely to continue without a major revamping of the system.

- *Road-shipping (containers).* With the rapidly rising demand for port services, the main port at Chittagong is unable to supply sufficient capacity and efficient transactions to meet the needs of exporters and importers. Delays at the port, due to inefficient management and lack of investment in new loading/unloading technology, result in six to nine-day turn-around times for a standard container ship, as compared to one to two days in Colombo or Singapore. Bangladesh moves a contained for US$600, compared with US$150-300 in neighboring ports such as Bombay and Shanghai. The development of container shipment using high-capacity modern trucks will require long-overdue reform of container port management in Chittagong, and removal of the barriers to the adoption of modern container trucks (e.g., import tariff).

1.25 ***Road transport is characterized by lack of complementary services lacking options both at the larger and smaller ends.*** Most cargos in Bangladesh are transported by 8-ton trucks, which are manufactured in India and assembled in Bangladesh. The limited use of small trucks is due partly to high import tariffs to protect the domestic assembling operations for larger trucks. Achieving a more diversified transport fleet among private service providers will require the lowering or removal of taxes, tariffs, and regulations that currently prevent the import or local production of smaller vehicles. It will also require reform of the container port management at Chittagong in order to allow investment in a larger and modern fleet of trucks.

Access to Power

1.26 ***Despite recent improvements in electricity coverage, access to power continues to be a major issue in rural Bangladesh.*** Only 31 percent of all households in Bangladesh and 19 percent in rural areas have access to electricity.[32] Similarly, only about 40 percent of enterprises located in rural areas are reported to have electricity access. Bangladesh ranks low among South Asian countries in terms of electricity access. Access to electricity in Bangladesh remains less than half that of India, and per capita use is less than a third. If current new connection rates of about 200,000 customers per year continue, it will take until 2010 to double the proportion of rural households with access (World Bank, 2001a). Even if the rate of new connections could be doubled, it would take 25 years to reach half of the rural population.

[31] Planning Commission, Bangladesh Integrated Transport System Study, June 1998 (in PPIAF 2003).
[32] BBS(2000).

1.27 ***The inadequate access and unreliable supply impose large costs on the rural enterprises.*** According to a recent impact evaluation study,[33] access to electricity results in higher household-level income, higher turnover rates for businesses, higher non-farm employment, larger firm sizes, and faster growth in firm-level output. In the same study, about 85 percent of respondents complained about irregular supply, with 72 percent stating that power interruptions occur almost daily. The Investment Climate Assessment[34] estimates that firms using generators to guard against power outages pay 50 percent more per unit of power. In rural areas, electricity is often cut off in the evening hours, when it would be most beneficial to households.[35] Unreliability is perhaps one of the major reasons for low utilization of electricity in production activities in rural areas.

1.28 ***The inadequate access in rural areas and unreliability of power supply in both rural and urban areas are results of an existing institutional mechanism, dominated by the public sector, for generating, transmitting, and distributing power.*** The power sector is dominated by the Bangladesh Power Development Board (BPDB), a public sector utility that accounts for 81 percent of generation, 55 percent of transmission, and 43 percent of distribution. While transmission and distribution are entirely controlled by public utility companies, the Independent Power Providers (IPPs) account for 17 percent of power generation. Power distribution in rural areas is coordinated by the Rural Electrification Board (REB), which negotiates prices with the Bangladesh Power Development Board (BPDB) and the five IPPs. Distribution systems are owned and operated by 67 consumer cooperatives (Palli Bidyut Samitis, PBS), which currently reach about 20.5 million people. The power sector suffers from huge under-investment because of limited private sector participation, particularly in downstream activities; and because of the financial fragility of the public sector. Private sector participation has remained well below its potential because of the absence of a coherent strategy, including an appropriate regulatory framework, and the entrenched presence of public utility agencies.[36] The public sector has been unable to generate surplus for required investment because of high system loss, poor financial management (e.g., inadequate pricing, poor billing and collection), and ineffective governance.[37] In contrast to the performance problems associated with BPDB's urban distribution system, the rural distribution system is well managed. Although tariffs in rural areas are below purchase costs, they are higher than in urban areas and high compared to rural power prices elsewhere in South Asia. The main problems faced are reliance on external power suppliers (e.g., BPDB cuts supplies to PBSs if there is an excess in urban demand); and lack of infrastructure to supply customers in low-density rural areas.

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[33]Barkat et al. (2002). The study estimates that the average annual income of households with electricity is 64.5 percent higher than that of households in non-electrified villages. For shops and trading activities, the study estimates that rural electricity's contribution to sales turnover is 17.3 percent for retail and 11.2 percent for wholesale businesses. The off-farm income produced by electrified households was estimated to be 33 percent higher than in households in non-electrified control villages, and 66 percent higher than non-electrified households in villages with access to electricity. In the industrial sector, firms with electricity are estimated to generate about 11 times more employment than the firms without. Over the past five years, output (measured by weight) in electrified firms has increased almost 80 percent, compared to 8 percent in firms without electricity.

[34] World Bank (2003a).

[35] World Bank (2001).

[36] World Bank (2003b).

[37] The system loss on account of power pilferage and inadequate maintenance has been as high as 35 percent of power generation and purchase in 2000. There are significant delays in bill collection, resulting in large account receivables (12 months of sales revenue for BPDB in 2000). In addition, low power tariffs compared with marginal costs amounted to large subsidies to consumers (households and agricultural use), and contributed to BPDB's financial difficulties.

Access to Telecommunications

1.29 ***With increasing dependence on markets beyond local areas, the need for access to telecommunications by rural producers has been rising sharply, yet actual access remains inadequate in rural Bangladesh.*** Despite the recent increase in cellular phone coverage, Bangladesh continues to have a low tele-density[38] of 0.83 percent, compared to India's 4 percent. The tele-density outside Dhaka and in rural areas is even lower, about 0.19 percent. Tele-reach (the proportion of the population with access to a telephone) is higher because of the expansion of mobile phone coverage. There are now almost a million cell phone subscribers, compared to 605,000 fixed-line connections.[39] Among four cellular phone providers, Grameen and Aktel have extended their network significantly into rural areas. Grameen Mobile's Village Phone program is now available in 20,000 of 68,000 villages. Yet only 31 percent of rural non-farm enterprises have a telephone in their village.[40] In contrast, India has achieved a tele-reach of about 70 percent, due in large part to a program of making public call offices (PCOs) available in rural areas. Bangladesh has one PCO per 32,000 people, compared with one per 1,000 in India. In addition, the cost of telephone service is very high in Bangladesh.

1.30 ***There remains significant unmet demand for telecommunications, due to slow growth in the coverage of private mobile phone networks caused by regulatory constraints, and even slower progress in the expansion of fixed-line networks due to poor performance of the Bangladesh Telephone and Telegraph Board (BTTB), a public sector telecom agency.*** The unmet demand for basic telephone services is estimated to be around 3.5 million, and is expected to grow to 10 million within next three years. The BTTB has a de facto monopoly on domestic fixed-line public and international telephony. Lack of investment in capacity expansion by BTTB has restricted growth in the supply of telecom services. A major problem of cellular phone networks is that the integration between the cellular and land-line networks is limited – more than half of the cell phone subscribers are unable to connect to telephones on the BTTB fixed-line network. This lack of interconnection capacity is one of the greatest bottlenecks in the expansion of tele- networks managed by the private sector. The current interconnect environment is based on revenue-sharing agreements between BTTB and the mobile operators. These agreements are based on retail prices and asymmetric payments (BTTB does not compensate mobile operators for call termination, but mobile operators pay BTTB for termination).

Rural Finance: "The Missing Middle"

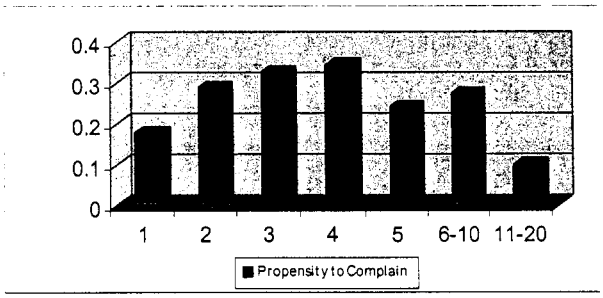
1.31 ***Access to credit by the rural population has improved considerably in recent years, due to rapid expansion of microcredit programs.*** Yet rural financial markets in Bangladesh continue to be inadequate to meet the demand for financial services for a large proportion of the rural population. As a result of the expansion of microfinancing by NGOs and microfinance institutions (MFIs), access to credit by micro, small, and medium enterprises is better in the rural areas compared with rural towns, peri-urban, and urban areas. For instance, nearly 60 percent of rural MSM enterprises borrowed from formal and informal sources, compared with around 50 percent in urban areas. Among those accessing credit in rural areas, 37 percent borrowed only from informal sources such friends and relatives, 42 percent borrowed exclusively from formal sources (formal banks and NGOs), and the rest borrowed from both formal and informal sources. The importance of formal banks as sources of finance increases steadily with an increase in firm

[38] Number of telephone lines per hundred persons.
[39] There are an additional 26,000 lines operated by two rural service providers – Bangladesh Rural Telecom Authorities and Sheba Telecom-Rural (see World Bank (2003d)).
[40] BBS (2000).

size – 6 percent of firms with one employee borrow from formal banks, compared with 33 percent of firms employing more than 20 workers. In contrast, micro and small firms rely more heavily on borrowing from the NGOs and MFIs – about 20 percent of firms employing fewer than three workers borrow from these sources, compared with 9 percent of firms employing more than 20 workers. Because of the targeting of the poor by microfinance programs, and better access to formal bank loans by larger firms, a large percentage of the firms in the middle remain underserved by the current rural finance delivery system.

1.32 ***The inadequate access to finance affects a large proportion of MSM firms, irrespective of their borrowing status, and disproportionately affects small and medium-sized firms (the missing middle problem).*** The percentage of firms complaining about access to credit is in fact higher among the firms currently borrowing from formal and informal sources (60 percent), than among those not borrowing at all (45 percent). The rural financial markets are rationing out not only those who are not borrowing, but also those who have access to borrowing but still not able to secure enough credit relative to their needs. The small and medium-sized firms complain disproportionately more about access to credit (Figure 4), thereby confirming the widely reported "peril of the missing middle" in the rural financial markets.

Figure 4. Complains about access to finance, by firm size



Source: World Bank Staff Estimates using National Private Sector Enterprise Survey (ICG and MIDAS, 2003).

1.33 ***The transaction costs of providing and receiving financial services in rural areas are high, from the point of view of both lenders and borrowers, thus contributing to thinness of rural financial markets.*** From the point of view of the banks, including formal banks, reaching out to rural customers involves high transaction costs because of smaller loan sizes, more dispersed geographical coverage, lack of information about potential borrowers, high risk of default, and difficulty of enforcing contracts in the case of default. Bangladesh's vulnerability to frequent natural disasters such as floods, droughts, and cyclones also increases the income volatility in rural areas, raising the risk of default. From the borrowers' side, a significant proportion of the firms surveyed[41] reported that they did not borrow because of uncertainty about their credit rating, their ability to repay, complicated bank forms, high interest rates, lack of collateral, and lack of knowledge about finance opportunities. For instance, 16 percent of the firms did not borrow because either they did not know where to go for borrowing or because bank forms were too complicated. About 12 percent were priced out because of lack of collateral and too-high interest rates. Interestingly, a larger share of the small firms (four to five employees) complained about high interest rates (12 percent) than did firms of all sizes (6 percent). This confirms the findings from other studies that it is this missing middle that is often priced out by MFIs because of high interest rates.

1.34 ***The performance of public sector banks catering the rural areas has been poor, raising serious doubts about their long-term sustainability in the absence of significant reforms.*** Bangladesh Krishi Bank (BKB), and Rajshahi Krishi Unnanyan Bank (RKUB), two public sector banks, have a large rural network, with 1155 branches in 2000, comparable to the branch network

[41] ICG and MIDAS (2003).

of Grameen Bank (1160). These banks, along with other private and public banks, disbursed about $1.9 billion in rural areas in 1998-99,[42] though the expansion of rural credit was slower (5.8 percent rate) than overall credit expansion (8.5 percent) during the second half of the 1990s. Weak internal governance, persistent political interference; loan write-offs (undermining credit discipline); lack of a legal and regulatory framework for enforcing contracts and loan recovery; poor management systems; and lack of investment in human capital have all compounded the financial fragility of these public sector banks. These banks have been used more as a window for disbursing credit than as institutions to promote financial intermediation. The Government of Bangladesh has committed to reforming the nationalized commercial banks, but the existing reform program does not include these two agricultural banks.

1.35 ***As opposed to the public sector agricultural banks, the outreach of the MFIs and microcredit programs administered by the NGOs has grown considerably, but they are not still able to meet the need of an important segment of rural entrepreneurs, i.e., the middles.*** The microcredit programs, including the two MFIs (Grameen Bank and BRAC[43] Bank), have about 15 million active borrowers/members. However, the average size of loans from the MFIs remains low – between $100-$150. The repayment schedule is also rigid – repayment starts within a week of a loan disbursement. Moreover, interest rates charged by the MFIs, though not sufficient to cover their costs, are high enough to discourage larger and long-term borrowing. Because of its targeting of poorer households, medium-sized enterprises and marginally richer households are often not eligible for these loans. However, some of the MFIs, notably BRAC Bank, Grameen Bank, and ASA, are moving toward flexible loan instruments with longer duration and larger size, in order to reach small and medium enterprises. Despite this progress, the sustainability of a large number of MFIs and lack of a legal framework to regulate these institutions are two major issues that need to be resolved.

Mitigating Natural Disasters: Sustaining the Progress

1.36 ***Because of the loss of life and severe damage to infrastructure, crops, and the overall economy, the management and mitigation of natural disasters (floods and cyclones) is and will continue to be a high priority in Bangladesh.*** The major flood of 1998 inundated two-thirds of the country, affected some 30 million people, and caused more than 1,100 deaths. Similarly, the cyclone of 1991 caused 140,000 deaths and severe damage to the eastern coast of the Bay of Bengal. Since independence in 1971, the Government of Bangladesh, aided by its development partners, made large structural and non-structural investments to protect against floods and cyclones.[44] Such investments have been effective in containing the damage from recent floods and cyclones. However, the inadequate provision for operation and maintenance, along with the institutional inefficiencies of the Bangladesh Water Development Board (BWDB), threaten the sustainability of embankments and other physical infrastructure, which require frequent rehabilitation. Past structural projects have not involved local stakeholders in any major way, leading to local opposition and often resulting in physical damage to the new installations by aggrieved groups. In addition, environmental considerations have not received adequate attention in water management particularly in the construction and maintenance of flood management structures.

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[42] The disbursement figure also includes disbursement by Grameen Bank.

[43] BRAC was formerly known as Bangladesh Rural Advancement Committee.

[44] Structural measures include aspects such as embankments, compartmentalization with controlled flooding, and polders in coastal areas. Non-structural measures include aspects such as improved flood forecasting and warning systems, evacuation, education, and flood proofing measures such as village mounts, better construction, flood insurance and floodplain zoning.

Institutions for Promoting the RNF Sector: Weak Service Delivery Mechanism

1.37 ***The high degree of diversity and heterogeneity of RNF activities poses critical institutional challenges to mainstreaming RNF issues into the overall development strategy.*** The importance of the RNF economy in overall economic development and poverty reduction, as highlighted in the I-PRSP document, is widely acknowledged in Bangladesh. Every successive development plan, beginning with the Two-Year Development Plan of 1980-82, called for supporting the RNF sector, but such calls have not been translated into concrete actions.[45] Because the RNF economy cuts across nearly all economic sectors (agriculture, manufacturing, services) while not identifying with any one of them specifically, and because it involves many different types of players (private, public, NGOs) that are spatially dispersed (in villages, districts, cities), it is not clear where the institutional and governmental responsibility for this sector rests. Thus, being everybody's baby, the sector has become nobody's baby. International experience, however, highlights some options that are to be avoided. These include: (i) one of the line ministries taking the lead in attempting to coordinate activities; (ii) creation of an inter-ministerial bureaucracy (e.g., as in the old integrated rural development projects) to deal with RNF issues; (iii) assigning responsibility to a ministry with cross-cutting responsibilities (e.g., Planning or Finance), but without the capacity for local delivery. Each of these institutional arrangements has been ineffective in dealing with cross-cutting rural development issues similar to those faced by the RNF sector.[46]

1.38 ***The heterogeneity and high spatial dispersion of RNF activities underscores the need for decentralization to ensure efficient and effective delivery of services to numerous rural entrepreneurs.*** The nature of the RNF sector is that numerous, often tiny rural entrepreneurs are distributed over large geographical areas. Because of this, a centralized and top-down structure for service delivery is unlikely to meet their needs. Indeed, the experience of Bangladesh Small and Cottage Industries Corporation (BSCIC) in providing technical and business services, and in promoting the industrial estate programs, shows that none of these supply-driven and top-down programs have been effective in reaching small and medium entrepreneurs. The HORTEX Foundation, which was established with donor assistance to promote horticulture export, has been unable to create a large enough client base to sustain its operations.[47] As has been observed with the delivery of education, health, and other public services, decentralization to local levels is the most effective way to improve the efficiency of public services to rural entrepreneurs, be it maintenance of critical infrastructure (roads) or delivery of business development services. These efficiency gains in delivery of public services come from the empowerment of beneficiaries and communities.

1.39 ***The progress in establishing an effective system of local government, with clearly defined responsibilities, financial autonomy, and accountability, has been modest in Bangladesh.*** Successive governments in Bangladesh have made electoral pledges to create strong elected local governments. However, the country has a history of planning reforms aimed at strengthening local government institutions, followed by reversals and re-centralization.[48] Moreover, most decentralization initiatives have been partial consisting of devolving some of the

[45] Ahmed (2003).

[46] For detail evaluation, see Haggblade, Hazell and Reardon (2002) and Binswanger (1998).

[47] HORTEX, however, has been successful in introducing year-round production of some horticulture crops unknown to local farmers (e.g., French beans, baby pineapple), and has acted as a catalyst in the development of BRAC's horticulture processing and export business.

[48] The establishment of Upazila councils in 1982, and their subsequent decline, attest to the cyclical process of local government reforms.

central government's political and administrative functions to local authorities. On the positive side, the recent initiation of Union Parishad[49] elections has been a major step towards decentralization. Compared with the progress toward decentralization in neighboring countries, Bangladesh has a long way to go to devolve significant administrative, political, and fiscal responsibilities to local authorities, and to develop the capacity of local governments to carry out these functions in an effective and transparent manner.

1.40 ***As in the case of microfinance, NGOs have taken a lead in delivering services to rural entrepreneurs, though an appropriate legal framework is needed to ensure proper accountability and transparency in NGO operations.*** In addition to their core activities in the provision of social services (health, education, etc.) and microfinance, NGOs have also emerged as leading providers of technical and business services for rural non-farm entrepreneurs. BRAC, for instance, has invested heavily in agro-processing for the export of horticulture crops, and maintains contractual arrangements with smaller farmers for cultivation of those crops. BRAC, Grameen, and ASA have undertaken the task of providing financial services and technical assistance to MSM enterprises, with some successes. However, there is consensus among different stakeholders, including the government, donors, and NGOs, that a legal framework is needed to ensure the transparency and accountability of NGO operations. Moreover, the public good nature of many of the services required by non-farm entrepreneurs means that capabilities of the local government will have to be strengthened through decentralization. By forging partnerships among local governments, NGOs, and the private sector, the efficiency and effectiveness of service delivery to the rural entrepreneurs can be significantly improved.

STRATEGY AND OPTIONS FOR PROMOTING THE RURAL NON-FARM SECTOR

1.41 ***To achieve the I-PRSP target of rural poverty reduction, Bangladesh will have to create a virtuous circle of pro-poor rural productivity growth.*** While agriculture has been the main engine of rural growth during the past decades, the continued intensification and diversification of agriculture will depend on expansion of the food processing sector – which, in turn, will cause further expansion of agriculture-related RNF activities, particularly in agricultural machinery and rural construction. Productivity growth in RNF activities, supported by a healthy agricultural sector, will require the removal of major constraints that adversely affect service delivery and the rural investment climate. Productivity growth in agriculture, reinforced by that in the RNF sector, and vice versa, can then create a virtuous circle of growth sufficient to meet the MDGs set out in the I-PRSP.

1.42 ***A virtuous circle of broad-based, pro-poor farm and non-farm growth can be created through a strategy that fosters an enabling rural investment climate and an efficient institutional mechanism for delivery of services.*** The high degree of diversity and heterogeneity of the RNF economy makes it nearly impossible to identify one simple "silver policy bullet" to promote the sector. Based on the analyses presented in the preceding sections and on a review of international experience, this report recommends a two-pronged strategy for promoting the RNF economy: (i) improving the rural investment climate; and (ii) devising an institutional framework for efficient delivery of services. The key policy and investment interventions required to improve the rural investment climate have received considerable attention in the strategies proposed by the I-PRSP and World Bank report[50] on the RNF sector.[51] The strategy proposed in

[49] Union Parishad is the lowest tier of local government.
[50] World Bank (1997).
[51] For instance, the I-PRSP emphasized three key elements (education and skills, road and communication network, and access to credit) for promoting RNF growth. World Bank (1997) proposed a primary strategy

this report takes the policy and investment agenda a step further, by focusing on specific areas of weakness, and the possible options available to different stakeholders (government, NGOs, communities, private sector) to address those weaknesses.

An Enabling Rural Investment Climate

1.43 ***Ensuring an enabling investment climate in rural areas requires prompt action, particularly on the part of the Government, to remove key bottlenecks and create an appropriate regulatory environment, which is essential for sustaining and enhancing dynamic activities (e.g., the agro-food supply chain).*** The key areas for action include: (i) removal of the anti-rural bias in existing trade and macroeconomic policies; (ii) removal of constraints in physical and financial infrastructure; (iii) sustaining progress made in mitigating natural disasters; and (iv) provision of a regulatory framework for the development of agro-food supply chains. The analysis of constraints at the household, firm, and regional levels presented in earlier sections suggest that some of the investment operations, particularly in the provision of physical and financial infrastructure and urban services, will have to be targeted at the regional level. The growth center development strategy promoted by the Government has to be targeted to regions with greater agricultural potential; for instance, the North West part of the country.

Removing the Anti-Rural Bias of Macroeconomic Policies

1.44 ***The current tariff regime, and the special incentives provided through industrial policies, need to be rationalized in order to level the playing field for rural farm and non-farm producers.*** Bangladesh began to implement wide-ranging trade policy reforms in 1991, but recent policy reversals, along with the ad hoc use of supplemental duties and infrastructure levies, have made its trade regime one of the most restrictive in the world, second only to India's.[52] While reducing tariffs in a transparent manner is a policy priority at the national level, removing the inherent anti-rural bias built into the trade and industrial policies will require:

- *rationalizing the overall tariff structure so as to reduce tariff rates and tariff dispersions*: The in-built tariff dispersions due to a cascading tariff structure hurt MSM enterprises, since they use small and low-capacity machines/motors that are often subject to higher consumer goods tariffs. For instance, completed irrigation equipment is imported free of tariff, but low-capacity motors (less than 2 horse-power) used in the domestic manufacture of irrigation equipment is treated as a consumer good and is subject to a higher tariff. The existing tariff schedules need to be reviewed closely to identify items that are inputs to MSM firms; and tariffs on those items need to be brought down to the level applied to industrial imports. Reduction of tariff dispersions will also help to ameliorate the unintended bias against rural entrepreneurs.

- *Reducing tariffs on key inputs for the food processing sector*: High tariffs on some key inputs for food processing (e.g., sugar, salt) have undercut the competitiveness of the food processing industry, and should be reduced or removed.

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of improving the effectiveness of the government in the provision of rural infrastructure and in shaping an efficient rural financial system. The secondary strategy proposed in World Bank (1997) involves adoption of a sound urbanization strategy, provision of cost-effective producers services and removal of anti-rural bias.

[52] World Bank (2003d).

- *Remove or rationalize the special incentive structure so as to level the playing field for all entrepreneurs, irrespective of their firm sizes and locations*: Larger firms located in metropolitan areas are often beneficiaries of special incentives offered by the Government, while smaller rural enterprises are likely to be left out. For instance, incentives extended to exporters (e.g., food processors) such as cash incentive (25 percent), and duty drawbacks on imported inputs, require administrative capability and knowledge, which are beyond the capacity of most MSM enterprises.

Improving Access to Rural Infrastructure

1.45 ***Roads.*** Bangladesh ranks high in road density, and except for filling critical gaps in the existing network, the return to investment in new road construction is likely to be small and diminishing. Instead, priority should be to the following areas:

- *Adequate provision for operations and maintenance (O&M)*: Some of the funds currently allocated for road expansion can be diverted to O&M of the road network. Funds for O&M can be augmented by using alternative options such as the *second-generation road funds (Box 1)*. The efficiency of spending on maintenance can be improved by greater use of the private sector, under close supervision of the stakeholders (road users, communities) and the government.

- *Developing the waterways*: The government needs to set and enforce standards for the bridge network and berthing facilities in inland waterways. Rules and guidelines need to be established to ensure sufficient vertical or width clearance for boats; the proper siting of irrigation projects or sluices; etc. Local communities can be brought in to organize self-financing of ghat /berthing facilities. The government will also need to focus on desilting of major waterways.

Box 1: Second-generation road funds

Road funds were initially set up in the 1960s and 1970s as simple extra-budgetary arrangements to earmark a proportion of tax revenues for road maintenance. Second generation road funds are funded by various user charges and set apart from general taxation. While fuel levies are most common, some road funds also receive revenue from international transit tolls, weigh bridge fines, vehicle license fees, or direct charges. The funds are managed by an independent board that represents road users. The board determines the level of charges and the allocation of expenditures while implementation of road management programs is overseen by specialized engineering departments.

Road funds might be seen as a second-best option where funding through general budget has led to a neglect of fund allocation for road maintenance. Elements of an effective second-generation road fund are a secure legal basis; a clearly defined role for the management board in determining resource requirements; levies and allocation; resource generation and distribution powers; professional management; and effective relations with a well-functioning executing agency. In practice, these elements are difficult to implement and maintain. A review of a number of road funds[1] has found that in most instances, governments, through the finance ministry, maintain a high degree of control over the magnitude of user charges and allocation of resources. Yet, in all cases, there has been an improvement in the execution and outcomes of road maintenance efforts.

[1] Gwilliam, K.M. and A. Kumar (2002).

- *Promoting the integration of different modes of transportation and a diversified transport fleet*: This will require: (i) reassessment of the tolls for the Jamuna bridge; (ii) reform of container port management at Chittagong port;[53] (iii) removal of high tariffs on the import of smaller trucks; and (iv) enforcement of traffic laws, along with better maintenance of the national highways, to relieve congestion and ensure road safety.

1.46 ***Electricity.*** To stimulate and sustain rural growth, Bangladesh will need to ensure a much higher rate of rural electrification, and greater reliability of electricity supply in rural areas. Enhancing the rate of rural electrification and improving reliability will require major reform in the power sector, involving rationalization of the power tariff; clarification of public-private roles in generation, transmission, and distribution; and a legal and regulatory framework that encourages private sector participation.[54] In addition to these broader power sector reforms at the national level, access to and reliability of electricity in rural areas can be increased by relying on: (i) decentralized generation systems, and distribution through independent micro grids, to increase access to electricity quickly in rural areas, (ii) improved coverage of the Rural Electrification Board (REB) and Palli Bidyut Samities (PBS), and removal of the unfair load-shedding policy of the Bangladesh Power Development Board (BPDB), which cuts supplies to rural PBSs if there is an excess in urban demand; and (iii) alternative power generation and distribution by the private sector, including community-based programs such as Remote Area Power Supply Systems (RAPSS), and renewable off-grid technologies, such as photovoltaic systems for households with limited electricity needs.

1.47 ***Telecommunications.*** Telecommunication reforms at the national level, combined with specific policy reforms aimed at rural areas, are needed to increase and improve access to telecommunications in rural areas.[55] Along with institutional and regulatory reforms at the national level, expansion of rural access will require: (i) expansion of interconnection capacity by BTTB, the lack of which is holding back growth of the mobile network; (ii) a fair inter-connection pricing regime; (iii) investment in BTTB's switching equipment (which can be financed by private providers); (iv) increased access to public call offices (by requiring mobile operators to make their facilities available to the public); (v) granting more licenses to private sector operators that will expand the phone network using alternative technology such as Wireless Local Loop technology (WLL).

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[53] The government's adoption of a new national shipping policy and guidelines for private participation in ports is a step in right direction. The government needs to attract private participation in the management of ports, while addressing the legitimate concerns of organized labor.

[54] Overall reforms in the power sector should aim at: (i) unbundling potentially competitive generation from the transmission system, through the creation of corporatized generation companies; (ii) operation of the transmission system as a common carrier; (iii) creation of a number of corporatized distribution companies, which would be more manageable and responsive to consumer demand; and (iv) establishing an independent regulatory framework to oversee tariffs. The volume of power purchase agreements to be contracted with international power producers will have to be monitored in order to avoid unsustainable foreign exchange liabilities.

[55] At the national level, necessary key reforms include: (i) deregulation of controls on international gateways and on the long-distance service market; (ii) operational autonomy for the Bangladesh Telecommunications Regulatory Commission (BTRC); (iii) strengthening of institutional capability BTRC; and (iv) restructuring and corporatizing of BTTB.

Improving Access to Rural Finance

1.48 ***Increased emphasis on mobilization of savings, reduction of transaction costs for lending and borrowing, and sustainable scaling up of microfinance programs are required to deepen financial intermediation in rural areas.*** Reform of the rural financial sector should accompany the financial reform package that is currently being implemented by the government. There are, however, significant knowledge gaps as to the modality of extending the financial sector reforms to rural public sector banks, particularly in the face of rapidly evolving rural financial markets during the last decade. Based on national and international experience, improving access to finance, particularly by the "missing middles," will require:

- *Design and implementation of a reform package for rural public sector banks.* The reform package and its implementation steps need to take account of the feasibility of different options, in light of national and international experience (Box 2). As a first step, a comprehensive external portfolio audit, including an in-depth analysis of management systems, accounting practices, and corporate policies should be take for the two agricultural banks.

Box 2. Reforming the village banking (unit desa) system of Bank Rakyat Indonesia (BRI)

The BRI was established in the early 1950s to provide rural banking services, with an emphasis on the promotion of agricultural development. During the 1970s, the unit desas were established at the village level to operate as retail windows of the BRI district-level branch offices, and to deliver subsidized credit to rice farmers under the BIMAS *(Bimbigan Massal or Mass Guidance)* program. The highly subsidized interest rate on BIMAS loans, along with lack of autonomy in loan approval and monitoring, and lack of financial accountability, led to mounting losses that made the unit desa system increasingly burdensome. In 1983, the Government of Indonesia implemented a broader financial sector reform program, which suspended ceilings on loans, removed controls on interest rates for both savings and loans, and put special emphasis on savings mobilization. In the context of this broader financial sector liberalization, and with the full support of the Ministry of Finance and the Central Bank of Indonesia, the management of BRI completely revamped its unit desa operations, including the products and services it offered. The reforms of the unit desa system included:

- Placing responsibility for the reform and subsequent performance in the hands of BRI management, and depoliticizing the decisionmaking process.
- Separating unit desas from district level branch offices, and making them into autonomous financial entities that maintain their own books and accounting system.
- Making district-level branch offices responsible for supervision of unit desas.
- Making staff accountable for the performance of the unit desas, by delegating loan approval and repayment responsibilities to loan officers. An incentive bonus was introduced among staff.
- Strengthening internal and external supervision and audit capacity, by training staff at both unit desas and district branch offices.

The unit desas introduced two new loan products – working capital and investment capital – under a new lending scheme called KUPEDES (Kredit Umum Pedesaan or general rural credit). The high interest, along with the flexibility to use these loans for the borrower's own purposes, made these loans very popular, particularly among poorer borrowers. Unit desas also introduced flexible savings instruments SIMPEDES (Simpanan Pedesaan or village saving) to tap rural savings. The bold steps of the reform effort yielded dramatic results. By 1986, the unit desa system turned into a self-sustaining profit-making entity. The system sailed through the financial crisis of late 1990s without much trouble. These positive results were due in large part to strong leadership within BRI and the Government for the reform, along with considerable investment in financial and human capital by the Government and its development partners.

Sources: Robinson (2002); CGAP (1997).

- *Creation of a legal framework for securitization of transactions.* Allowing a wider range of assets to be used as collateral, strengthening land titling and registration systems, facilitating the use of information technology, and improving credit information through a credit information bureau for rural clients, will contribute to significantly reducing the transaction costs of rural lending

- *Providing a legal and regulatory framework for the sustainable expansion of microfinance programs.* The microfinance institutions and NGOs providing microfinance have displayed impressive ingenuity in designing and delivering flexible loan instruments and in ensuring loan recovery. However, financial the sustainability of many programs is in question. Similarly, all stakeholders (government, MFI/NGOs, donors) recognize the critical need for a legal framework to regulate the financial operations of the MFIs, particularly since some of the MFI/NGOs are mobilizing deposits from the public. Such a regulatory framework will be essential for integrating the MFIs into commercial markets. Integration will allow banks (including those MFIs operating as banks, such as Grameen and BRAC) to use smaller NGOs as brokers to service their rural clients.

Developing the Agro-Food System and Agro-Enterprises

1.49 International experience suggests that the development of competitive and pro-poor agro-food systems cannot be left to the market alone, because of the concentration of market power in the distribution end of the chain, market failures, and the lack of access to public services (e.g. credit, assets, skills).[56] The modernization of agro-food systems itself does not take place automatically and spontaneously; rather, deliberate and strategic interventions on the part of the governments play an important role in fostering technological and institutional change (Box 3). In addition to improved transport infrastructure, delivery of finance, and removal of anti-rural policy distortions, such strategic interventions include, among other things:

- Refocusing public research and extension services on developing and disseminating appropriate technology for a wider range of products beyond cereal crops.

- Providing a legal and regulatory framework to facilitate private investment in the agro-food sector (e.g., property and bankruptcy law, international property rights, zoning regulations, licensing laws, company and cooperative law,, anti-trust laws, etc.); and to monitor potential abuses of market powers.

- Providing and making strategic investments in a regulatory framework to ensure an effective and trusted system of food quality and safety assurance.

- Investing in an effective system of information collection and dissemination about market opportunities and requirements, to help farmers and RNF entrepreneurs take advantage of emerging opportunities.

- Negotiating favorable terms of access to international markets, and ensuring fair practices by different trading partners at home and abroad.

[56] World Bank (2003e).

Box 3. Roles of government in agro-food system and agro-enterprise development

- **Set and ensure enforcement of transparent and consistent rules of the game**
  1. Establish and enforce rules that define and allocate property rights (e.g., property and bankruptcy laws; intellectual property rights; zoning regulations)
  2. Establish and enforce rules that define permissible and non-permissible forms of cooperation and competition (e.g., licensing laws, contract laws, company and cooperative laws; anti-trust laws)
  3. Establish and enforce compliance with bio-safety, food safety, worker safety, and sanitation regulations
  4. Negotiate favorable terms for access to international markets, and ensure fair practices on the part of international trading partners.
- **Compensate for market failures and asymmetric power relationships**
  1. Ensure that the country is protected from the harmful introduction/spread of plant pests and animal diseases
  2. Ensure the availability of information (on production, prices, industries) and statistics to facilitate market activity and monitor market progress
  3. Invest in or facilitate risk management instruments for agro-food system participants
  4. Facilitate the financing of agro-food system investment and activity, directly or indirectly
  5. Compensate for asymmetric power relationships within the agro-food system by monitoring potential abuses of market power, providing training and information, and/or supporting organizational development among weak participants
  6. Compensate losers in structural reform processes through safety nets and other transitional targeted programs.
- **Build physical and knowledge capital**
  1. Invest in social overhead infrastructure, especially that related to telecommunications, transport, and energy
  2. Invest in knowledge-building (R&D, academic/technical training) to accelerate the agribusiness learning process and better enable the emergent private sector to participate/compete.,

Source: World Bank (2003e).

Sustaining the Progress in Mitigating Natural Disasters

1.50 The Government's National Water Policy[57] lays out a comprehensive framework for reform of the water sector. Implementing this framework will be a step toward addressing issues related to public-privates roles, institutional reforms of the Bangladesh Water Development Board, environmental protection, and social participation.

Institutions for Implementing the RNF Strategy and for Delivering Services

1.51 ***Mainstreaming RNF issues.*** The government has to play a crucial role in maintaining an enabling environment for rural entrepreneurs, and delivering public goods and services (e.g., infrastructure). In order to mainstream the RNF issues in rural development, an institutional set-up comprised of a coalition of stakeholders (national and local government, development partners, civil society, private sector, academics) and a public monitoring unit perhaps represents the best option. The stakeholder group would be responsible for identifying the strategic policy and investment priorities, which would then be implemented by the line ministries. The

[57] Government of Bangladesh (1998)

monitoring unit, preferably located in the Prime Minister's office, would keep track of implementation. This proposed institutional set-up would have to be calibrated as adjustments are made based on the lessons learnt in the process of implementation.

1.52 ***Decentralization to local levels for efficient delivery of service.*** A strong (with adequate financial and administrative power) and popular (elected with people's mandate) local government, as revealed from the consultations held in the process of preparation of the I-PRSP, is viewed as the most effective way of empowering the communities and ensuring accountability in the delivery of services. Effective and efficient delivery of services to numerous rural entrepreneurs will require expediting the process of decentralization to thana and union levels, and of strengthening the capacity of the local governments. The recent initiation of Union Parishad election is an important step in the right direction. Past experience with decentralization efforts in Bangladesh suggests that further consultations and analytical work on options for power sharing, fiscal decentralization and ensuring community and people's participation in the decentralization process are required to ensure the sustainability of future decentralization efforts.

1.53 ***NGOs and delivery of services.*** The NGOs have emerged as a leading provider of services to rural entrepreneurs. However, a legal and regulatory framework is needed to ensure the transparency and accountability of NGO operations. The framework must clarify the role of NGOs vis-a-vis advocacy groups, commercial enterprises, the financial sector and the government, and provide an internal accountability framework based on transparency and system of check and balances for their finances and performance. The current effort by different stakeholders (government, NGO and others) to create such a framework is a positive development, but it should include all different types of NGOs, not just those involved in microfinance.

1.54 ***Providing business development services:*** Business development services (BDS) include a wide variety of non-financial services such as labor and management training, extension, consultancy, and counseling; marketing and information services; technology development and diffusion; and mechanisms to improve business linkages through subcontracting, franchising, and business clusters. These services form an important part of the market support structure that helps build the competitiveness of MSM enterprises. In Bangladesh, NGOs have provided these services to some targeted clientele (e.g., handloom producers in the case of Grameen Check), but scaling up of these programs to reach a wider swathe of rural entrepreneurs remains an important issue. Producers' cooperatives and the development of public call offices as full service facilities have played important roles in provision of these services in India and Taiwan. With a sound legal framework regulating NGO operations, NGOs can play a catalytic role, particularly in establishing public call and service facilities. Bangladesh can also facilitate the entry of private providers into these markets by granting them some initial assistance (for 2 or 3 years), and by stimulating demand for these services from rural entrepreneurs through matching grant programs. The efficient and effective delivery of quality BDS to a majority of rural entrepreneurs will require the creation of partnerships among local government, NGOs, and the private sector.

Way Forward

1.55 Rural economy in Bangladesh has made impressive strides during the last three decades. Since 1975, the country has more than doubled its cereal production (mainly rice) on less agricultural land, allowing for significant diversification into other crops and non-crop agriculture. This remarkable progress in cereal production has helped to eliminate the threat of famine and hunger, which traumatized the country in the earlier decades. The productivity growth in agriculture has helped the RNF sector to emerge as a leading source of income and

employment in rural areas during the last decade. Despite the accelerated growth in agriculture and RNF sector and concomitant decline in rural poverty during the last decade, widespread poverty persists in rural areas. The fight against rural poverty can be won by creating and sustaining a virtuous circle of rural growth. This report suggests that a number of policy and institutional reforms are necessary to ensure an enabling rural investment environment and efficient service delivery- two prerequisite for the creation of a virtuous circle of rural growth. The government has a crucial role in implementing these reforms. Without these reforms growth in both farm and non-farm sectors will falter risking the progress made in rural poverty reduction.

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