Bangladesh
The Non-Farm Sector in a Diversifying Rural Economy

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ACRONYMS AND ABBREVIATIONS

BBS - Bangladesh Bureau of Statistics
BIDS - Bangladesh Institute of Development Studies
BKB - Bangladesh Krishi Bank
BRAC - Bangladesh Rural Advancement Committee
BRDB - Bangladesh Rural Development Board
BSCIC - Bangladesh Small and Cotage Industries Corporation
GDI - Gross Domestic Investment
GDP - Gross Domestic Product
GDS - Gross Domestic Savings
HES - Household Expenditure Survey
HYVs - High Yielding Varieties
LFS - Labor Force Surveys
NGO - Non-Governmental Organization
RAKUB - Rajshahi Krishi Unnayan Bank
RISP - Rural Industries Study Project
RNF - Rural Non-Farm

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EXECUTIVE SUMMARY

CONTEXT

As broadly defined here, the "rural non-farm" sector includes all activities outside of crop agriculture that are carried out both in rural and semi-urban areas. A narrower definition would cover only non-agricultural activities in rural areas. Several features of Bangladesh's economy set the context and the motivation for this study of the broadly defined rural non-farm sector:

- Largely rural population and limited land, resulting in some of the highest population densities in the world
- Massive rural poverty with more than half the rural population poor
- Agriculture is 33 percent of GDP, and industry is only 18 percent
- Average annual GDP growth of around 4 percent has been inadequate to reduce poverty substantially and systematically
- New job entrants to labor force will not taper off for at least two more decades
- Labor absorption in agriculture will decline with productivity growth and falling GDP share
- Rural-urban migration is substantial, and municipal services are already overstretched
- Bangladesh's only option is to grow at 7 to 8 percent using the most labor intensive techniques, while remaining efficient, so that growth equates to rapid poverty reduction

TWO STRANDS OF THE STUDY

Both the growth and poverty reducing dimensions of the non-farm sector are discussed here:

- Chapter 1 presents the background to the study, its rationale, and issues of definition
- Chapter 2 highlights lessons from the East Asian experience with non-farm growth
- Chapter 3 examines the sector's performance in Bangladesh
- Chapter 4 discusses the role of micro-credit in rural poverty alleviation
- Chapter 5 offers a two-part strategy for promoting a virtuous circle of non-farm growth and poverty alleviation

THE RURAL NON-FARM SECTOR

Comparative evidence suggests that rapid agricultural growth has preceded accelerated rural non-farm growth. Rapid rural non-farm growth can:

- Help to absorb rural labor force growth
- Provide a safety net for landless and marginal farmers, particularly during periods of agricultural distress, and tighten rural labor markets, particularly for agricultural laborers
- Slow metropolitan urbanization through the growth of semi-urban areas
- Strengthen forward/backward linkages with agriculture and produce a virtuous circle of rural development
- Cater to growing domestic urban demand and niche export markets

Five principal lessons seem to emerge from the East Asian experience with rapid rural non-farm growth, which was accompanied by:

- Strong agricultural performance
- Good rural infrastructure, particularly roads
• Realization of export potential and availability of necessary infrastructure for entering niche export markets
• Strong local government institutions that ensured local responses to problems and avoided urban bias
• Development of industry in semi-urban locations to take advantage of proximity to input and product markets

GROWTH PERFORMANCE OF THE RURAL NON-FARM SECTOR
The empirical findings highlighted here and reported at greater detail in the background papers, suggest that the rural non-farm sector:
• is a quarter of the total labor force; including semi-urban areas, it is a third
• spans a range of low-productivity activities that still dominate, and some new high-productivity activities of recent origin
• spans a range of rural and semi-urban locations
• is increasingly though slowly shedding its subsistence nature
• has experienced rapid growth in non-crop agriculture, fueled in part by microenterprise credit and some agricultural diversification
• has contributed over the past decade to lowering or containing rural poverty; the incidence of poverty for rural nonfarm households is lower than agricultural laborer households
• provides access to an important and independent determinant of household income that is not entirely tied to the importance of landownership in determining the rural income distribution

POVERTY ALLEVIATION AND MICRO-CREDIT FOR RURAL NON-FARM ACTIVITIES
The credit programs of Grameen Bank, BRAC, RD-12 and other NGOs target credit for landless households and promote non-farm activities among the poor, particularly women. The findings suggest that:
• the credit programs have increased overall village-level participation in non-farm occupations
• both moderate and extreme poverty is lower among participants than among non-participants in micro-credit program villages
• participation, specially by women, substantially increases per capita expenditure: on the assumption of no other changes, it would take about five years on average for a typical female Grameen Bank borrower after joining the program to lift her household out of poverty
• lack of access to credit could be potentially a binding constraint on the poor's non-farm participation
• the supply of affordable credit for the expansion of non-farm production should be supported by appropriate skill development, marketing, and other organizational assistance

A VIRTUOUS CIRCLE OF RURAL NON-FARM AND AGRICULTURAL GROWTH
Rapid agricultural growth and diversification are necessary conditions for establishing a virtuous circle of rural development. But to grow GDP per capita rapidly enough to ensure an impact on poverty, complementary actions are needed. In addition to facilitating agricultural growth, the primary strategy for promoting the rural non-farm sector should be to push for:
• Improved physical infrastructure in roads and inland transport, rural markets, rural electricity, and communications. In many of these infrastructure and utility sectors reforms are underway, but have been slow and halting, and much time has been lost already.
• Improved rural financial intermediation, where the problems partly reflect the extremely poor state of financial governance in Bangladesh. These larger problems need to be addressed quickly to avoid further systemic deterioration, which would impact the rural and agricultural
sector as well. NGOs need to be encouraged to expand credit to rural small and medium enterprises, a group that is not being covered adequately by any source of credit. Collateral requirements for rural finance need to examined. Private venture capital to supplement NGO-led micro-enterprise credit may be needed.

These are not new elements of reform. What is important is to recognize that these elements are part of a package, and there must be simultaneous progress on all of its parts if a virtuous circle of rural growth is to be initiated.

To complement the primary strategy of improving infrastructure, finance, and agricultural performance, a secondary strategy for promoting the rural non-farm sector should be to create, in partnership with NGOs and the private sector, an enabling environment for private sector-led rural industry and for stronger linkages to agriculture.

- As part of a sound urban development strategy, industrial and infrastructure location policy needs to ensure that semi-urban areas are not lost sight of in meeting the pressing needs of core metropolitan areas on the one hand, and village-level rural areas on the other.
- If rural manufacturing is to take root and become competitive, comparative and Bangladesh experience suggests that producer services for small and medium-scale enterprises must become available more widely and cost-effectively through a scaling up of currently successful NGO programs and other private initiatives.
- The bias against the rural sector in policies and programs, particularly as they impact small and medium scale enterprises in rural areas, should be removed as far as possible.
CHAPTER ONE
THE RURAL NON-FARM SECTOR IN BANGLADESH: AN OVERVIEW OF THE ISSUES

A. Introduction

Bangladesh’s development choices can be neatly summed up by a handful of statistics. With a population of 120 million and a population density of 800 per square kilometer, it is the most crowded non-city country in the world. Per capita income in 1995 was US$ 250, barely distancing Bangladesh from the small number of African countries at the very foot of the income scale. Almost half of all Bangladeshis live on the wrong side of the poverty line, most of them in the rural sector, where over 80 percent of the population still resides, (Wodon 1996). Unemployment, open or disguised, plagues at least a third of the labor force (separate estimates suggest an underemployment rate of 35 percent). And this pool is swelling. About 2.5 million people enter the job market every year, and given the current rate of population increase, this growth will not taper off for at least two decades, even if fertility continues to decline. To prevent poverty and unemployment from becoming socially unsupportable and politically explosive, Bangladesh has only one meaningful choice: it must aim for a growth rate of not much less than 7 to 8 percent, using the most labor intensive techniques while still being efficient, so that growth translates into employment and poverty reduction.

Growth of this order is roughly twice the average annual rate attained by Bangladesh during the 1980s and 80 percent higher than the average rate seen in the first half of the 1990s. It is a rate that very few countries have been able to sustain over a long stretch. What role can the non-farm sector play to support the push for higher growth and greater poverty reduction? What are likely to be the key constraints? What are the strategic implications for policy making in Bangladesh to promote rural non-farm growth within a diversifying rural economy?

B. Why the Rural Non-farm Sector?

Interest in this study grew out of the overriding need to look for all sources of efficient economic growth in Bangladesh to enable faster poverty reduction. Attention focused on the rural non-farm sector given the less-than-spectacular performance of the agricultural sector (particularly crop agriculture) in the late 1980s and early 1990s, the small size of urban manufacturing, and the role that rural non-farm activities—particularly rural industry—have played in many of the high-growth East Asian economies in reinforcing good agricultural performance. In some instances, the non-farm sector has served as a leading sector in its own right at a later stage of development in East Asia. There appears, therefore, to be a clear case for exploring a strategy for faster rural growth in Bangladesh,

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1 This report is the product of a World Bank study of the rural non-farm sector in Bangladesh conducted jointly with collaborators from the Bangladesh Institute of Development Studies (BIDS) and Dhaka University: Wahiduddin Mahmud (Dhaka University); Zaid Bakht, Debapriya Bhattacharya, and Binayak Sen (Bangladesh Institute of Development Studies). We are grateful to Mahabub Hossain, Peter Lanjouw, and William Byrd for comments at an early stage of the work, to the participants at the July 1996 BIDS-World Bank Workshop in Dhaka to discuss the study, and to Lalita Moorty for very able research assistance.

2 Easterly et. al. (1993) show that for 1960-88, only the East Asian "Gang of Four" and Botswana have been able to sustain growth rates at 6 percent or higher. In virtually all other cases, growth rates were lower—close to the international average—and the persistence of a rapid growth pattern was also low from one period to the next.
and for that growth to go beyond crop agriculture to non-farm development. It is clear that non-farm activities alone will not double Bangladesh’s growth rate, but the spread of rural agroindustry, as well as manufacturing activities and associated services, could easily add one or two points to the GDP growth rate.

THE NEED FOR FASTER RURAL GROWTH: Over 80 percent of Bangladesh’s population is rural, continues to grow rapidly, and contains the vast majority of the poor. Given the current structure of the economy (agriculture 31 percent of GDP, as compared to 18 percent from industry), the growth of urban-based manufacturing (even when it is rapid, competitive, and efficient) is unlikely to do the job on its own of generating adequate employment and reducing poverty. Rapid growth of the rural economy—agriculture as well as non-farm—is required.

THE NEED FOR RURAL DIVERSIFICATION BEYOND AGRICULTURE: Evidence from East Asia and worldwide suggests that agricultural diversification and growth is a precondition for rapid rural development. But the evidence also suggests that agriculture alone cannot carry the day and must be complemented by the growth of efficient rural industry catering to both domestic and export markets. Besides contributing to GDP growth, dynamic rural non-farm growth can:

- help to absorb rapid rural labor force growth
- provide alternative employment and income to landless rural households at the very bottom of the poverty scale, particularly during periods of economic distress
- slow urbanization and create vital breathing space for overstrained municipal services

In addition, non-farm growth can enable farmers to adopt agricultural technologies with high risk-return characteristics by smoothening the resulting variance in farm incomes; it provides employment opportunities for women outside agricultural labor; it can generate rural demand for raising capacity utilization and exploiting scale economies in indigenous industry; and it can supply niche export markets (such as handloom fabrics) that supplement slack domestic demand.

EMPLOYMENT AND POVERTY CONSIDERATIONS: Examining potential employment magnitudes suggests the following: with declining agricultural employment, by the year 2005, agriculture’s share in the rural labor force could be down to 40 percent and the non-agricultural share could be as high as 60 percent (it was 39 percent in 1990/91). This is of course a potential ceiling, given that there will be considerable migration and growth of metropolitan and sub-metropolitan rural towns over the next ten years. However, to the extent underemployed rural workers find full-time jobs in the non-farm sector, its employment shares would be even higher. So, understanding this sector can have a potentially high payoff in terms of promoting employment and the consequent increase in rural household incomes and poverty reduction.

The TWO STRANDS OF THE STUDY: The study addresses both the growth and the poverty reducing dimensions of rural non-farm development. The East Asian experience suggests that accelerated agricultural growth is a necessary condition for the rapid non-farm growth and its contribution to the overall rural development in Bangladesh. The emphasis on dynamic growth in mainstream economic activities reflects a common belief that without such growth the non-farm sector cannot play the role in overall income growth that it should. But the scale of Bangladesh’s poverty also suggests that rapid rural non-farm growth alone may not be a sufficient condition for substantial and early rural poverty reduction. For this reason, the study recognizes the impact on poverty reduction—particularly for women—of rural programs such as the NGO-led microenterprise credit schemes, for which Grameen Bank, BRAC, and others are justifiably well-known. The scope of the rural non-farm sector should, of course, go well beyond the NGO-led
micro-enterprise sector, since these activities exclude most male rural non-farm workers as well as the landowning rural classes. Indeed, within the micro-enterprise sector itself, orienting the poverty reduction impact of NGO programs toward the objective of growth suggests the need to examine how micro-enterprises and the entrepreneurial poor can graduate to production for bigger domestic and export markets and the generation of rural wage employment.

C. Issues in Studying the Rural Non-farm Sector in Bangladesh

There has been a long-simmering interest in the rural non-farm sector in Bangladesh and elsewhere. But this interest has been dampened by an equally long-standing view of the sector as containing only low-productivity and transition activities that would eventually disappear. The extreme heterogeneity of the sector has also made strict, internationally comparable, definitions difficult. Both the traditional view of the sector and the difficulty of defining it have contributed to the surprisingly little systematic data on the sector, and to an ad hoc, essentially piecemeal and project-based approach to promoting it. This section presents a basic framework for looking at the sector more systematically as a source of growth and poverty reduction.

THE TRADITIONAL VIEW OF THE RNF SECTOR: The motivation for this study contrasts with the traditional view of non-farm activities, which has held that such activities were residual in nature and would vanish with rapid development. This view has led to a “push-pull” controversy in Bangladesh, occasioned by the sharp drop in the share of agriculture in the rural labor force from the mid-1970s to the mid-1980s (85 percent in 1974 to 66 percent in 1984/85). The "push-pull" question refers to whether this drop was due to a "push" out of low productivity agriculture into immiserizing, non-farm activities, or whether it was a "pull" away from agriculture into higher productivity non-farm growth. The Rural Industries Studies Project of the late 1970s by BIDS partially supported the "push" view of non-farm activities.

DEFINING THE RURAL NON-FARM SECTOR: Given the extreme heterogeneity of rural non-farm activities and the fact that data have so far not been systematically collected on the sector, defining “non-farm” involves making judgments on three issues: location of activity, types of activity, and the scale and level of activity (Figure 1.1). In official statistics "urban areas" are more often than not broadly defined to include not only municipal areas but many urban-like areas adjacent to municipalities, thana headquarters, and other areas based on characteristics such as population concentration and electricity consumption. This implies that "rural areas" in official data tend to be more narrowly defined in terms of location. Wherever possible we interpret “rural” broadly to include semi-urban areas outside municipalities in order to better understand the structure and spatial linkages of rural non-farm activities with the rest of economy. This is particularly relevant for Bangladesh with its high population density: semi-urban areas are extensive, numerous, and relatively close together and the transition between urban and rural is gradual.

Given the growing importance of non-crop activities such as fisheries, livestock, and poultry in recent years, the study also included these activities wherever possible. In addition to the

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5 Bangladesh Development Studies 1984
6 Lanjouw and Lanjouw (1994).
difficulties relating to location and type of activities, there is also a serious paucity of data on the scale of rural enterprises. The lack of data is a general difficulty in dealing with non-farm activities. The traditional view and the difficulties of definition have adversely influenced both the quality and quantity of official statistics collected on the sector.

Figure 1.1: Defining the Rural Non-farm Sector

PREVIOUS ATTEMPTS TO PROMOTE THE RURAL NON-FARM SECTOR: Just as the residual notion of this sector has impeded data collection and analysis of the sector, so also has it led to a piece-meal and essentially project driven (as opposed to program or strategic) approach to promoting non-farm enterprises in Bangladesh and elsewhere. This approach has viewed rural non-farm enterprises in a static sense as enterprises that will remain small and rural and for whom interventions are tailor-made through projects. There has been little attempt to see them instead as rural enterprises that will expand efficiently under an appropriate policy framework and on the basis of comparative advantage.

D. A Road Map for this Report

The Report consists of four chapters besides this introductory one. Chapter 2 provides comparative experience of the rural non-farm sector's growth performance in East Asia, and suggests some lessons for Bangladesh in that regard. Chapter 3 discusses the rural non-farm sector's structure and past performance during the 1980s and early 1990s. It also discusses the poverty dimension of rural non-farm activities, both in terms of who participates in the sector, and who benefits. Chapter 4 focuses on the role of microenterprise credit in Bangladesh in promoting rural poverty reduction. Finally, Chapter 5 discusses policy recommendations for promoting the sector in Bangladesh.

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7 Lanjouw and Lanjouw (1994).
CHAPTER TWO
RURAL NON-FARM GROWTH: COMPARATIVE EXPERIENCE AND LESSONS FOR BANGLADESH

A. Introduction

The nature of the rural sector in Bangladesh (roughly one-third share of GNP and eighty percent of the populace), the existing base of proto-industry, mainly handlooms, the apparent unexploited potential in light manufactures and food processing suggest that we look at the experience of East Asian countries that have built rural industries from comparable resource endowments. The experience of East and Southeast Asian economies—China, Thailand, Taiwan (China), Indonesia and Malaysia—indicates that non-farm development followed or paralleled rapid gains in agricultural production. This spurred expansion and growth in rural industry and commerce, commencing usually near cities, but spreading eventually to include a broad swathe of the rural economy. With the help of investment infrastructure and some foreign direct investment, rural industry even developed substantial export potential.¹

This chapter attempts to answer two questions:

♦ What lessons can be derived from the experience of East Asian countries with respect to rural non-farm development?

♦ How can these lessons be applied to Bangladesh? What are the implications for strategy for rural non-farm growth?

The focus of this comparative experience is on promoting accelerated growth rather than poverty reduction. But as was the case in East Asia, it is expected that faster growth of the rural non-farm sector in Bangladesh will lead to faster rural poverty reduction as well. The recent experience of India suggests that rural non-farm growth played such a role there (see Box 2.1).

B. Comparative Development Indicators for Bangladesh and East Asia

Although agriculture remains the principal source of support for much of the population of Bangladesh, it has contributed a fifth or less of economic growth. The share of industry in growth has risen very slowly. During 1981-90, for example, industry contributed just 16 percent to growth. This figure had risen to an average of just over 30 percent over 1993-96. In comparison, industrial expansion was responsible for between half and two-thirds of the growth in China, Republic of Korea, Taiwan (China) and Thailand over the past fifteen years. These fast growing Asian economies derived much of their impetus in the early stages of their rapid growth from an investment-led increase in manufacturing output, a sizable part of which they were able to export after achieving competitiveness. As incomes increased, East Asians enlarged their savings and invested heavily in education, thereby providing the physical and human capital to sustain economic momentum and improve total factor productivity.

A comparison of Bangladesh with other low and some middle-income countries highlights a number of macroeconomic differences. The ratio of gross domestic savings to GDP in Bangladesh was just 6 percent, one of the lowest in a sample of Asian and African economies (Figure 2.1). This had a direct bearing on the volume of investment, which at a bare 14 percent is far short of the investment rates in the successful East Asian economies. The situation is not

¹ For a more detailed exposition see Yusuf and Kumar (1996).
appreciably alleviated by foreign direct investment, which is much lower than in India, Sri Lanka, Malaysia, and Pakistan (Figure 2.2). The revenue base of the government is also less than that for the other Asian comparators (Figure 2.3). All these factors contributed to a rate of capital accumulation that has averaged less than 14 percent of GDP in the first half of the 1990s. Building human capital has also proven to be difficult for Bangladesh. Illiteracy rates remain very high, though enrollment in primary and secondary schools has been picking up in the 1980s (Figure 2.4 and 2.5). However, this is partly vitiated by the poor quality of education and excessive dropout rates. Thus, in terms of resource availability other than unskilled labor, Bangladesh in the mid-1990s was at the level of most East and Southeast Asian countries in the 1950s. This suggests that examining the subsequent growth of the rural non-farm sector in East Asia may yield useful lessons for Bangladesh in its quest for faster development.

**Box 2.1 The Rural Non-Farm Sector and Poverty Reduction in India**

In a recent article Sen (1996) has highlighted the importance of the rural non-farm sector in alleviating rural poverty in India. During 1977/78 to 1990/91, rapid growth in agriculture and the organized industrial sector did not translate itself into higher overall employment in agriculture or urban manufacturing. This period saw a rise in agricultural wages and a fall in rural poverty even though employment in both agriculture and the organized sector was growing slower than the population. The key to this empirical puzzle, according to Sen, lay in the rapid growth of non-agricultural activities reported across all states of India. There was a rapid increase in rural non-agricultural employment, absorbing about 70 percent of the increase in the rural work force during 1977/78 to 1989/90. Agricultural wages also rose due to the tightening of agricultural labor markets as a result of non-agricultural employment opportunities created by increased public expenditures. He argues that while it can be debated whether or not rural non-agricultural activities are residual in nature, it cannot be denied that this sector helped alleviate rural poverty.

The Indian government undertook various rural employment and Integrated Rural Development Programs to encourage non-agricultural activities during this period. These efforts resulted in a large transfer of resources to rural areas, helped make a dent in rural poverty, and were a step in the right direction. However, as Sen points out, the inept management of these programs “spawned a large bureaucracy, they became a focal point for the politics of ‘distributive coalitions’”, and the intended beneficiaries were often bypassed.


**C. Lessons from the East Asian Experience with Rural Non-farm Growth**

The evolution of the non-farm sector in Asia can be divided into three stages (Box 2.2):

1. **The first** stage is dominated by traditional labor-intensive activities that use little modern equipment. Transport, construction, and trading are important at this stage, but many families are still engaged in handicrafts and artisan work.
2. **In the second** stage semi-modern non-farm activities (such as poultry, livestock, horticulture), arising as a result of agricultural growth and diversification, co-exist with traditional activities and with the development of services.
3. **In the third** stage manufacturing grows faster than construction and services, and cottage industries decline rapidly. During this stage the proportion of income from non-farm activities rises to a third or more of family income.
Five principal lessons seem to emerge from the East Asian experience.

1. **STRENGTHEN AGRICULTURE.** In Japan, China, Taiwan (China), the Republic of Korea, Malaysia, Thailand and Indonesia, agricultural prosperity—in several instances motivated by changes in land ownership and tenure—preceeded industrial modernization. This was made possible by an improvement in land productivity, better methods of farming, effective and greater application of fertilizer, wider use of agricultural chemicals, and the mechanization of certain operations using appropriate technology. Rising rural incomes provided financing for investment and generated demand for manufactured goods and services. Agricultural intensification and diversification into cash crops established forward linkages to processing industries, which then became the nucleus of a diversified rural industrial system that forged close links with the urban economy. Using urban contacts and producer services rural industries in virtually all these economies also began producing for overseas markets, capitalizing on their lower overheads and less expensive labor.

2. **EXPLOIT EXPORT POTENTIAL.** In Taiwan (China), Thailand, the Philippines, and China rural industries have been in the forefront of their export push. Rural industries have a comparative advantage in production of labor intensive goods such as woven textiles, garments, silk products, and handicrafts that utilize raw material and skills readily available in the sector. Once a base was established and had acquired a reputation, it was possible to bid for subcontracting arrangements with urban industries and foreign joint ventures. The northeastern economies—Korea and Taiwan (China)—began their export drives in the 1960s by offsetting the protection of their domestic markets with highly targeted incentives to export. But more recently, under a tougher and more retaliatory international trading environment, the newly industrializing East Asian economies—Malaysia, Indonesia, Thailand, China—have promoted exports by combining liberalization of import restrictions with strengthened institutional and infrastructure support for exporters.

3. **DEVELOP INFRASTRUCTURE.** Transport infrastructure has crucially supported the growth of agricultural and non-farm activities in China, Indonesia, and Taiwan (China), while lack of road and energy facilities have constrained non-farm activities in the Philippines. Roads are necessary for the development of markets that in turn induce farmers to intensify cultivation, diversify crop mix, and pursue non-farm activities. Research shows that location of manufacturing activities was strongly influenced by proximity to a highway and telephone connections in Indonesia; rural manufacturing could grow in Taiwan (China) because of the extensive network of roads constructed in earlier stages to support cash crop agriculture, and later, to help manufacturing growth in the western part of the island; and road density is significant in explaining the growth of agricultural output in India. Recent experience in East Asia has also highlighted the contribution of telecommunication facilities for rural producers needing information on prices and market opportunities, both domestic and foreign: without them, it is difficult to respond quickly to market opportunities, organize logistics, and meet the exacting schedules of foreign buyers.
Box 2.2 Stages of Rural Non-Farm Development

Oshima (1993) has suggested that the rural non-farm sector in developing countries usually goes through three stages of development.

**Stage 1:** The non-agricultural employment of farm families is largely traditional, whether in manufacturing, construction, transporting, or services. It is mainly handiwork and uses little modern equipment. Labor supply is mainly seasonal. Food processing (grain milling), handicrafts and artisan work dominate the industrial sector, and very little powered equipment is used. Transport, construction and petty trading are important sources of rural non-farm employment, though earnings are low. While a large number of people are employed, productivity is low and earnings are lower than in agriculture on a per day basis.

**Stage 2:** Semi-modern off-farm activities begin to replace traditional activities. With crop diversification in agriculture, there is an expansion of agro-industries. With improved infrastructure, urban goods enter the rural market, replacing handicrafts to some extent. Handicraft work is replaced by better paying work in construction, transportation and services. Construction and transport begin to use more mechanized equipment.

For example, in Thailand in 1975/76, only one-fourth of non-agricultural income came from manufacturing, mainly food processing and textiles; half from services and one-fourth from construction, transport and mining. In the Philippines, rural manufacturing was dominated by food, textiles and wood products. In Malaysia, services dominated off-farm income and food, textiles, and wood products loomed large in manufacturing.

**Stage 3:** Off-farm work increases faster in manufacturing than in construction and services. Cottage and handicrafts continue to decline but are more than offset by the expansion of factories and large workshops using electrical equipment. These establishments begin to export abroad. Processing industries become a major source of income as fruit, vegetables and animal products are prepared for marketing. Construction tapers off as major infrastructure projects near completion. Trading by large commercial and industrial units replaces petty commerce. In Japan, 1962, more than a third of agriculturists worked in construction, another third in manufacturing, and mining and transport, and a fourth in services. In Taiwan, 1974, services employment seemed more important than construction and mining, with handicrafts declining to 4 percent. In South Korea in 1960, two-thirds of rural non-farm employment was in services. The rest was in industry, with manufacturing accounting for 18 percent and rising rapidly.


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4. **Establish Strong Local Government Institutions.** Empowered local governments with the statutory right as well as organizational capability to develop a sound revenue base have made a significant difference to the success of non-farm activities in East Asia. They have been instrumental in building and maintaining infrastructure, managing public services, and making the legal system work. This is most clearly seen in China, where local governments were given the mandate to build a rural production base by the central government.  

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2 The long tradition of self-government in China, strongly reinforced by the commune system, meant that rural counties possessed the administrative capacity and the organizational structure to develop industry once reforms were introduced in the late 1970s. These reforms stimulated agricultural productivity. They allowed free markets to emerge in the rural sector and they gave local governments and households the incentive to industrialize because most of the benefits could be retained locally rather than being taxed away. Where rural industry could draw upon technology from nearby industrial cities, sources
development-minded local authorities promoted agricultural productivity and industrial activity, as well as supplied seed capital and managerial expertise to initiate non-farm activities. Having established these beachheads, they opened the way for private and cooperative enterprises.

The Chinese experience is based on a number of favorable conditions related to local government tradition, organizational skills, technical manpower, fiscal arrangements, links with urban industry, and foreign direct investment. Hence it is not easily replicable. But it does underline the scope for local government action, and it usefully delineates some of the steps that can lead to success. Competition, entrepreneurship, a sound financial strategy, and local accountability have been key to the success of local governments in these endeavors. Competition for resources and investments induced local governments to strive for efficiency, plan for the future, and harness local talent. The need for local political support led to strong accountability. Entrepreneurship, in sponsoring new projects, attracting investment from outside the locality, and persuading provincial or central governments to enlarge their financial stake in the community, was crucial for enlarging the resource base.

5. TAKE ADVANTAGE OF SEMI-URBAN LOCATION. A hypothesis proposed in the 1950s by Schultz (1953) and tested in China and elsewhere suggests that rural industry develops most vigorously near an urban-industrial nexus—either on the semi-urban fringes of major cities or within a 25-30 mile radius of major economic centers. The obvious advantage is urban demand and a good transport network, which stimulates the spread of processing and packaging industries, storage facilities, and a wide range of ancillary activities. Proximity to urban areas has important spillover benefits too, such as those from infrastructure, technical assistance, and credit, financial, and marketing services. Cities afford gateways to international markets, are a natural conduit for ideas, and are better supplied with skilled entrepreneurs who can turn these ideas into commercial ventures.

D. Applying the Lessons to Bangladesh
How can these five lessons be put to use in Bangladesh?

AGRICULTURE. Though land productivity in Bangladesh has risen, it still lags behind Southeast Asia (Figure 2.6). Furthermore, high population density appears to have dampened the effect of rising land productivity on labor earnings. As a result of its population density, it is possible that the threshold land productivity beyond which non-farm activities begin to multiply is higher for Bangladesh than was the case in East Asia. With negligible scope to expand into new areas and the continuing lack of a good irrigation network, growth will have to rely on productivity gains and diversification into high-value crops for export and domestic markets. Crops accounted for 80 percent of agricultural output in 1984/85; by 1994/95 diversification had reduced it only to 75 percent. The increased share of vegetables, fruit, tree crops and fisheries has been found to trigger the emergence of processing industries, as well as service activities to handle collection, distribution, and marketing. Increasing the area under HYVs (Figure 2.7), strengthening irrigation systems, and expanding public as well as private extension services would constitute essential parts of such a strategy (Figure 2.8). Extending the reach of credit and marketing facilities would make it easier to shift to a more productive farming regime. Managing

of human capital from within the county, and in some instances foreign direct investment: from Hong Kong, the outcome was an explosive rate of growth that has continued unabated for more than 17 years. (See Islam 1991; Islam and Jin 1994; Saith 1995; Odgaard 1992; and Hodder 1993.)
water resources to allocate limited supplies of water in the long run among its uses in agriculture, salinity control, fisheries, navigation, and a growing urban population will remain a challenge.

**EXPORT-LED GROWTH AND RURAL INDUSTRY.** Currently, export-oriented activities are virtually nonexistent in rural Bangladesh, but the emergence of the ready-made garments industry around Dhaka and Chittagong shows that the possibilities are there to be grasped. Garments made from hand-woven fabrics, is an obvious example. The emergence of *Grameen Check* exports in Bangladesh capitalizes on the existence of a rural NGO network in this regard. If agricultural intensification and diversification proceed apace, then tropical fruits, vegetables, cut flowers and fresh water shrimp can also be produced to cater to foreign demand. There are also niche markets, in which competition is less fierce and locally available craft skills could facilitate entry. Three examples of niche products suited to the mix of skills available in Bangladesh could be bamboo fishing rods and fishing flies; bamboo cane, coconut fiber and straw products; and handloom products. Crafting wooden boats for recreational sculling is another activity which could draw upon the large pool of boat building skills present in Bangladesh.

There are a number of domestic hurdles that exporters of Bangladeshi vegetables, garments, or crafts must, however, overcome. *First*, undeveloped local markets set low standards of quality, cleanliness, uniformity, packaging, and adherence to specifications. In such an environment, the demands of foreign buyers can often be daunting. *Second*, there are sunk costs involved in acquiring, adapting and assimilating new technology, in learning about and then plugging into overseas marketing networks. These costs can often be high and public or nongovernmental assistance with information gathering can lessen entry barriers. *Third*, export financing and arranging payments through banks can be problematic for beginners, especially for rural producers that have access to only the most rudimentary banking facilities. Some variant of subcontracting or joint venture partnerships can help overcome this hurdle.

Bangladesh has established a pro-export institutional framework for certain exports such as garments—consisting of widely available export credit with export performance used as a yardstick for credit availability; access to imported inputs at world prices through Export Processing Zones, bonded warehouses, and duty drawbacks; and incentives for export-oriented foreign investors. Making a such pro-export institutional framework accessible to potential export producers in the rural non-farm sector remains a challenge.

**RURAL INFRASTRUCTURE.** An empirical analysis to explain changes in agricultural output on the basis of changes in transport infrastructure, rural electrification, human capital availability, credit supply, and irrigation density, confirms that agricultural output in Bangladesh is significantly associated with the density of paved roads and the number of bank branches. Past research on Bangladesh has also emphasized the large benefits to the rural economy from all-weather roads. Therefore, improving the rural all-weather road network is intrinsic to a strategy aimed at creating conditions for sustained growth of the non-farm sector. Apart from the benefits mentioned before, construction and maintenance of roads, culverts and bridges, are labor intensive in nature, leading additional gainful employment and skill transfers. Finally, a better transport system will help trigger farm mechanization and diversification into cash crops. In turn, both mechanization and diversification can reinforce backward linkages from infrastructure building.

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3 See Yusuf (1997)  
For successfully exporting perishable commodities, apart from good roads, a good telecommunication network is essential. This is not yet in place, but the rapid decline in costs of alternative communications technology makes it possible to create a viable network with moderate amounts of foreign direct investment. The recent initiatives of Grameen Telecom in planning for rural cellular services is an example of this.

**SEMI-URBAN LOCATION.** The East Asian experience suggests that inevitably a few cities will act as growth poles for rural industrialization. Based on five empirical indicators of growth potential—the extent and diversity of industrial base, the density of the surrounding surface transport network, the characteristics of the adjacent rural economy, the existing banking network, and skill availability—Dhaka, Chittagong, Kushtia, Bogra, Rajshahi, and Jessore emerge as possessing this potential. The density of population, the extensive nature of semi-urban areas in Bangladesh, and the industrial activity that can already be seen around these areas suggest that they be made an explicit part of a long-term urban development and industrial land use strategy.

**LOCAL GOVERNMENT.** If the experience of East Asia is a guide, then local government has important leadership, administrative, and catalytic roles to play in developing rural industry in partnership with the private sector and NGOs. Local government in Bangladesh is currently extremely weak and ineffectual in promoting development.\(^5\) It is hampered by limited administrative autonomy, low degree of local participation, narrow revenue assignments, lack of fiscal autonomy, and restricted administrative, financial and technical skills. There are no easy options but to develop these capabilities.\(^6\) Political discussions are underway for a revamping of the local government structure, with recommendations awaited from a National Commission on Local Government.

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\(^5\) See World Bank (1996c)

\(^6\) The strength of local government institutions in China should be viewed in the context of the much lower inequalities there. Stronger local government in the absence of measures to counteract the power of local elites, through appropriate participation mechanisms or, say, land reform, can provide the opportunity for appropriation and capture. In Bangladesh, NGOs are well placed to also play such a balancing role.
Figure 2.1

Gross Domestic Saving (GDS) and Gross Domestic Investment (GDI) 1993
(Percentage of GDP)

Source: World Bank Data

Figure 2.2

Direct Foreign Investment (1993)
(Percentage of GDP)

Source: World Bank Data
Figure 2.3

Govt Tax and Non-Tax Revenue, 1993
Percentage of GDP at Market prices

Source: World Bank Data
Figure 2.4

Illiteracy Rates, 1990
Percentage of population above age 15

Source: World Bank Data

Figure 2.5

Enrolment Ratios in Secondary Schools, 1990
Percentage of school age population

Source: World Bank Data
Figure 2.6

Average Yield of Cereals (Kg/ha), 1990-92

Source: World Bank Data

Figure 2.7

Area Under HYV, 1990

percent

Source: World Bank Data

* Average for Rice and Wheat
** Average for Rice, Wheat And Maize
For the other countries data is for Rice only.
*** Data for 1987
Figure 2.8

Expenditure per person in Agriculture, 1987
1980 US dollars

Source: World Bank Data
CHAPTER THREE
SIZE, STRUCTURE, AND PERFORMANCE OF THE RURAL NON-FARM SECTOR IN BANGLADESH

How large is the rural non-farm sector? What has been its growth and productivity performance? What has been its role in poverty reduction? The rural non-farm sector in Bangladesh has been analyzed surprisingly little, despite the widespread and popular perception of its potential importance (Asaduzzaman and Westergaard (1993), Bakht (1989)). Some longstanding misconceptions about the sector have therefore survived in one form or the other. Section A presents some of these myths and realities and reviews them against the available evidence on the size, composition, and performance of the non-farm sector. Section B highlights the structure and performance of the sector in terms of growth and productivity gains (The Annex to the Report contains further details on this). Section C examines microeconomic evidence on the questions of whether the rural non-farm sector contains a dynamic niche that is developing rapidly and that could be expected to respond favorably to an enabling policy environment. Finally, Section D examines the non-farm sector’s impact on poverty reduction and whether it is moving away from its subsistence nature.

A. The Rural Non-farm Sector in Bangladesh: Myths and Realities

How accurate is the traditional, subsistence view of the rural non-farm sector? We deal below briefly with four issues: the size of the non-farm sector; the role of agriculture in rural employment; the importance of manufacturing; and the impact on poverty.

MYTH/REALITY ONE: SECTOR SIZE. "The rural non-farm sector remains a small part of the rural labor force." If true, this would imply that development policy need not concern itself too much with the sector, but can concentrate on promoting the growth of crop agriculture and urban manufacturing.

The evidence shows that this is a myth:

- A fourth of the total labor force was in the rural non-agricultural or non-farm (RNF) sector in 1991.
- If semi-urban areas are included, the rural non-farm sector accounted for a third of the total labor force, and more than 2.5 times the urban non-farm labor force.
- Employment in the rural non-farm sector (with or without semi-urban areas) grew faster than did either the total labor force or the rural labor force.
- Non-farm employment in semi-urban areas grew only marginally slower than in urban areas. More than 25 percent of the increase in RNF employment between 1981 and 1991 took place in semi-urban areas.

Judged by its share of the total labor force, the size of the rural non-farm sector is substantial (Figure 3.1), and this share rises further when semi-urban areas are included. It has also been the fastest growing component of the labor force. The 1991 Population Census suggests that rural non-agriculture accounts for 26 percent of the country’s entire labor force, 37 percent of the total non-agricultural labor force, and 34 percent of the rural labor force (Table 3.1). When semi-urban areas included, the rural non-agriculture shares are even higher—33 percent of the

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1 For a detailed exposition of these issues, see Bakht (1996), Bhattacharya (1996), Mahmud (1996), Sen (1996), Shah (1996), and Varma and Kumar (1996).

2 Rural non-agricultural and rural non-farm are used interchangeably in this Chapter.
labor force, 71 percent of the total non-agricultural labor force, and 38 percent of the rural labor force. The semi-urban workforce includes rural workers who commute to the semi-urban areas on a daily basis. The rural non-farm labor force is also estimated to have grown faster than both the rural labor force and the total labor force. The inclusion of semi-urban areas in an extended definition of rural areas not only significantly increases the share of the rural non-farm sector in the total labor force, it also means that this share will grow more rapidly, since semi-urban areas account for the majority of growth in the RNF sector. With the extended definition of rural areas, more than one-fourth of the increase in the RNF labor force between 1981 and 1991 appears to have been in the semi-urban, rural towns. Population growth in rural towns was 6.6 percent between 1981 and 1991, faster than the corresponding growth in the more narrowly defined rural sector or in urban areas.

**MYTH/REALITY TWO: AGRICULTURE AND RURAL EMPLOYMENT.** "Agricultural growth entirely drives rural employment." If true, policymakers need worry only about measures to raise agricultural growth in order to promote rural employment.

The evidence shows that this is only partially true and is likely to be less and less so:

- While agriculture still dominates rural employment, its share is declining
- Rural employment in non-agriculture grew over three times faster than in agriculture
- By 2005, projections based on current trends suggest that rural non-farm employment may account for over 60 percent of the rural labor force.

Agriculture still has the dominant share in rural employment; however its share has declined from 66.5 percent in 1983/84 to 61 percent in 1990/91. Rural non-agricultural employment grew at 2.9 percent as compared to 0.9 percent for agriculture between 1981 and 1991 (Table 3.1). But declining or stagnant agricultural growth, coupled with an increase in its productivity, has reduced the capacity of agriculture to absorb labor. Table 3.2 presents the change in sectoral composition of the rural economy between 1983/84 and 1995/96, as shown by the official Labor Force Surveys (1995/96 data have just been released and should be considered as preliminary). Between 1983/84 and 1990/91, employment growth in the non-farm sector, at 4.1 percent per annum, was well above employment growth in the overall economy at 3.2 percent, and above total rural employment growth at 1.9 percent. As a result of more rapid growth, the Labor Force Surveys suggest that by 1990/91 the non-farm sector provided employment to 39 percent of the rural labor force. The composition of rural employment in the non-farm sector in 1990/91 is shown in Figure 3.2. The preliminary figures for 1995/96 indicate that RNF growth may have decelerated between 1990/91 and 1995/96, while agricultural growth has picked up. Projections indicate that by 2005 the RNF sector may potentially employ almost 62 percent of the rural labor force.

**MYTH/REALITY THREE: THE ROLE OF RURAL MANUFACTURING.** "Rural non-farm activity is almost entirely petty trading and informal services, manufacturing plays a minuscule role." If true, since manufacturing is usually an important component of any accelerated economic growth process, this would not give much hope to an accelerated growth of the rural non-farm sector.

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3 This is consistent with the Population Census' estimate of agricultural employment in Table 3.1. Note that this number includes employment in forestry and fisheries; the LFS data do not separate these components

4 The Labor Force Surveys (LFS) include semi-urban areas in their definition of "rural"; the non-farm share of total employment estimated at 38.6 percent using the LFS is consistent with the Population Census estimate of 38 percent when semi-urban areas are included.
The evidence shows that for employment at least this is no longer true. The reality is that:

- Manufacturing employed almost 40 percent of those engaged in rural non-farm activity in 1990/91
- Employment in rural manufacturing grew three times faster than in transport and four times faster than in trade and services over the 1980s
- To get a sense of how large rural manufacturing is, at the start of the 1990s rural small-scale and household manufacturing employed over six times the number of similar workers in urban manufacturing
- Rural manufacturing including handlooms, is not, however, very productive; it accounted for only 17 percent of small-scale non-farm value added.
- Evidence suggests that manufacturing productivity has been increasing in a number of cottage industries; the activities that have been growing are the more productive ones.

Within the RNF sector, traditional trade and services have dominated non-farm activity by employing the largest shares of the rural labor force. Table 3.2 reveals, however, that the manufacturing sector grew very rapidly, at a compound growth rate of 12 percent over the period 1983/84 to 1990/91, compared with 4.2 percent for transport services and 3.4 percent for trade and restaurants.

At this point, the just released Labor Force Survey for 1995/96 should be considered preliminary. Taken at face value, the new data suggest that the importance of rural manufacturing dropped in 1995/96, employing only 20 percent of those engaged in non-farm activity. In contrast, the share of the labor force engaged in agriculture, forestry and fisheries, trade, services and transport increased significantly. The drop in employment in rural manufacturing in the first half of the 1990s would be a cause for concern if further investigation into the data definitions and the data collection methodology indeed reveals this to be the case. It is possible that the growth of NGO microcredit in rural Bangladesh during the early 1990s might have led to a change in composition of rural non-farm activity, with a shift away from low-productivity household manufacturing activities into more remunerative livestock, forestry, fisheries, and trading pursuits. Microcredit has largely financed poultry and livestock, as well as trade and transport. These conclusion must await further inquiry into the data methodology and a more detailed decomposition of the employment numbers.

The 1989/90 Integrated Survey of Non-farm Activities by the Bangladesh Bureau of Statistics (BBS), supplemented by the BBS' 1990 Handloom Census, provide further insights into the importance of small-scale and household or cottage manufacturing as a source of employment in the RNF sector. These show that trade and services employed 21 and 35 percent, respectively, of persons engaged in the small-scale and cottage part of the rural non-farm sector. But they also show that rural manufacturing in small-scale and cottage industries, including handlooms, accounted for 37 percent of total employment, of which the bulk (24 percent) was in handlooms. In terms of value added, the highest share (52 percent) was in the trade sector. Manufacturing (including handlooms) accounted for 17 percent of small and cottage enterprise value added.

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5 The BBS Integrated Survey of Non-farm Activities omits a number of important RNF subsectors, such as transport, construction, and handlooms; it also excludes establishments with more than 10 workers. As an one-point survey done, it also misses seasonal variation in non-farm employment. As a result, its estimates of rural non-farm employment (and output) are low compared to the LFS. It is not useful, therefore, in estimating the actual size of RNF sector. However, its detailed financial coverage of the sectors that are included makes it useful for examining the growth and productivity performance of the included sectors.
largely due to the dominance of low-productivity household activities. Thus manufacturing is a substantial part of the non-farm sector, but was dominated by low-productivity employment during the 1980s. The trends in productivity in rural manufacturing during the last decade were examined on the basis of two sets of cottage industry survey data from the Bangladesh Small Scale Cottage Industries Corporation (BSCIC). Out of a total 151 industries that were common between the 1980/81 and 1989/90 surveys, 51 industries, i.e. nearly a third of the industry categories, experienced positive growth in labor productivity. These 51 industries accounted for 26 percent of the total cottage industry employment in 1980/81 and 23 percent in 1989/90.6

**MYTH/REALITY FOUR: RURAL NON-FARM ACTIVITIES AND THE POOR:** "Rural non-farm activities attract mainly the landless rural poor." If true, this implies that non-farm activities have little, if any, dynamic growth potential, even though they may be vital for helping the poorest cope with poverty.

_The evidence shows that this is still partly true, but there are signs that this is changing:_

- The landless still make up about four-fifths of those engaged in rural non-farm activity and the RNF sector plays a vital role in providing them an avenue for employment.
- But, about half of the heads of households in rural industry have had some formal schooling, a quarter in trade services have had at least a secondary education, about a third in services as a whole have had post-secondary education, and 15 percent in informal services also own some land.
- Households engaged in non-farm occupations on average are better off than agricultural laborer households.
- There is considerable duality in the rural non-farm sector.

The evidence shows that the landless make up the bulk of labor employed in RNF activities: the BBS Household Expenditure Survey (HES) data show that the functionally landless (those with less than 0.5 acres of land) make up between 79 to 86 percent of participants in non-farm activity. However, the HES data also show that those possessing land and educational skills are also involved in RNF activity. About 10 percent of traders belong to the land-owning class; this proportion rises to 15 percent for informal services and 26 percent in the case of formal services. Half of the households engaged in rural industry have been exposed to some formal schooling. About 26 percent of traders have at least a secondary education, and ten percent have higher education. Most service sector households have at least a secondary education, while 31 to 38 percent have higher education. This pattern is also prevalent in the case of households in rural industry. Thus, there is considerable heterogeneity in the economic backgrounds of participants in rural non-farm activity. While a large proportion are landless, others have access to land and/or are educated. The evidence therefore suggests a growing dualism of economic backgrounds in trade, services, rural industry, and transport.

The HES data reveal that the highest incidence of poverty in 1990/91 was recorded in the case of agricultural laborers, the lowest for those in formal services. Households engaged in non-farm occupations occupied an intermediate position between own-farmers and agricultural laborers. Therefore, the RNF sector provides important income and employment opportunities for the rural landless to graduate into.

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6 The positive association between labor productivity and growth of industry was examined using BSCIC data. In regression results, higher productivity has a positive impact on the growth of the industry. The more productive segment of the cottage sub-sector is thus, a growing one (although its contribution in terms of value added has been small.)
B. Rural Non-farm Sector Composition, Growth, and Productivity: Some Highlights

How have major parts of the rural non-farm sector—manufacturing, trade, and services—performed over much of the 1980s and early 1990s in terms of employment and output growth and productivity? This section highlights findings from an examination of the available national level data: The Annex to this Report contains a more detailed discussion on growth, composition, and productivity.

The data used here are primarily from the 1989/90 BBS Integrated Survey of Non-farm Activities (which excluded handlooms), supplemented by the 1990 BBS Handloom Census. An important limitation of the Integrated Non-farm Survey is its exclusion of rural enterprises with more than 10 workers, so that the focus here is only on small-scale activities in permanent establishments and cottage and household enterprises.7

**SMALL-SCALE MANUFACTURING, TRADE AND SERVICES**

- **Manufacturing (including handlooms) in cottage/household activities accounted for some 71 percent of rural small-scale manufacturing employment in the early 1990s, with the rest in permanent establishments**
- **Small-scale rural manufacturing exhibited substantial employment growth during the 1980s**
- **Handlooms employed a quarter of the rural non-farm labor force in small-scale activities and dominate employment (but account for only 10 percent of value added) in rural small-scale manufacturing**
- **Trade and services dominated small-scale non-farm employment as compared to manufacturing: 63 percent as compared to 37 percent. Unlike manufacturing, most trade and service activities are conducted in permanent establishments.**
- **Cottage and small-scale industries, particularly the latter, have become more diversified over the past decade, with non-traditional, urban market-oriented activities experiencing the most growth.**

Small and cottage8 rural manufacturing, including handlooms, employed over six times the number of similar urban workers in 1989/90, so the sector is extremely large. However, the evidence on structure and productivity in Annex A and the background papers suggests that the sector is characterized by an increasing degree of dualism. At one end are activities run solely by unpaid family labor, using simple technologies, catering to a narrow local market, and characterized by low labor productivity. At the other are capital-intensive activities undertaken in permanent establishments with high labor productivity.

The extent of this diversification is greater in the case of small-scale industry, particularly in respect of value added composition. There is a clear urban tilt in the nature of this diversification both with regard to market orientation as well as location of enterprises. Available evidence from BSCIC suggests that rural industries producing income-elastic products and catering to urban

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7 The exclusion of medium and larger-scale establishments, while clearly not ideal, is acceptable here because conclusions about dualism in the sector are likely to hold with greater force if larger manufacturing, trade and service enterprises could have been included. Medium and large-scale manufacturing establishments can be urban and rural. Much of medium and large-scale manufacturing employment is likely to be urban, with the rural part excluded by the Integrated Non-farm Survey likely to be small.

8 Defined as commercial activities within the household and self-employment without use of hired workers; permanent establishments are small-scale activities (under 10 workers) outside the household, often conducted with the help of hired workers.
markets have experienced growth and expansion during the 1980s, unlike activities catering to rural and low-income demand. This is all the more true if rural areas are defined broadly to include semi-urban areas. In the case of both cottage and small industries, expanding industries have somewhat larger average employment size. In the case of small-scale industry, expanding industries were also found to be more capital intensive compared to the average small industry. High-growth small-scale industries with significant rural presence include fish processing, synthetic textiles, and agricultural implements.

LABOR PRODUCTIVITY. Labor productivity estimates are an important indicator of performance and growth potential. High labor productivity suggests remunerative occupations that will lead to rapid growth of that activity and improved standards of living.

- There is more than a two-fold labor productivity gap between manufacturing in permanent small establishments and cottage manufacturing. Labor productivity in handlooms, the dominant form manufacturing employment, remains low.
- Labor productivity is 38 percent higher in urban as compared to rural small-scale industry.
- Labor productivity is the highest in rural trade, both retail and wholesale.
- Labor productivity in semi-urban establishments (which also tend to be larger in employment size) is much higher than in rural establishments. This is true for both manufacturing and trade and services.
- Rural manufacturing is subject to considerable dualism in terms of enterprise size, capital intensity and labor productivity.
- The relatively small segment which shows higher levels of productivity is characterized by higher capital intensity, greater use of hired workers, and semi-urban location of enterprises.

Previous work has shown that the average labor productivity in rural non-farm activities is low, varies significantly within the sector, and, as expected, rises with capital intensity. Table 3.3 shows that labor productivity in rural small-scale industries is more than double that of rural household industries. Urban small-scale units show 38 percent higher levels of productivity compared to rural units. The estimate of value added per worker in the rural household-based industry is only Tk 10,499 per year, possibly below the going wage rate for agricultural labor. This implies that despite low productivity, many household manufacturing activities continue because of the low opportunity cost of family workers.

Besides the confirmation of the finding of rising labor productivity with higher capital intensity, the analysis of labor productivity and industry growth using BSCIC data suggests that higher labor productivity has a positive impact on the growth of the industry. Higher productivity leads to greater capacity to generate investible funds through retained earnings, greater investments, and therefore growth. It also leads to learning by doing. Industries that experienced the highest growth over the 1980s had average labor productivity twice the average productivity for the over-all sector. The more productive segment of the cottage sub-sector is thus a growing one. For permanent establishments, rural trade (both wholesale and retail) was more productive than manufacturing.

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9 The daily wage of agricultural labor was about Tk 38 during the reference year. If 300 working days are assumed per year, the annual income of an agricultural laborer would be Tk 11,400.
C. Are there Growing, Dynamic Niches in The Rural Non-farm Sector?

While the above evidence shows that many traditional rural non-farm activities are low-productivity in nature, there is also growing microeconomic and anecdotal evidence suggesting the emergence of new non-traditional activities that may have considerable growth potential. Consider the following three examples:

- Until 1993 all cotton handloom cloth used by the export-oriented ready-made garments industry was imported from India. In 1993, Grameen Uddog launched its handloom cloth, "Grameen Check", produced largely through subcontracting arrangements with rural handloom weavers. Currently, almost 97 percent of Grameen Uddog's production of Grameen Check is used for export as ready-made garments. It is estimated that Grameen Check accounts for almost 20 percent of the handloom cloth used in the ready-made garments industry.

- Aarong is a marketing outlet established in 1978 by BRAC with the objective of providing a stable source of employment to artisans. Aarong now markets a wide range of rural handicrafts and high-quality apparel through its seven retail outlets, including one in London. Aarong markets goods produced by 30,000 artisans, 85 percent of whom are women. It offers a range of services, including design and product development, financing, quality control, training, subcontracting, and market information.

- Pran, a million-dollar agribusiness enterprise, exports processed food including pineapples, mangos, lemons and gherkins to the EEC through a tie-up with a Sri Lankan firm.

Such evidence is, of course, not conclusive about the importance of new RNF activities that may not yet be reflected in the available data on the sector. However, there is range of supporting evidence. Here we briefly discuss two developments—microenterprise credit from Grameen Bank and the changing composition of Bangladesh's exports—that indicate the dynamic growth of the non-crop agricultural sector, particularly poultry, livestock and fisheries (more details are in Annex A).

The main sources of microfinance are Grameen Bank and several NGOs, including BRAC, ASA, Proshika, Swanirvar and partner organizations of the Palli Karma Sahayak Foundation. Microenterprise credit, which primarily finances self-employment in non-farm activities, has grown dramatically. Annual microcredit disbursements have risen from Tk 3.5 billion in 1990/91 to Tk 21.2 billion in 1994/95.10

An examination of Grameen Bank's portfolio over this period reveals that livestock and fisheries activities were among the leading recipient of microcredit loans.11 An examination of the top 10 activities financed between 1989 and 1994 in Grameen's portfolio suggests that livestock-

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10 Together, Grameen Bank and the NGOs disbursed Tk 19.4 billion microcredit in 1994/95, compared with Tk 1.8 billion from other sources, including commercial banks and government programs. Grameen Bank remains the largest source: it disbursed 71 percent of total microcredit disbursements in 1994/95. Chapter Four presents microeconomic evidence on the growth and productivity of these activities.

11 Industrial term loans by scheduled commercial banks for poultry, livestock, and fisheries between 1990/91 and 1993/94 also grew faster than loans for conventional manufacturing. It would appear that scheduled banks have increasingly turned to finance venture capital in non-crop agriculture rather than traditional manufacturing.
related activities retained their top positions, as did paddy husking and bamboo work, both agro-based industries. However, new activities also emerged at the top, namely stationary shops, seasonal agricultural product trading, and cloth trading, possibly due to a strengthening of rural-urban links. Besides changes in the top ten activities, Grameen Bank's portfolio is diversifying. In 1989 the 10 most important activities accounted for 69 percent of the total loan portfolio, while in 1994, the share of the top 10 had come down to 41 percent. BRAC and Proshika's portfolios are also diversifying rapidly.

Rural non-farm items in Bangladesh's exports include handicrafts, handloom products, silk fabric, and seafood (particularly fish and frozen shrimp). These exports grew rapidly in value terms (12 percent per annum between 1980/81 and 1992/93). Though the share of RNF products in total exports still remained small, the increase over this period was 42 percent, from 4.4 percent to 7.6 percent. There has also been a marked change in composition between the early 1980s and the 1990s among export-oriented RNF products: many traditional items have vanished (e.g. coir products), or their supply has been erratic (jute ropes and bees wax). These have been substituted largely by success in export of fish, frozen seafood and related items. Recently, both handlooms and silk have emerged as potentially important export items. The tremendous success of Grameen Check has shown that Bangladeshi handlooms can indeed find an important niche market abroad. Linkages with urban-based export units are stimulating the growth of new non-farm rural and semi-urban processing activities such as vegetables and juices.

D. Rural Non-farm Development and Poverty Reduction

An important measure of the non-farm sector's performance is its impact on poverty and income distribution in Bangladesh. Special tabulations from the Household Expenditure Survey (HES) prepared by BBS were used to investigate the impact of the RNF sector on incomes, poverty and inequality in the rural economy.

- Rural non-farm per capita income growth has been positive over the 1980s, unlike per capita agricultural and rural wage income.
- The improvement in rural non-farm per capita income took place mostly in self-employment, but not substantially in wage employment.
- The RNF sector was an important income source for the poor and non-poor alike.
- The incidence of poverty for rural non-farm households is lower than farm laborer households.
- Increasing participation in the RNF sector is likely to be reduce income inequality.

The growth of per capita non-farm income was positive over the period 1983 to 1991, unlike growth in per capita agricultural income and wage income (Figure 3.3). However, there was also a declining trend in non-agricultural wages and a rising overall trend in non-farm income excluding wages and salaries, implying that the improvement in per capita rural non-farm incomes over the 1980s took place mostly in the self-employment category, and not in wage employment.

The growth in RNF incomes was an important income source for both poor and non-poor households (defined as below or above the poverty line). Per capita non-agricultural income

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12 Value added from livestock and fisheries grew at 3.2 percent apiece per year between 1983/84 and 1994/95 according to national income data, just below the growth of manufacturing value added at 3.7 per year.

13 This is corroborated by a recent poverty survey (Hossain, et al 1996) which found that the annual growth of non-agricultural income per household was over three times higher than the corresponding growth of agricultural income.
(excluding wages) grew at a rate of 2.9 percent per annum for the poor, as against 2.3 percent for the non-poor. For poor households, the share of the non-farm sector in total household income increased from 26.3 to 34.6 percent, and was matched by a similar decline in the share of wage income.

Is the incidence of poverty lower among rural non-farm households? Standard poverty measures were estimated for 1983/84 and 1990/91 by occupational category (Table 3.4). Agricultural laborers suffered the highest incidence of poverty (71 percent head-count index), formal service holders the lowest (14 percent). Households engaged in non-farm occupations (ranging from 14 to 50 percent) occupied an intermediate position between farmers and agricultural laborers. Moving successfully from farm to non-farm occupations should have a favorable poverty-attenuating impact for the land-poor household. This is true not only for self-employment but also for farm and non-farm wage employment: the incidence of poverty is lower among non-agricultural wage laborers (50 percent) and rural industry workers (40 percent) than among agricultural laborers (71 percent). This is contrary to earlier studies that showed that households involved primarily in informal non-farm activities were the worst off among all rural groups, worse than even landless households providing farm labor. The HES analysis suggests that the subsistence nature of the RNF sector is undergoing a change.¹⁴

How far can the RNF sector provide a means of egalitarian growth in rural areas, particularly for the land-poor? This is not an easy question to answer, but the evidence suggests that RNF growth could be inequality reducing. The overall income distribution among rural households shows a strong correlation between household income and control over agricultural land (both in terms of landownership and operational landholding). Landownership provides better access to non-farm income.¹⁵ Despite the importance of landownership in determining the rural income distribution, there is evidence that access to non-farm income is also an important and independent, determinant of household income. The cross-classification of rural households on per capita income and landownership scales shows considerable deviations from any unidirectional relationship between landownership and non-farm income. For example, according to the results of the 1988/89 HES, about 20 percent of rural households belong at the same time to the lower half of the land distribution (operational holdings) scale and the upper half of the per capita expenditure scale: the landless are not always poor. About 7 percent of rural households among the richest 15 percent (again on per capita expenditure scale) belong to the land-poor category of households. Apart from the variation in land productivity, differential access to non-farm income would explain this deviation in the relationship between landownership and household income.

Access to non-agricultural income then could be a means for the landless and land poor households to move up the income scale. Table 3.5 shows the share of sub-sectoral income of the land-poor (defined here as the bottom 40 percent of the rural population ranked on a per capita landownership scale). The share of specific non-farm income of the land-poor is quite substantial

¹⁴ These results corroborate Hossain and Sen (1992), who use a model of household income determination to show that workers engaged in non-farm activities contribute more to household income than agricultural workers. Non-agricultural occupation is a highly significant variable in all income determination equations. The returns to workers in RNF activities in poor households is about 15 percent higher than that of the average poor worker, for non-poor households the returns to RNF activity are 29 percent higher.

¹⁵ Although the above correlation may also arise partly from the fact that the households which are more successful in gaining access to non-farm income are likely to be able to acquire more land.
(66 percent in transport, 42 percent in rural industry, 40 percent in trade, and 43 percent in the RNF combined), and much higher than the share of the land-poor in agricultural incomes (11 percent). Similarly, the share of sector income of the poorest 40 percent ranked by their per capita incomes is much higher for non-agricultural activities than for agriculture.
Figure 3.1: Share of RNF in the Country's Labor Force using Original and Extended Definitions, 1991

Original

Extended

Source: Population census.

Figure 3.2:

Rural Employment in the Non-Farm Sector, 90/91

Manufacturing 40%

Trade and Restaurant 27%

Community and Personal Services 11%

Transport 7%

Others 15%

Source: Labor Force Surveys, Various Issues
Figure 3.3

Trend in Rural Per Capita Income Growth, 83/84 to 90/91
(Per Capita Annual Income in 83/84 Prices)

Notes:
* Excludes Agricultural wage. Includes Rental Income
** Both Agricultural and Non-Agricultural
*** Excluding Wages and Salaries. Includes Income from trade, Commerce, Industry,
Services, Remittances, "transfers, "other" incomes
*Source: Computed from HES Special Tables, Generated by BBS, See Sen(1996)
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>13.88</td>
<td>15.27</td>
<td>0.47</td>
<td>0.76</td>
<td>0.16</td>
<td>0.23</td>
<td>14.47</td>
<td>16.28</td>
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<tr>
<td></td>
<td>[0.87]</td>
<td></td>
<td>[4.47]</td>
<td></td>
<td>[3.35]</td>
<td></td>
<td>[1.08]</td>
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</tr>
<tr>
<td>Non-Agriculture</td>
<td>5.72</td>
<td>7.82</td>
<td>1.18</td>
<td>1.92</td>
<td>2.28</td>
<td>3.78</td>
<td>9.15</td>
<td>13.52</td>
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<tr>
<td></td>
<td>[2.88]</td>
<td></td>
<td>[4.52]</td>
<td></td>
<td>[4.7]</td>
<td></td>
<td>[3.61]</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.6</td>
<td>23.09</td>
<td>1.65</td>
<td>2.68</td>
<td>2.44</td>
<td>4.01</td>
<td>23.62</td>
<td>29.8</td>
</tr>
<tr>
<td></td>
<td>[1.65]</td>
<td></td>
<td>[4.51]</td>
<td></td>
<td>[4.62]</td>
<td></td>
<td>[2.14]</td>
<td></td>
</tr>
<tr>
<td>Total Population(Adjusted)</td>
<td>75.82</td>
<td>89</td>
<td>5.58</td>
<td>9.66</td>
<td>8.51</td>
<td>12.8</td>
<td>89.91</td>
<td>111.46</td>
</tr>
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<td></td>
<td>[2]</td>
<td></td>
<td>[5.62]</td>
<td></td>
<td>[4.16]</td>
<td></td>
<td>[2.17]</td>
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</table>

Source: Population Census

Note: Population adjusted for under-enumeration
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<thead>
<tr>
<th>TABLE 3.2: RURAL EMPLOYMENT BY MAJOR SUB-SECTOR GROUPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(millions)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td>Agriculture, Forestry and Fisheries</td>
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<td></td>
</tr>
<tr>
<td>Non-Farm Sectors</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Trade and Restaurant</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Community and Personal Services</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Transport</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*Source: Labor Force Surveys*

(Percentage Shares in Parentheses)
TABLE 3.3: Labor Productivity in Rural Industries, 1989-90

<table>
<thead>
<tr>
<th>Activity/Source</th>
<th>Yearly Value Added Per Worker (Tk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cottage Industries (BSCIC Survey)</td>
<td>6,313</td>
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<tr>
<td>Rural Household Industries (Integrated Survey)</td>
<td>10,499</td>
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<tr>
<td>Urban Household Industries (Integrated Survey)</td>
<td>11,380</td>
</tr>
<tr>
<td>All Small Industries (BSCIC Survey)</td>
<td>36,224</td>
</tr>
<tr>
<td>Rural Small-Scale Industries (Integrated Survey)</td>
<td>24,004</td>
</tr>
<tr>
<td>Urban Small-Scale Industries (Integrated Survey)</td>
<td>33,050</td>
</tr>
</tbody>
</table>

*Source: Bakht (1996)*

Note: The Bangladesh Small Scale and Cottage Industries Corporation (BSCIC) does not disaggregate its data by rural and urban classification. One reason for the large difference in labor productivity between "all cottage industries" and "all small scale industries" could be that the cottage industries covered are primarily rural while the small scale industries are primarily urban.
### TABLE 3.4: POVERTY INCIDENCE BY MAJOR OCCUPATIONAL CATEGORY, 1983/84-1991/92

<table>
<thead>
<tr>
<th>Major Occupational Category</th>
<th>Head Count</th>
<th>Poverty Gap</th>
<th>Squared Poverty Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>83/84</td>
<td>91/92</td>
<td>83/84</td>
</tr>
<tr>
<td>Owner Farmer</td>
<td>25.2</td>
<td>24.06</td>
<td>4.67</td>
</tr>
<tr>
<td>Tenant Farmer</td>
<td>53.2</td>
<td>37.33</td>
<td>13.71</td>
</tr>
<tr>
<td>Agricultural Laborer</td>
<td>62.5</td>
<td>71.04</td>
<td>17.19</td>
</tr>
<tr>
<td>Trader</td>
<td>43.73</td>
<td>41.44</td>
<td>9.06</td>
</tr>
<tr>
<td>Non-Agricultural Laborer</td>
<td>68.67</td>
<td>50.42</td>
<td>12.38</td>
</tr>
<tr>
<td>Formal Sector Service Holder</td>
<td>32.52</td>
<td>13.77</td>
<td>7.02</td>
</tr>
<tr>
<td>Rural Industry Worker</td>
<td>52.37</td>
<td>40.42</td>
<td>15.32</td>
</tr>
<tr>
<td>Fisherman</td>
<td>43.36</td>
<td>60.07</td>
<td>12.03</td>
</tr>
<tr>
<td>Others</td>
<td>52.95</td>
<td>51.73</td>
<td>16.62</td>
</tr>
</tbody>
</table>

*Source: Computed from HES Special Tables generated by BBS. See Sen (1996)*
<table>
<thead>
<tr>
<th>Category</th>
<th>1991/92</th>
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<tbody>
<tr>
<td>Non-Crop Agriculture</td>
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</tr>
<tr>
<td>per capita income scale</td>
<td>30.04</td>
</tr>
<tr>
<td>per capita land scale</td>
<td>27.52</td>
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<tr>
<td>Total Agriculture (Excl. Agr. Wage)</td>
<td></td>
</tr>
<tr>
<td>per capita income scale</td>
<td>19.41</td>
</tr>
<tr>
<td>per capita land scale</td>
<td>11.2</td>
</tr>
<tr>
<td>Trade, Commerce, Industry and Services</td>
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<tr>
<td>per capita income scale</td>
<td>27.8</td>
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<tr>
<td>per capita land scale</td>
<td>42.94</td>
</tr>
<tr>
<td>i) Trade</td>
<td></td>
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<tr>
<td>per capita income scale</td>
<td>25.77</td>
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<tr>
<td>per capita land scale</td>
<td>39.85</td>
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<td>ii) Transport and Storage</td>
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<tr>
<td>per capita income scale</td>
<td>45.34</td>
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<tr>
<td>per capita land scale</td>
<td>65.49</td>
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<td>iii) Rural Industry</td>
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<tr>
<td>per capita income scale</td>
<td>25.4</td>
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<tr>
<td>per capita land scale</td>
<td>41.61</td>
</tr>
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</table>

**Source:** Computed from HES Tables generated by BBS. See Sen(1996)

**Note:** Households are distributed according to two scales: a per capita income scale and a per capita land ownership scale. The numbers refer to the shares of rural incomes in that occupation, of the bottom 40 percent of the households on each scale.
CHAPTER FOUR
MICRO-CREDIT FOR RURAL NON-FARM ACTIVITIES

A. Introduction

As Chapter Three suggests, the rural non-farm sector is increasingly important for economic growth and poverty alleviation in Bangladesh. This chapter examines the role of micro-credit for the rural non-farm sector in alleviating poverty. The scope of the rural non-farm sector, of course, goes well beyond the activities financed by micro-credit, in part because micro-finance is targeted for poverty reduction, and therefore largely excludes male rural workers and landowning households. Thus, while it is unlikely that the East Asian type of rapid non-farm development could be brought about in Bangladesh by micro-credit programs, its role in reaching the poorest in Bangladesh is a growing and important one. The chapter addresses several questions relating to this:

• What special role does micro-credit play in financing the rural non-farm sector?
• Are micro-credit borrowers more likely to participate in non-farm activities relative to others?
• What are the sources of productivity gains for micro-credit borrowers?
• What are the consumption benefits and impact on poverty for micro-credit borrowers?
• Is there evidence to suggest a credit constraint for rural non-farm activities?

A large body of empirical work shows that the lack of access to affordable credit can be a major obstacle to non-farm activities of the rural landless poor. Due to the problems of asymmetric information and scale economies collateral-based financial institutions such as commercial banks and agricultural development banks have typically not played a significant role in financing RNF activities. Similarly, while food-aid based rural works programs in Bangladesh help the poor gain access to income and employment opportunities, they remain seasonal or short-term in nature and are unlikely to sustain the productive means of the poor.

The micro-credit based targeted interventions of Grameen Bank, BRAC, and RD-12 (a program of the Bangladesh Rural Development Board (BRDB)) provide dual benefits to the rural landless. First, they increase the productive means of the poor by increasing savings, asset accumulation, incomes, and consumption. Second, they promote human investment by providing access to education, training, health, and nutrition of children (especially girls). These programs empower women, their major beneficiaries, by giving them independent income earning opportunities and by augmenting their ownership of physical assets.

Rural non-farm activities are typically financed from three sources: formal (collateral-based institutions such as commercial and agricultural banks), quasi-formal (targeted credit programs including those of Grameen Bank, BRAC, BRDB, and other NGOs and cooperatives),

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1 For a detailed exposition of the material in this chapter, see Khandker (1996). For the strategic role of rural finance and rural infrastructure in Bangladesh, see, respectively, World Bank (1996d) and (1996f).
2 See World Bank (1996b)
3 For a discussion of food-aid based targeted programs in Bangladesh, see World Bank (1996e).
4 Worldwide experience also suggests the microcredit schemes do not come inexpensively: they have high administrative costs and to cover these they must have a structure of loan rates that is much higher than commercial bank credit. Microcredit programs are nonetheless successful, since it is not the cost of credit that is a constraint in rural areas, but its access, particularly for the poor.
and informal (credit from friends, relatives, and moneylenders). Of the quasi-formal sources, Grameen Bank, BRAC, and RD-12 accounted for 80 percent of total credit advanced nationally by all micro-credit programs. Grameen has the largest network of branches, covering more than half of all villages in Bangladesh. Lending for RNF activities received the lion’s share of annual credit disbursements by each of the three programs in the mid-1990s (Figure 4.1). BRAC was by far the biggest financier of rural manufacturing, trade and commerce, whereas almost half of RD-12 disbursements funded livestock, poultry, and fisheries activities. Grameen did the most agricultural lending.

B. Financing Non-farm Activities through Micro-credit

- A much higher proportion of micro-credit portfolios fund rural non-farm activities relative to those of banks or informal lenders.
- Micro-credit borrowers used 62 percent of their total borrowing (from all sources) for RNF activities, substantially more than those who did not borrow micro-credit or were ineligible to borrow.

The link between NGO rural micro-enterprise credit and the RNF sector is very strong. RNF loans accounted for 60 percent of the total loans outstanding from Grameen, BRAC, and RD-12, 48 percent of banks loans outstanding, and 28 percent of informal loans outstanding. Credit for the purchase of non-agricultural equipment and capital (excluding land) dominated the three micro-credit programs, but accounted for less than 10 percent for banks or informal lenders (Table 4.1). Average micro-credit loan size for such equipment and capital was between two and three times smaller than average loan size at commercial banks.

Several comparisons are possible as seen from the borrower’s point of view. Micro-credit borrowers use almost two-thirds of total credit (from all sources) for funding RNF activities, twice that used by non-participants, and almost six times that for ineligible borrowers (Figure 4.2). It seems clear that greater access to credit and the accompanying non-lending services gives participants greater opportunity to enter into RNF activities. Participants who are poor may also have to depend to a greater extent on RNF activities than do non-participants and those not eligible.

C. Who Participates in the RNF Sector and in which Activities?

- Micro-credit participants depend to a greater extent than others on non-agricultural activities for income and employment.

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5 To explore the questions listed in the Introduction, we use a household survey based on national random sample of some 1800 households from 87 villages, with households selected randomly on the basis of village censuses. The survey data were weighted appropriately to represent the actual population distribution of the survey villages. The data were collected as part of a World Bank research project on “Credit Programs for the Poor”, RPO 679-89; for details see Khandker and Chowdhury (1996).

6 The survey data come from both “program” areas (served by a Grameen, BRAC, or RD-12 location) and “non-program” areas that did not have access to these programs. They also permit comparisons between micro-credit borrowers (“participants”), those eligible to borrow but who do not borrow (“non-participants”), and those who are not eligible to borrow because the household owns more than 50 decimals of land (“ineligible”).

- 35 -
• Trading and commerce were the dominant RNF activities.
• Male-headed households, access to electricity, higher female wages, and the presence of a Grameen office increased the chances of RNF participation. Better earning opportunities in agriculture tended to reduce them.

Chapter Three suggested that the RNF sector is an important source of income and employment for rural households, particularly for the landless. Figure 4.3 shows the relative distribution of employment and incomes of individuals in the survey. The agricultural sector, despite providing 65 percent of employment, only accounted for 45 percent of incomes. In particular, agricultural self-employment accounted for more than half of all employment, but only a quarter of incomes. Micro-credit borrowers depended to a substantially greater extent on non-agricultural activities for income and employment relative to others in the survey (Figure 4.4). BRAC households were the most dependent on non-agricultural incomes and employment. Trading was the most important RNF activity (Table 4.2), followed by manufacturing, which was the second largest activity except for BRAC borrowers for whom transport was second largest.

**Determinants of Household Participation in RNF Activities.** About half the sample households participated in the RNF sector at any time over the survey period (a crop year), but just over a quarter participated on a full-time basis. RNF participation was likely to be higher among male-headed households than among female-headed households. Higher female labor wage rates and rural electrification also tended to increase RNF participation. Landownership and irrigation reduced the possibility of participation as it provided alternative agricultural income and wage earning opportunities. RNF participation tended to be higher in Grameen Bank villages than in non-program villages: RD-12, BRAC and non-program villages did not exhibit such an effect. These results confirm that better infrastructure promotes RNF participation, while better income-earning opportunities in agriculture reduce the possibility of RNF participation.

**D. Micro-credit and Sources of Productivity Gains in the RNF Sector**
• Micro-credit programs lead to direct and indirect productivity gains in the village.
• BRAC, with its emphasis on training and skills acquisition, appears to have much stronger productivity effects on target households in manufacturing and in RNF activities as a whole. BRAC alone appears to have such effects for RNF activities as a whole for non-target households.

What are the contributions of the three micro-credit programs to productivity gains in the RNF sector? These contributions, of course, need not be limited just to program participants, since indirect, spillover, second-order effects are possible for the entire village due to an increase in economic activity as a result of the micro-credit financing. Thus the presence of a micro-credit program, in addition to influencing directly the production of participants, is likely to create induced demand and supply effects that benefit other households as well.

All three micro-credit programs were associated with production gains for program-eligible households in manufacturing and in RNF activities classified as a whole. All three micro-credit programs also were associated with productivity gains for non-eligible households in trading, reflecting possibly greater trading activity as a result of the activities financed by the micro-credit. But BRAC alone among the three programs produced productivity gains in RNF activities as a whole for non-target households, implying that the nature of BRAC's activities had transmission
effects on the village that went just beyond trading. BRAC programs place a heavy emphasis on skills acquisition and training, and it is possible that the wider transmission effects are a result of this.

In general, BRAC appears to have contributed the most to RNF productivity gains. In manufacturing, the growth of productivity for target households was the largest (22 percent) for BRAC, followed by RD-12 (12 percent) and Grameen (11 percent). For all RNF activities combined the impact on target households was again the highest for BRAC; non-target households, moreover, benefited only from BRAC program placement.

Despite the fact that rural towns face compassion from competing urban non-farm goods, the returns on RNF manufacturing are higher in semi-urban areas than in rural areas. Better markets and infrastructure are good facilitators for RNF-led growth.

E. Consumption Benefits and Poverty Incidence among Micro-credit Borrowers

- Poverty is lower among participants than among non-participants in micro-credit program villages.
- Borrowing, specially by women, substantially increases per capita expenditure and hence reduces poverty. Using average returns and loan terms suggests that it would take about five years after joining the program for the average female Grameen borrower to lift her household above poverty.

Micro-credit program participation helps increase employment for those who are unemployed or underemployed and provides self-employment opportunities for those who are wage-employed. An estimate of poverty incidence shows that both moderate and extreme poverty is higher among non-participants than among program participants in program villages. Program participants also have more savings, assets, and net worth than non-participants in all program villages (Khandker and Chowdhury 1996).

Econometric estimates identifying the causal impact of borrowing from targeted credit programs show that borrowing, especially by women, substantially increases per capita expenditure and hence reduces poverty (Pitt and Khandker 1996). For example, for Grameen participation increases per capita expenditures by 19 percent for female borrowing and 12 percent for male borrowing. When these rates of return, at average levels of borrowing and lengths of program participation, are combined with the level of consumption required to alleviate poverty, this suggests that it would take about five years for the average female Grameen borrower to lift her family out of poverty from the date of joining the program.

F. A Credit Constraint for Micro-credit?

- The evidence suggests that program participants face a credit constraint and would be willing to borrow more on the same terms.
- Micro-credit borrowers generally use multiple sources of credit for start-up capital. At least half of micro-credit program members use their own savings as a primary source of start-up capital.

The average returns to capital are estimated to be much higher for landowning non-eligible households than for poorer households, and the capital-labor ratio is also the highest for non-
eligible households. Thus, with more capital per unit of labor, labor productivity in RNF activities is the highest for non-eligible households. This raises the question of whether program participants lack access to funds for increasing capital so as to increase both labor productivity and the returns on capital.

A partial answer to this question can be gleaned from the marginal return of capital calculated for both target and non-target households involved in the RNF sector. The marginal product of capital was found to be almost 10 times the marginal product for non-eligible households. Since the returns on capital are sufficient to merit increasing the size of an enterprise’s capital stock, the existence of a capital constraint in production implies the existence of a credit constraint on the financing side. This would tend to suggest that participants of targeted credit programs such as Grameen, BRAC, and RD-12 cannot borrow as much as they would like to.

This conclusion is further strengthened by direct questions dealing with a credit supply constraint in the survey. Households were asked if they would borrow more at the prevailing interest rate and terms if micro-credit were available. On this basis, all activities appeared to be subject to a credit constraint, ranging from 54 percent additional credit desired in transport to 74 percent in livestock.

Another partial attempt to answer the question of a credit constraint can come from the extent of simultaneous borrowing to finance enterprises from multiple sources. The survey revealed that between 40 and 50 percent of members use more than one source of financing for start-up capital. Use of multiple sources for start-up capital was the highest in livestock and fisheries (39 percent of households). Also, a large percentage of program participants do not use a targeted program as their primary source of start-up capital: 59 percent of BRAC and RD-12 and half of Grameen members use their own savings as a primary source of start-up capital.

G. Broader Implications for a Strategy for Rural Non-farm Development

Several strands of the discussion above can be drawn together for their implication for rural non-farm development:

♦ Since RNF production requires capital, making self-financing difficult for many rural households, programs such as Grameen, BRAC and the RD-12 that provide credit and organizational help are instrumental in promoting RNF production. The evidence confirms that these programs have increased overall village-level RNF participation.
♦ Improving access to affordable credit and raising the amount of credit available are ways to improve both participation and productivity in the RNF sector.
♦ Lack of access to credit could be potentially a binding constraint on RNF participation.
♦ Expanded markets with better infrastructure can help promote RNF growth.
♦ Increasing better credit availability alone may not ensure the dynamism in the RNF sector that is required to increase growth and employment. Analysis of borrower-level data for the three targeted credit programs clearly indicates that because of skill training and other organizational help, BRAC borrowers have managed to sustain increased productivity with improved access to credit. Therefore, the supply of affordable credit for the expansion of RNF production must be supported by appropriate skill development, market promotion, and other organizational policies that can graduate microenterprises over time to become more commercial entities.
Figure 4.1: Sectoral Distribution of Annual Disbursement of Micro-credit Programs, 1994

Source: Khandker, S. 1996

Figure 4.2: Share of Total Credit Used for RNF Activities by Participation in Microenterprise Credit Programs (BIDS-World Bank Survey)

Note: "Participants" borrow from micro-credit programs, "non-participants" are eligible to borrow but do not, "ineligible" borrowers own more than 50 decimals of land and cannot join micro-credit programs.

Source: Khandker, S. 1996.

Figure 4.3: Sectoral Shares of Individual Employment and Incomes (BIDS-World Bank Survey)

Source: Khandker, S. 1996.
Figure 4.4: Employment and Incomes from Non-agricultural Activities By Micro-credit Participation Status (BIDS-World Bank Survey)

Source: Khandker, S. 1996.

Table 4.1: Rural Non-farm Loan size and Share in Total Lending by Credit Sources (BIDS-World Bank Survey, total number of loans = 2,985)

<table>
<thead>
<tr>
<th>Credit sources</th>
<th>Non-agricultural equipment/capital</th>
<th>Non-agricultural: other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average loan size (taka)</td>
<td>% of total volume of loans</td>
</tr>
<tr>
<td>Formal credit</td>
<td>9,611</td>
<td>8.2</td>
</tr>
<tr>
<td>Micro-credit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RD-12</td>
<td>2,589</td>
<td>34.1</td>
</tr>
<tr>
<td>BRAC</td>
<td>2,276</td>
<td>35.6</td>
</tr>
<tr>
<td>Grameen Bank</td>
<td>4,212</td>
<td>45.9</td>
</tr>
<tr>
<td>Informal credit</td>
<td>3,800</td>
<td>9.2</td>
</tr>
</tbody>
</table>

"Non-agricultural: Other" includes purchase of rickshaw/boat/fishing nets, and purchase of land, house or other inputs for non-farm enterprises.

Source: Khandker, S. 1996
Table 4.2: Percentage Distribution of Households by Dominant RNF Activity and Program Status (BIDS-World Bank Survey)

<table>
<thead>
<tr>
<th>Main Activity</th>
<th>Program participation status</th>
<th>All households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BRAC</td>
<td>RD-12</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>13.8</td>
<td>20.5</td>
</tr>
<tr>
<td>Transport</td>
<td>21.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Trading</td>
<td>47.8</td>
<td>42.5</td>
</tr>
<tr>
<td>Livestock &amp; fisheries</td>
<td>4.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Other RNF (mainly services)</td>
<td>12.6</td>
<td>8.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>No. of Observations</td>
<td>159</td>
<td>254</td>
</tr>
</tbody>
</table>

Source: Khandker, S. 1996
CHAPTER FIVE

PROMOTING THE RURAL NON-FARM SECTOR IN BANGLADESH

A. Introduction

The family of an average small trader in rural Bangladesh enjoyed 50 percent higher consumption per person than the family of an average landless farm worker at the beginning of the 1990s. That still meant that four out of ten families engaged in such trading fell below the poverty line: yet, this was a vast improvement over the seven out of ten landless farm worker households that were poor. This contrast between the small trader and the landless farm worker points to the importance of rural non-farm activities for accelerated poverty reduction.

Chapter One noted the dual strands of this study in dealing with both poverty reduction and rural growth. Chapters Three and Four show that the rural non-farm sector is large, and varies greatly in the productivity of traditional and non-traditional activities and in rural and semi-urban locations. Productivity has risen for a number of activities over the past decade, and there is a positive link between productivity growth and the growth of individual industries. Rural manufacturing is the most important rural non-farm activity, both in current employment size and output growth performance. Non-crop agriculture has experienced rapid growth, fueled in part by microenterprise credit. Rural non-farm growth over the past decade has also reduced poverty and income inequality, and the typical household engaged in non-farm activity is no longer at the very bottom of the rural income scale. This implies that the subsistence nature of the sector is on the decline—a process that can be accelerated with the right policies, and for which the lessons of the East Asian experience discussed in Chapter Two are germane.

This Chapter returns to the poverty reduction and growth strands of the study. Section B poses the question: how should the government and NGOs target poor households and poor geographic areas in facilitating rural non-farm activities? What would be the impact on household consumption of a poor farmer changing to a non-farm activity? Section C turns to the growth strand of the study. It reports on the findings of a survey of urban private investors on the constraints they face in starting rural manufacturing or other rural non-farming activities. Section D offers a policy framework for the dual objectives of promoting poverty reduction and accelerated non-farm growth. Section E discusses a two-part strategy for accelerated growth of rural industry.

B. How to Target Non-farm Activities for Poverty Alleviation?

Rural non-farm households are better off on average than farm households. This simple observation motivates the public policy concern for promoting rural non-farm activities as poverty reducing. But what if rural non-farm households are better off only because they possess the education, land, proximity to urban markets, or demographics that are conducive to success in rural non-farm enterprises? Poor households in Bangladesh are typically both income poor and poorly endowed in such attributes. Are there significant net gains to farmer households from moving to non-farm occupations even if these attributes do not improve? If the gains are

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1 See Wodon (1996).
2 Recent data indicates that its importance may have diminished in the 1990s.
3 This is based on research in progress by Martin Ravallion (PRDP, World Bank) and Quentin Wodon (FUNDP, Numur) and should not be cited without their permission.
significant, government or NGO programs that do not or cannot alter these attributes (or at least do so only in the long run), would still facilitate rising gains for poor households that engage in non-farm activities.

An identification of such gains could also help shape policies that seek to maximize the gain by targeting poor households and/or geographic areas. For example, should efforts to facilitate the growth of rural non-farm enterprises be targeted to poor areas or to better-off areas? A deeper understanding of the factors determining the gains from non-farm activities for farm household can help address such questions.

How can these gains be estimated? Using data from the 1991/92 BBS Household Expenditure Survey and classifying households by the head’s primary occupation, Ravallion and Wodon (1997) calculate the mean marginal benefit as a result of “switching” from the farm to non-farm sector at given initial household characteristics. They estimate that this average incremental benefit is 6.2 percent of initial farm consumption. The average incremental benefit for a landless farm worker is 23.2 percent of initial farm consumption for shifting into a small trader occupation and 15.9 percent for employment in the transport and communications sector. These results imply that there can be a high payoff to policies and programs that enable farm households to find employment in non-farm occupations even if the initial household characteristics (such as education) do not change. To the extent that the household characteristics do improve, of course, the gains would be even higher.

GEOGRAPHIC TARGETING. There are strong geographic effects in the returns to promoting the rural non-farm sector as a part of a poverty-reduction strategy. The Ravallion-Wodon analysis suggests that there are large differences between districts in the incremental benefits from moving from farm to non-farm sectors, assuming the costs of the move are everywhere the same (and still controlling for household attributes). In Dhaka, a representative farm household would gain 24 percent higher consumption by moving to the non-farm sector. In contrast, in Mymensingh the gains would be much smaller: consumption would only rise 7 percent. Table 5.1 identifies Dhaka, Tangail/Jamalpur, Kushtia, Rangpur, and Pabna as the areas where the proportionate gains from policies that facilitate new non-farm jobs are likely to be the largest. There are striking regional differences in the gains, varying from 24 percent to minus 4 percent of initial farm consumption. So there are likely to be large welfare gains from geographic targeting of policy efforts to facilitate non-farm sector growth.

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4 Using the primary occupation of the household head to classify households raises the obvious question of the secondary occupation of the head, or the occupations of the spouse or other household members, who may or may not be in the non-farm sector. However, the extent of such "cross-sectoral" effects was small: only 19% of farm households defined by the head's primary occupation had a secondary non-farm activity and only 7% of non-farm households had secondary farm activity.

5 Note that these estimated marginal benefits do not take account of any costs incurred by participating farm households under specific programs, which would reduce the marginal benefits. Nor do they factor in changes in household characteristics resulting from participation in a specific program, for example, acquiring non-farm skills as part of microcredit access, which would raise the marginal benefits.

6 A number of geographic factors in the success of the non-farm sector have been identified in the literature, particularly relating to semi-urban areas. However, while suggestive, they do not imply that there will be such geographic effects since all of these factors may well be equally important to the farm sector.
POVERTY TARGETING. The incremental benefit for an average farm household from a shift to the non-farm sector may or may not be the same as the gains to poor households. Ravallion-Wodon estimate a poverty-weighted incremental benefit (the weights on the incremental benefit are highest for the poorest and fall to zero at the poverty line) from shifting from farm to non-farm occupations. This can be interpreted as the expected gain to a poor farm household from moving to the non-farm sector, again at given initial household characteristics. These estimates of the poverty-weighted benefits can help us address the question: should efforts to promote the rural non-farm enterprises be targeted to areas where the poor will gain the most, or to areas where the average household will gain the most?

Table 5.1 shows poverty-weighted incremental benefits by district. There is a tendency for poorer districts to be the ones with higher poverty-weighted incremental benefits for households. The three districts with the highest marginal benefits are also the three districts with the lowest average mean consumption, namely Pabna, Rangpur, and Tangail/Jamalpur. These results confirm the intuitive sense that the weight attached to favorable distributional outcomes amongst the poor matters to the prioritization of areas for targeted programs. If outcomes for the poorest are given the highest weight (for example, as in many micro-credit programs), then efforts to promote the non-farm sector should be targeted to the poorest areas, even though the average unweighted gains may be higher elsewhere.

AN EXAMPLE OF GEOGRAPHIC AND POVERTY TARGETING: GRAMEEN BANK. Efforts to alleviate poverty by promoting the non-farm sector through geographic targeting, whether implicit or by design, already exist in Bangladesh. A good example is the location of NGO branches that provide credit for non-farm microenterprises. The location of the existing branches of Grameen Bank can be examined against the question: to what extent does the geographic distribution of these branches and the underlying efforts to alleviate poverty reflect the distribution of the potential geographic and poverty gains? Ravallion and Wodon compare the distribution by area of the branches of Grameen Bank with the poverty-weighted and unweighted marginal benefits they estimate from the Household Expenditure Survey.

They find that Grameen Bank's branch density is higher where the poverty-weighted incremental benefits are higher. There is a significant positive correlation between the density of Grameen Bank branch locations and the poverty-weighted marginal benefits from moving from farming to non-farming occupations in different districts. It appears that Grameen Bank is targeting areas where the benefits to the poorest are the greatest.

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7 The correlation coefficient between initial farm consumption in the first column of the table and the poverty-weighted incremental or marginal benefits in the third column is negative and significant.
8 Note that Dhaka, with the largest average unweighted marginal benefit, is one of the least poor areas. Possibly this reflects larger gains among non-poor farm households. But it does not have the largest gains when the poverty-weighted averages are considered.
9 Grameen Bank beneficiaries are predominantly women, so there could be a concern about correspondence between Grameen operations and these estimates of marginal benefits based on a classification of households by the main occupation of household head, who are predominantly men. This concern is mitigated if the weighted and unweighted marginal benefits based on the head moving from farm to non-farm are also likely to be highly correlated to distribution by area of the weighted and unweighted marginal benefits from women moving from either no occupation or a farm occupation to the non-farm sector. It is reasonable to assume that there could be a high correlation between area-specific benefits computed in the paper, and the benefits which could be enjoyed by women, simply because it is in large part area (and not gender) characteristics that matter in the computations of the these benefits.
C. Locating Industry in Rural Areas: What do Private Investors Think?

What are the constraints that limit the growth of rural industry in Bangladesh? How important are the obstacles to starting or expanding industry in rural locations for urban investors? How do they regard these rural obstacles relative to the same obstacles in urban locations? The ranking and severity of these obstacles should suggest priorities for improvements in the enabling environment for greater private investment in the rural sector. We polled these questions from a sample of members of the Metropolitan Chamber of Commerce and Industry. For this survey rural industry included agro-processing (including fisheries, livestock, and poultry), manufacturing, construction, trading, and service activities located outside municipal boundaries; in other words, the definition of rural also included semi-urban areas or rural towns outside municipal limits.

Semi-Urban Preference. The responding firms overwhelmingly preferred a semi-urban location close to a city in the event they wanted to locate an industry outside municipal boundaries: almost 74 percent preferred to locate a rural industry near a city, as compared to only 7 percent who preferred a location away from the city. Medium-sized firms were the most likely to prefer a semi-urban location, followed by small firms: 96 percent of medium-sized firms, 77 percent of small firms, 65 percent of large firms, and 61 percent of very large firms preferred a semi-urban location.

Obstacles to Rural Industrial Location. Poor access to utilities and infrastructure ranked as the biggest hurdles to locating (or expanding) an industry in a rural location. Respondents were asked to indicate the severity of each constraint (on a scale of 1-5) in both rural and urban locations: Figure 5.1 shows the average severity for rural and urban locations. For rural locations, poor telephone facilities were rated the biggest obstacle, followed by poor electricity supply, bad roads, high cost of transport, and the scarcity of skilled local workers. A poor law and order situation was rated 8th, and labor unrest 13th.

The obstacles were perceived to be unambiguously higher in rural areas than urban locations, except for the difficulty of purchasing land and high land development costs. However, there was in general a surprisingly small gap between the severity of the rural and urban obstacles. The rural obstacles were rated no more than 16 percent higher than the same urban obstacles; the gap was the widest for bad roads and poor road connections, followed by the law and order situation.

The generally small individual threshold effects between rural and urban obstacles the survey revealed may suggest that even modest improvements can tip the balance between locating an industry in urban or rural locations. However, the effect of many small threshold effects is likely to be cumulatively quite large, adding up to a range of areas such as telephones, power, transport, and worker skills where improvements are needed simultaneously to improve the attractiveness of

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10 We are grateful to the Metropolitan Chamber of Commerce and Industry in Dhaka for assistance in fielding this 1995 survey of their membership and for help in administering the questionnaire.
11 Small firms were defined to have less than 100 workers; medium 101-500; large 501-2,000, very large, more than 2,000.
12 Respondents ranked constraints on a scale of 1-5, ranging from no obstacle (1), moderate obstacle (2-4), and a severe obstacle (5).
rural locations. This suggests that a critical mass of such improvements are needed to overcome the cumulative threshold effect of many obstacles.

**OBSTACLES TO RURAL INDUSTRY: DOES FIRM SIZE MAKE A DIFFERENCE?** The survey suggests that medium-sized firms perceive the obstacles to rural location to be the most severe in almost all cases (Figure 5.2). It would appear that small and very large firm size may give enterprises additional flexibility in overcoming these constraints, but not so for medium-sized firms. This is of particular concern because comparative experience suggests that medium-sized firms are usually the most dynamic part of any rapidly growing industrial sector. Removing or reducing the obstacles to rural location is likely therefore to have a large impact on investment in rural industry because of the potential favorable response of medium-sized firms.

D. A Virtuous Circle of Rural Non-farm and Agricultural Development

Bringing together the objectives of rural poverty alleviation and rural non-farm growth suggests that a virtuous circle of non-farm development is needed. Such a virtuous circle would be driven by agricultural growth and diversification and by stronger commercial ties between non-farm production and urban and foreign sources of demand. But it would also need to feed back into agricultural growth, providing demand for both crop and non-crop agricultural products. The policy objectives embedded in such a virtuous circle of rural development are discussed here: the next section suggests a two-part strategy for these objectives. The policy framework for a virtuous circle should have three principal objectives or elements:

**STRENGTHENING AGRICULTURE/NON-FARM SECTOR LINKAGES:** Forward and backward agricultural linkages in the form of processing and trading of agricultural products and inputs still represent the dominant non-farm activities in Bangladesh. Agricultural growth provides backward linkages through the need for inputs, a notable recent example of which is the growing demand for the repair and servicing of irrigation equipment. A strengthening of these forward and backward linkages will help the growth of both agriculture and the rural non-farm sector.

In particular, agricultural growth through diversification will require extension and credit programs to be more closely linked to trading, transportation, and processing activities. In turn, these activities should play an important role in developing high-value agricultural products for urban and export demand. The rise in agricultural incomes can lead to a demand-driven growth of the non-farm sector. The analysis of consumer demand for rural households shows that most rural services, as well as many higher quality rural non-farm products, have highly income-elastic demand (Hossain et al., 1994). This latent demand potential can provide an impetus to non-farm activities only if there is improvement in average rural living standards. Agricultural growth can also help the growth of the rural non-farm sector by keeping the terms of trade between the two sectors favorable for the latter. An increase in the price of staple foods, for example, can make many low-productivity rural non-farm activities unviable as a source of livelihood.

**ENHANCING LABOR PRODUCTIVITY IN THE NON-FARM SECTOR.** The evidence examined in this report shows that there is wide variation among rural non-farm activities in respect of both capital intensity and labor productivity. The evidence suggests that during most of the 1980s expansion of low-productivity self-employment was the major contributing factor in the growth of the sector. The provision of such employment opportunities has been crucial for absorbing the growing rural labor force and for keeping rural poverty levels from rising even more than they have. This crucial poverty reducing role is likely to continue for some time as long as rural poverty levels remain high. However, the past pattern of
growth in the sector, dominated by low-productivity activities, is likely to face a demand constraint eventually, since many products of the sector are of a type and quality whose demand will not rise with rising rural or urban incomes. So there must be a shift away from low productivity to higher productivity activities over time.

Activities with higher labor productivity also generally have higher capital-intensity, so that the investment needs in the rural non-farm sector will increase. There will be a need for more skill development and better access to credit. A lower employment-intensity of production may lead to a higher level of underemployment unless production growth is sufficiently high. In the case of many rural non-farm products, the introduction of a more capital-intensive technology will result in better-quality products that can successfully enter urban and even export markets. The effect of lower labor-intensity on employment is then likely to be more than compensated by market expansion.

There is a wealth of anecdotal evidence in recent years, not yet fully captured by the standard sources of data, to show that new, higher-productivity activities have started appearing on the horizon. These include non-crop agriculture, such as fisheries, livestock, poultry; some small and medium-scale manufacturing; and several service industries. Activities such as agricultural equipment and transport-related repair have slowly begun diversifying the rural economy. There is also increasing evidence of higher-productivity activities in semi-urban areas and rural towns. In a scenario of more rapid rural development and a strengthened role of the rural non-farm sector, there will have to be more emphasis, as discussed in the next section, on removing the constraints—including physical infrastructure and human capital, skills, access to inputs such as credit, management and technology, uncertainty due to asymmetric information, and high transaction costs—to the adoption of higher-productivity RNF activities.

**Promoting Participation of the Poor in the Rural Non-Farm Sector:** The evidence from other parts of South Asia and from Bangladesh shows the important role that the non-farm sector has played in limiting rural poverty, particularly where land ownership is skewed, labor force growth remains high, and movement to other rural areas with higher earnings potential remains difficult for sociological or economic reasons. The availability of non-farm wage or self-employment has also tended to tighten rural labor markets for landless labor and provide a floor for their wage rate. Given the scale of poverty in Bangladesh, there is a need to ensure that the poor continue to have access to non-farm activities as productivity increases. This will require: that new distortions not be introduced in rural labor markets; efforts continue to improve the access of the poor to education and health services and to credit and skills for micro-enterprises; that public safety net programs are well-targeted; and that local government organizations do not lead to bureaucratic and elite capture of public resources.

**E. A Two-part Strategy for Promoting Rural Non-farm Growth**

To substantially raise its per capita GDP and reduce poverty, Bangladesh must take deliberate measures to accelerate and sustain its long-term growth rate considerably above the average of 4 percent per year. This quickening can be induced partly by promoting a virtuous circle of agricultural modernization and the simultaneous expansion of rural industries that can generate productive employment. How is such a virtuous circle of rural growth to be set in motion? What should the Government do? The current state of rural industry and agriculture in Bangladesh, combined with the East Asian experience with the evolution of rural-based export industries, suggest that a two-part, dual strategy must be followed.
The primary strategy should be for the government to improve its effectiveness in providing or facilitating the provision of rural infrastructure, in shaping an efficient rural financial system that enables access to rural credit where demanded, and in promoting accelerated agricultural growth. Promoting agricultural diversification and competitive growth is a must. Agricultural growth and a change in composition of output favoring cash crops will stimulate industry through demand and input-output linkages. But equally important now are the other two elements of rural infrastructure and rural finance.

First, vastly improved rural physical infrastructure in transport, especially roads and inland water transport, electrification, rural telecommunications, storage facilities, and rural markets, will have large benefits for both non-farm and agriculture activities. Low-cost access to district and national markets, by raising the value of farm and non-farm products and reducing the cost of inputs and consumer goods, boost rural agricultural and nonagricultural incomes. Infrastructure construction requires materials such as bricks produced by rural industries. The increase in vehicular traffic can generate demand for repair facilities, locally manufactured spare parts, and metal working.

Yet, the overall state of rural infrastructure in Bangladesh—roads, river jetties, and markets—remains poor. More than 100,000 kilometers of rural roads have been built over the years as part of public works programs. Despite good intentions, resource constraints and weak institutional management have resulted in construction of extremely poor quality roads. Positive change has recently been led by the Local Government Engineering Department, driven by its leadership, competent staff, its client focus, and effective organization. The government needs to follow through with both short and longer-term actions to accelerate progress on improving maintenance, coordination between the Local Government Engineering Department and the Roads and Highways Department, planning and monitoring capacities, and strengthening the local contracting industry. These reform priorities are in several instances under implementation, and have been discussed in considerable detail in other recent studies by the World Bank (see Box 5.1, World Bank 1996f).

Bangladesh’s electricity distribution network serves only about 14 percent of the population: the rural sector accounts for most of those who are not served. Because Bangladesh’s phenomenally high power system losses are incurred primarily in urban power supply, government actions—and inaction—create a substantial antirural and anti-poor bias. A GDP growth rate of 8 percent a year would require a corresponding growth in power generation of 16 to 20 percent a year. In reality it has been difficult to achieve power generation growth of more than 7 percent a year over the past decade. It is true that the Rural Electrification Board and its rural cooperatives have been considerably more successful in power distribution that the urban parastatals. However, despite their good record, problems of financial weakness in the rural cooperatives remain. A major reason for poor financial performance is the irrational demarcation of rural service boundaries and the resulting duplication of facilities and investments between the urban and rural power utilities. Bangladesh is now attempting to deal with these problems through its power sector reform program, by unbundling generation and distribution, by seeking to commercialize the power utilities, and through the entry of independent power producers under build-own-operate arrangements.

At 2 main lines per 1,000 residents, the poor coverage of telecommunications and the resulting urban bias are no different than in power, even as telecommunications reforms have started and private competition using cellular technology is slowly becoming a reality. The
priorities in telecommunications are to promote greater competition and, simultaneously, to strengthen regulation quickly and transparently so that investors can make the large investments necessary to provide greater access. One of the new cellular licensees, Grameen Telecom, is expecting to provide rural telephony services. In particular, it has discussed plans to provide cellular phones to rural women for use as public call offices as part of Grameen Bank’s microcredit scheme.

Second, access to credit and efficient rural financial intermediation, particularly for small and medium scale enterprises, is needed. Successful NGO credit programs should be encouraged to expand into meeting the credit needs of small and medium rural enterprises, going beyond their traditional focus on landless household borrowers. The larger problems of the financial system in Bangladesh, poor capital adequacy, a culture of loan defaults, and poor financial governance underlie the fragility of the commercial banking system. Faster progress in resolving these fundamental problems would also greatly increase the efficiency of rural financial intermediation.

The difficulty of realizing collateral constrains credit supply, and subsidized interest rates for cottage and small-scale industry also do not help. The latter encourage enterprises to increase capital usage relative to other factors and result in rationing in which more influential borrowers will be successful, thus making access to credit more regressive for smaller rural enterprises. Recent work done by the Bank suggests a number of specific actions needed to increase the efficient access to credit in the rural sector (see Box 5.1).

The micro-enterprise based credit programs of NGOs have helped in containing poverty. But small and medium scale rural enterprises that can borrow on more commercial terms are not being adequately covered by any credit supplier. NGOs themselves should consider expanded credit programs into which their borrowers can graduate once they have expanded in size. Some changes in this direction may be taking place, particularly with BRAC’s activities that emphasize skill development and training along with credit access. Faster graduation into mainstream commercial activities and higher returns should have larger rural multiplier effects through increased consumption, saving, and investment.

It bears emphasizing that the proposed strategy does not offer a magic formula for jump-starting rural development and industry. The elements of such a strategy are not new and are part and parcel of the current development understanding in Bangladesh. In recent years the World Bank, the Government and many others have discussed reform needs in these areas (see Box 5.1 for relevant policy excerpts from the recent Bank studies.) What is important is to recognize that these elements are part of a package, and there must be simultaneous progress on almost all the elements if a virtuous circle of rural growth is to be initiated.
Box 5.1 Promoting Rural Development in Bangladesh: Recommendations of Recent World Bank Studies

This report highlights a number of areas where policy action can facilitate the growth of the rural non-farm sector in Bangladesh. Recent World Bank studies have examined some of these areas, and their major recommendations in these areas follow:

**RURAL INFRASTRUCTURE STRATEGY (April 1996)**

1. Increase local community participation in priority setting, design, and implementation of rural infrastructure.
2. Overhaul rural market management and leasing systems with greater user participation.
3. Emphasize field-level training and implementation of maintenance programs.
4. Strengthen financial status of local bodies to ensure sustainability of infrastructure maintenance.
5. Continue training and equipment support to small contractors while increasing contract sizes to enhance contractor efficiency and output.
6. Emphasize construction of river jetties to better integrate land and inland water transport.
7. Enact land acquisition legislation with suitable compensation procedures.
8. Improve rural roads network by: a) connecting growth centers in sub-districts to thana headquarters or to the nearest all-weather roads; and b) providing better drainage structures for roads that connect growth centers to villages.
9. Improve market structures and facilities in the growth centers.

**RURAL FINANCE (June 1996)**

1. Extend financial sector reforms to rural financial sub-sector to improve the rural poor’s access to credit. In particular: a) change laws to permit a wider range of collateral security and repossession and sale of collateral under private agreement; b) regulate and supervise loans secured by accounts receivable and chattel paper; and c) expand, modify, and unify public registries.
2. Undertake external portfolio audits of the two agricultural banks (BKB and RAKUB), with a view to increasing their profitability, and reform cooperatives in line with ILO recommendations.
3. Integrate NGOs with commercial finance markets by: a) developing an appropriate regulatory framework for the financial operations of the NGO sector; b) encouraging large NGOs to establish themselves as banks; c) encouraging “wholesaling” of credit to established NGOs; and d) using smaller NGOs as brokers to mobilize self-help savings groups.
4. Increase flow of competitively priced finance in rural areas by: a) expanding trade and suppliers credit provided by commercial banks through increased training of bank staff and continued experimental schemes with private rural lenders; and b) clarifying the Government’s position on pawning activity to encourage greater credit provision by the informal private sector.

**AGRICULTURAL GROWTH WITH DIVERSIFICATION (June 1995)**

1. **Short term actions**: a) Enact seed policy and accompanying seed rules into law; b) return fertilizer marketing to the private sector; c) eliminate maximum fertilizer retail prices and increase transparency in ex-factory urea price setting; d) continue reducing duties on imported inputs; e) eliminate restrictions against parallel cash crop marketing and deregulate foodgrain marketing; f) increase space available on air cargo flights out of Bangladesh; and g) convert remaining quantitative import restrictions (including that on sugar) into ad valorem tariff rates.
2. **Long term actions**: a) approve a market-based mechanism for setting urea prices; b) encourage modern HYV non-rice seed technologies; c) improve agricultural marketing regulation; d) strengthen agricultural research; e) improve agricultural extension systems; f) promote non-traditional agricultural exports; and g) encourage foreign investment in agribusiness.

**TRADE POLICY REFORM FOR IMPROVING THE INCENTIVE REGIME (October 1996)**

1. Reduce urban bias of current trade policies by phasing out tariff concessions for end-users which give preference to urban-based exporters, but are not available or difficult to access for rural-based cottage industries.
2. Remove quantitative restrictions on textiles to encourage backward linkages with domestic industry, including handlooms.
3. Reduce infrastructural constraints that deter exporters from locating in rural areas.

**LABOR MARKET POLICIES FOR HIGHER EMPLOYMENT (April 1996)**

1. Resist pressures to introduce a national minimum wage, which would be difficult to enforce and may hurt poor informal and rural workers by reducing rural wages as a result of downward pressure on urban employment possibilities.
2. Improve targeting of Food-for-Work program, and introduce better targeted programs that benefit underemployed rural laborers.

Sources: For greater details and background, see World Bank 1995a, 1996a, 1996d, 1996f, 1996g.
A secondary strategy should be to create, in partnership with NGOs and the private sector, an enabling environment for private sector-led rural industry and for stronger linkages to agriculture. The discussion and efforts to provide an enabling environment for private sector growth has been focused on urban industry alone. To promote both agriculture and the rural non-farm sector, it is time now to discard the potential urban bias and focus as well on the rural sector. Three conditions seem important.

First, as part of a sound long-term urban development strategy, industrial and infrastructure location policy needs to ensure that semi-urban areas are not lost sight of in meeting the pressing needs of core metropolitan areas on the one hand, and village-level rural areas on the other. Semi-urban areas in Bangladesh are extensive, the transition between urban and rural is gradual, and urbanized areas are relatively close together. Semi-urban areas provide employment opportunities for temporary or daily migration of workers from interior areas. The developments in Savar and the growth of textile production on the road to Narsingdi are examples of the growth potential of semi-urban areas in the vicinity of Dhaka. Rajshahi, Bogra, Kushtia, Jessore, and Chittagong all provide examples of similar growth. Advance spatial planning for the developments of semi-urban areas will avoid repeating the massive problems core metropolitan areas face today and the excessive congestion that will impose sizable cost externalities. Land use policy and access to undisputed land, the potential role of special economic zones and private industrial estates, and the value of the current industrial estates run by the Bangladesh Small Scale Industries Corporation need to be seriously examined in this regard. Appropriate land use policy, for example, will require concerted efforts to improve land records and drastically streamline the relevant registration and judicial processes for land transfers.

Second, if rural manufacturing is to take root and become competitive, comparative and Bangladesh experience suggests that producer services for small and medium-scale enterprises must become available more widely and cost-effectively. These services include engineering services to help introduce modern production equipment and process management, financial services, support in designing products that can penetrate overseas and domestic markets, quality control, and marketing services. In Southeast Asia, foreign investors setting up production in Special Economic Zones helped to galvanize rural industry through production linkages, training, and technology transfer. In Taiwan (China) agricultural producer cooperatives supplied capital to launch food processing industries: when these prospered because of exports, the stage was set for diversification into other light industries. In South Asia itself, the successes of the Indian National Dairy Development Board suggests the galvanizing role that cooperative partnerships can play.

In Bangladesh, this represents a potential "venture capital" role for NGOs. NGO programs such as those of BRAC and Grameen are doing a good job in bridging the information and skills gap, but for the moment only for cottage and household enterprises. The Government should encourage its own agencies and other NGOs to learn from the example of "Grameen Check" handloom cloth to see how local rural skills, appropriate inputs, financing, cooperative organization, and export and domestic demand can be put together to start altering the prospects for rural industry. The government should encourage NGOs to replicate and scale up similar activities.

In comparison, the well-meaning but poor and diffuse performance of agencies such as the Bangladesh Small Scale Industries Corporation and the Handloom and Silk Boards stands out in stark contrast. This suggests that any approach to building new promotional institutions, or restructuring existing ones, must ensure that these are primarily private or NGO initiatives, sector-
focused, participatory, and commercially viable themselves. Their effectiveness should come from a clear strategic understanding of the principal constraints facing the sector and hence the agencies’ role in lifting those constraints, producer participation on the agency Boards, and a clear goal of commercial viability for producers.

_Third, the bias against the rural sector in policies and programs, usually unintentional, should be removed as far as possible._ Incentive schemes (such as for exports) that require repeated clearances from Dhaka have a built-in bias against rural-based industry. Ensuring transparency and automaticity for routine licensing and regulatory requirements will disproportionately benefit rural-based industry, since its growth relies on the growth of many small and medium-sized firms who are poorly placed to devote specialized resources to meeting such government requirements.
Figure 5.1: Constraints to Locating Industry in Rural and Urban Locations

- Poor education facilities for children of staff
- City-based staff don't like to commute
- Managers/staff don't like to live on-site
- Poor storage facilities
- Inadequate banking facilities
- Labour unrest
- Bad roads or poor road connections
- Poor telephone facilities
- Poor gas supply
- Poor water supply
- Poor electricity supply
- Unavailability of skilled local workers
- High cost of transport
- Poor law and order situation
- High land development cost
- Difficulty of purchasing land

Source: World Bank/MCCI Survey
Figure 5.2: Constraints to Locating Industry in a Rural Location by Firm Size of Existing Enterprises.

Source: WorldBank/MCCI Survey
### Table 5.1: Marginal benefits of Switching from Farm to Non-Farm Sectors by area, with and without poverty weights

<table>
<thead>
<tr>
<th></th>
<th>Initial log farm consumption (normalized by poverty line)</th>
<th>Estimates of proportionate gains in consumption from switching to non-farm sector</th>
<th>Average marginal benefit at given initial household characteristics (%)</th>
<th>Poverty-weighted marginal benefit at given initial characteristics (%)</th>
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<tr>
<td>Dhaka</td>
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<td>18.94</td>
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</table>

**Source:** Ravallion and Wodon (1997). Authors' computations from Household Expenditure Survey data for 1990/91.

**Note:** A value of 1.0 for initial consumption indicates that, on average, farm households in that district are at the poverty line.
ANNEX
SIZE, STRUCTURE, AND PERFORMANCE OF THE RURAL NONFARM SECTOR IN BANGLADESH


A. Growth and Productivity Performance of the Rural Nonfarm Sector

The data used here are primarily from the 1989/90 BBS Integrated Survey of Nonfarm Activities (which excluded handlooms), supplemented by the 1990 BBS Handloom Census. An important limitation of the Integrated Nonfarm Survey is its exclusion of rural enterprises with more than 10 workers, so that the focus here is only on small-scale activities in permanent establishments and cottage and household enterprises.

SMALL-SCALE MANUFACTURING

Household manufacturing (manufacturing within the household without use of hired workers) is a major part of rural manufacturing employment. In 1989/90, about 11 percent of the total RNF sector was employed in small-scale manufacturing in permanent establishments, while 27 percent was employed in household or cottage manufacturing. The sector is dominated by household-based handloom production.

Excluding handlooms, household manufacturing is dominated by food processing, textiles, and wood, cane and bamboo products, which account for 73 percent of employment and an equal share of value added. There has been little change in the list of the top 15 cottage and household industries over the 1980s, though there are some changes in their rankings. While dominant industries in the sector stagnated, experiencing negative growth in value added, a few industries—oil mills, wooden handicrafts, gur making and goldsmithy—saw significant positive growth in value added. High-growth cottage industries were mostly semi-urban in terms of location.

Manufacturing in permanent establishments (manufacturing outside the household, often with the help of hired workers) excluding handlooms is dominated by traditional food processing, textiles, and basic metals, accounting for 85 percent of employment and 78 percent of value added. In 1989/90 food processing accounted for 51 percent of employment and 12 percent of value added. The sector has, nonetheless, diversified considerably over the 1980s. The list of the top 15 industries by employment has changed considerably toward a clear urban and peri-urban tilt, both with regard to market orientation as well as enterprise location, and nontraditional small industries have experienced rapid growth. High-growth small industries with significant rural presence

1 An important decision for the study was to focus attention on existing sources of data rather than generating new survey data to address these questions. This was partly due to cost considerations, but more importantly to force the study to take cognizance of how the rural nonfarm sector had been covered (or indeed, not been covered) by past official data collection. The conclusions derived from different national data sets are largely consistent, and therefore have additional merit. The official data sources used here include the several Labor Force Surveys during the 1980s and early 1990s; the 1989/90 Integrated Survey of Nonfarm Establishments; the 1990 Handloom Census; the 1971, 1981 and 1991 Population Censuses; the Household Expenditure Surveys; data from the Bangladesh Small and Cottage Industries Corporation; and more project-based micro evidence, both direct and indirect, on the performance of rural nonfarm activities.
include fish processing, synthetic textiles, and agricultural implements. The rural small scale manufacturing subsector grew faster than the GDP average growth between 1977/78 and 1989/90; 5.3 percent and 3.5 percent average annual growth in value added and employment, respectively.

**Handlooms.** Rural manufacturing is dominated by handlooms, which provided 66 percent of the employment in small-scale and cottage manufacturing. It accounted for 25 percent of small-scale/cottage nonfarm employment, and accounted for 10 percent of value added in 1990. The handloom industry is dominated by cottage units (less than 6 looms), which account for 90 percent of all handloom enterprises and 72 percent of employment in handlooms. The industry is not characterized by significant underemployment; 70 percent of all workers worked full-time, and 44 percent of workers (part and full-time) were women, though they earned a substantially lower wage. The industry has experienced erratic growth, due to problems of yarn availability and competition from smuggled cloth.

**SMALL-SCALE TRADE AND SERVICES**

Trade and services accounted for a larger portion of small-scale and cottage nonfarm employment than manufacturing: 63 percent as compared to 37 percent. Unlike manufacturing, most trade and service activities were conducted in permanent establishments; only 6 percent of small-scale nonfarm employment was engaged in household trade and services. Rural trade was dominated by retail trade activities (trade in groceries, textiles, furniture, hardware etc.) which accounted for 72 percent of total employment in trade. Employment in services was concentrated in social and community services, namely primary and secondary education, medical services etc., most of which were provided by the public sector. Personal services were relatively less important in the rural areas. While the BBS Integrated Nonfarm Survey did not cover transport services, Labor Force Survey data reveal that transport services accounted for over 10 percent of total employment in the LFS, and this share has been growing rapidly.

**LABOR PRODUCTIVITY**

*Labor Productivity in Manufacturing.* How does productivity differ between rural and urban enterprises engaged similar activities? The BBS Integrated Survey provides data for small-scale enterprises in typical nonfarm activities but located physically in urban locations. Table A.1 presents labor productivity estimates by rural and urban classification for manufacturing enterprises: all activities listed are primarily rural in terms of employment. While labor productivity was generally higher in urban areas, there is a high degree of correlation (correlation coefficient of 0.71) between productivity levels for an activity in urban and rural areas, indicating that location is perhaps not a significant issue in determining productivity in small-scale rural manufacturing activities. For permanent establishments, labor productivity was highest in textiles and wood and wood products. While employing a small part of the labor force in manufacturing, the production of transport equipment was also highly productive. Together, these three activities employed 15 percent of the rural labor force in permanent non-handloom establishments. Enterprises in the Dhaka and Chittagong divisions recorded the highest rates of productivity.

Despite relatively high productivity in some activities, rural small-scale manufacturing clearly lags behind its large-scale counterpart, which is mostly urban or semi-urban. For example, average annual labor productivity in ready-made garments and leather, the export leaders, was Tk 41,900 and Tk 123,500, respectively. Average labor productivity in the domestic-oriented

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2 The share of rural employment in total employment in these activities is over 75 percent.
industries of textiles and engineering was Tk 43,673 and Tk 74,287, respectively, and in large-scale manufacturing, as reported by the Census of Manufacturing Industries, was Tk 51,600 per annum. This figure is over double the average labor productivity for rural small-scale establishments of Tk 22,000 per annum.

Labor productivity is significantly lower in household-based manufacturing units. Moreover, the correlation coefficient between productivity levels in household and permanent units for the same activity was very low (0.17), indicating that these are essentially very different activities in terms of technology, factor proportions, and skills.

Higher productivity household-based manufacturing activities include transport equipment, wearing apparel, and furniture; but, taken together they employ only 2 percent of the household-based labor force engaged in non-handlooms manufacturing. Data provided by the Bangladesh Small Scale Industries Corporation (BSCIC) were also used to estimate labor productivity in cottage industries. A ranking of cottage industries by their productivity showed that industries with labor productivity less than the going agricultural wage accounted for almost 85 percent of all employment in the cottage subsector. BSCIC data corroborate the finding from the BBS Nonfarm Survey that a relatively modest share of small-scale industry shows high levels of labor productivity, and is characterized by higher capital intensity, greater use of hired workers, and semi-urban enterprise location.

Information on productivity in the handloom sector is not available from the BBS Integrated Nonfarm Survey. The Rural Industries Study Project (1979) carried out by the Bangladesh Institute of Development Studies estimated average labor productivity in the handloom sector at Tk 3,373 at then current prices. The more recent Handloom Census (1990) suggests that labor productivity in the handloom sector had not changed much: productivity in handlooms was still fairly low, approximately Tk 9,700 per annum, and substantially lower than productivity of non-handloom permanent establishments of Tk 22,000 per annum as seen below. Dhaka has the highest handloom labor productivity of Tk 14,800, while in Chittagong labor productivity in handlooms is barely Tk 4,400 per annum. Annual productivity in factory-type production (6 or more looms) was Tk 14,500, while in household production (1-6 looms) it was Tk 8,500. Compared with other manufacturing and trade and services (see below), handloom production, though it employs a large share of the rural labor force, is a relatively low productivity activity.

These results confirm a significant productivity gap between rural household-based cottage manufacturing and rural manufacturing in permanent establishments. The pervasive low levels of productivity in cottage industries casts doubts about their employment generating potential. Household-based manufacturing employs 27 percent of the RNF sector labor force, but contributes only 3 percent of its total value added. Small scale enterprises, on the other hand, employ 11 percent of the RNF sector—barely half the share of household manufacturing, but contribute 4 percent of its value added. The average annual labor productivity in cottage industries was Tk 8,200, less than half of that in permanent establishments (Tk 16,700). The gap between productivity of household and permanent establishments widens further when handlooms are excluded from both categories. An important finding of the above analysis is also the significant presence of a relatively productive small-scale rural manufacturing sector, which employs over 10 percent of the rural nonfarm work force. While labor productivity in this sector is still barely half the level existing in large-scale manufacturing, it is double that of household manufacturing.
Labor Productivity in Trade and Services Table A.2 lists labor productivity in non-manufacturing activities that are primarily rural, disaggregated by permanent establishments and household-based activities. For permanent establishments, rural trade (both wholesale and retail) was more productive than manufacturing. Rural services were less productive than trade, except for medical and health services.\(^3\) Productivity in personal services (barber shops, locksmiths, tailoring) in rural Dhaka was much higher than in the other three divisions, indicating that these services are more lucrative when conducted close to Dhaka. Some activities at the household level were fairly productive, for example, trade in agricultural raw materials (cotton, hides and skins, jute). Others, such as retail trade and personal services were not productive at the household level. Activities were in general more productive when carried out in the rural areas, but the correlation between labor productivity in similar activities in urban and rural areas was significant (0.49 for permanent establishments and 0.58 for households).

Separate estimates of labor productivity in the transport sector reveal that rural transport operations were highly productive—ranging from Tk 18,580 per annum for rickshaw pulling to Tk 30,278 per annum for mechanized boats (Hossain et al 1994). This is higher than productivity in manufacturing, but still lower than trading activity.

Labor Productivity, Capital Intensity, and Firm Size Prior sample survey-based studies in Bangladesh have found a significant positive relationship between capital intensity and labor productivity (Hossain 1994). Labor productivity is also higher in enterprises that use hired labor to a greater extent: enterprises run entirely with hired labor in Hossain’s sample would have had labor productivity that was Tk 13,000 higher than if they were run entirely by family labor. Under conditions of widespread poverty and surplus labor, a poor household would consider the opportunity cost of employing family labor in family enterprises rather than the market wage rate, and hence tend to employ more labor than a non-household enterprise, thereby pushing down its marginal productivity below the market wage rate. The 1979 RISP project found that industries that have a higher proportion of units located in the semi-urban and urban areas demonstrate significantly higher labor productivity levels. Data from the BBS Nonfarm Survey suggested that there was a strong correlation between the level of capital expenditure and value added for both establishments and households—0.97 and 0.87, respectively.\(^4\) A similar relationship was found using BSCIC data on cottage industries.

B. Is there a Growing Dynamic Niche in the Rural Nonfarm Sector?

Microcredit advances, which primarily finance self employment in nonfarm activities, have shown a significant increase over the last decade. The main sources of microfinance are Grameen Bank and the three large NGOs, BRAC, ASA, and Proshika. Together, these institutions disbursed Tk 19 billion in 1994/95, compared with Tk 2 billion by commercial banks and government programs. Grameen disbursed over 85 percent of the total microcredit portfolio in 1993/94.

Industrial term loans by scheduled banks sanctioned and disbursed for poultry, livestock, and fisheries between 1990/91 and 1993/94 grew faster than loans to the conventional

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\(^3\) The bulk of rural service employment is in government run social and community service.

\(^4\) Information from the Nonfarm Survey on capital was limited to capital expenditures in the survey year and did not include information on capital stocks, preventing a test of the relationship between capital intensity and productivity.
manufacturing sector. Industrial term loan disbursement to poultry, livestock, and fisheries grew at a trend rate of more than 56 percent between 1990/91 and 1993/94, compared with 46 percent for manufacturing. It would appear that scheduled banks have increasingly turned to finance venture capital in non-crop agriculture rather than traditional manufacturing. A closer examination of scheduled bank loan portfolios reveals that there has been a substantial fall in the share of small and cottage industries in total outstanding bank advances (this includes both urban and rural advances). At the end of 1988/89, small and cottage industries received more than 15.5 percent of outstanding advances (other than working capital) to industry, but in 1993/94 this share had fallen to 5.5 percent.

Value added from livestock and fisheries grew at a trend rate of 3.2 percent per annum between 1983/84 and 1994/95 according to national income data, as compared to manufacturing growth of 3.7 percent. The Department of Livestock Services shows a rapid increase in the number of new private sector commercial cattle and poultry farms during 1988/89 and 1993/94.

The growth in livestock and fisheries is further supported by an examination of Grameen Bank's portfolio which reveals that, despite some fall in the growth of loans advanced, livestock and fisheries retained their position as among the leading recipient of microcredit loans. Three other activities stand out because their growth rates are higher than the overall credit expansion rate. These are peddling, shopkeeping, and trading. While the first two have grown from a small base, the third, trading, has emerged as the second-most important RNF category in Grameen Bank's portfolio. Advances to the service sector appear to have largely stagnated while traditional processing and manufacturing saw a substantial fall in loans advanced (Table A.3).

An examination of specific activities in Grameen’s portfolio also reveals changes in the rankings of the top 10 activities (Table A.4) between 1989 and 1994. New activities at the top include stationary shops, seasonal agricultural product trading, and cloth trading, possibly due to a strengthening of rural-urban links. Livestock-related activities retained their top positions, as did paddy husking and bamboo works, both agro-based industries. Moreover, the Grameen Bank portfolio is diversifying rapidly. In 1989 the 10 most important activities accounted for 69 percent of the total loan portfolio, while in 1994, the share of the top 10 had come down to 41 percent. This reflects, to some extent, diversification of investment opportunities in the rural areas. This pattern is also supported by an examination of BRAC and Proshika’s portfolios. Rural trading had received more than 40 percent of the total (cumulative) loans disbursed by BRAC until September 1994, followed by food processing (20 percent) and livestock and fisheries (13 percent). While the orders of magnitude may differ, the same activities seem to dominate the portfolios of other microcredit institutions.

Brick manufacturing was found to be the most common activity receiving investment financing from remittances. Timber processing in saw mills was another common activity. This was shown by a BIDS survey, which found that 14 percent of migrant households were engaged in “trade and other business”, spending on average Tk 91,000 per annum. The survey identified the following other activities performed by these households: bakery, furniture manufacturing, pottery, and rice and flour mills. Remittances have usually been used to expand already existing activities. Due to overwhelming poverty, consumption account for a significant portion of the remittances received by migrant households. A large proportion is also used for housing and construction, land purchase, weddings and festivals, and repayment of loans. Recent data are not available to capture the intertemporal changes in investment behavior of the households receiving remittances from
abroad. However, it seems clear that (unlike China), despite some signs of increased use of remittances for investment purposes, the nonfarm sector in Bangladesh does not yet use this source to finance nonfarm activity.

The largest five nonfarm subsectors during 1991 and 1994 as ranked by the number of new firm registrations with the Bangladesh Small Scale and Cottage Industries Corporation, are food and allied products (41.5 percent), engineering workshops (22.8 percent), forestry (9.7 percent), chemical and allied products (7.9 percent), and textiles (5.2 percent). These account for more than 87 percent of all units registered. Food and allied products is the most significant, accounting for 30 percent of new employment, and 42 percent of new investment. While precise data on location are not available, BSCIC officials suggest that food and allied products and engineering workshops on their list are primarily located in the semi-urban areas.

Nonfarm items in Bangladesh's exports include handicrafts, handloom products, silk fabric, and seafood exports (namely fish and frozen shrimp). Despite an impressive growth in value terms (12 percent per annum between 1980/81 and 1992/93), the share of RNF products in total exports increased marginally from 4.4 percent to 7.6 percent during this period. Bangladesh's exports are dominated by ready-made garments, which constitute over 50 percent of total exports and are concentrated in the urban areas of Dhaka and Chittagong. Among the export-oriented products of the RNF sector, there has been a change in composition between the early 1980s and the 1990s. Over this period, many traditional items have vanished (e.g. handloom and coir products), or their supply has been erratic (jute ropes and bees wax). The share of RNF in exports was maintained by the success in export of fish, frozen seafood and related items—so far, export demand for RNF output has been limited to these items. Recently, both handlooms and silk have emerged as potentially important export items. The success of Grameen Check (which is a "deemed export" to ready-made garment exporters) has shown that Bangladeshi handlooms can indeed find an important niche market abroad.

In sum, the advances made by RNF in the export sector relate primarily to non-crop agriculture and handlooms. Traditional crafts and artisan products for rural markets are getting increasingly marginalized. However, linkages with urban-based export units are stimulating the growth of some new nonfarm rural and semi-urban processing activities such as vegetables, juices, and also of handicrafts in the case of Aarong.

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5 New small and cottage units must register with BSCIC to apply for any of its promotional schemes. The registration list gives a broad idea of what nonfarm activities firms are entering. Not all firms of course register, and BSCIC unfortunately cannot separate those units that are rural. The list also suffers from all the standard problems of registration lists—actual project data may not match the intentions described in the registration pro forma.

6 The bulk of handloom cloth used in Bangladesh's garment exports is still imported from India.
| TABLE A.1: MANUFACTURING LABOR PRODUCTIVITY IN BANGLADESH (1989-90, '000 TAKA) |
|--------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| | Permanent Establishment | Household Production | | |
| | Urban | Rural | Urban | Rural | |
| Food Manufacturing | 34.6 | 21.7 | 19.2 | 10 |
| Textiles | 36.2 | 35.9 | 12.1 | 5.9 |
| Wearing Apparel | 15.4 | 17.2 | 12.3 | 19.9 |
| Wood Products | 30.6 | 28.7 | 8.3 | 7.5 |
| Furniture, Fixtures | 30.3 | 18.7 | 15.1 | 16 |
| Pottery, China, Earthenware | 23.6 | 2.2 | 6.2 | 7.5 |
| Other Non Metal Minerals | 20.5 | 3.5 | 6.2 | 9.2 |
| Metal Products Excl. Machinery | 26.1 | 19.8 | 12.3 | 8.5 |
| Transport Equipment | 43.6 | 30 | 18.9 | 22.6 |
| Decorative Handicrafts | 14.5 | 9.5 | 9.8 | 7.9 |


| TABLE A.2: TRADE AND SERVICES LABOR PRODUCTIVITY IN BANGLADESH (1989-90, '000 TK) |
|--------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| | Permanent Establishments | Household Production | | |
| | Urban | Rural | Urban | Rural | |
| Agricultural Raw Materials | 71.9 | 82.8 | 48.3 | 51.7 |
| Chemical, Mineral Metals Etc. | 63.7 | 211.1 | 34.6 | 77.3 |
| Textile Apparel | 125.5 | 64.4 | | 17.8 |
| Wholesale Trade | 105.6 | 95.9 | 50.4 | 51.8 |
| Groceries & Other Food Items | 38.6 | 64.1 | 20.3 | 2.8 |
| Apparel & Accessories | 41.5 | 40 | 27.4 | 13.3 |
| Hardware & Building Materials | 56.4 | 27.1 | 49.2 | 19.2 |
| Miscellaneous Retail Trade | 47.2 | 35.3 | 5.9 | 20.2 |
| Retail Trade | 43.1 | 45.7 | 15.2 | 2.6 |
| Restaurants, Cafe & Eating | 17.5 | 15.6 | 13.1 | 15 |
| Medical & Other Health Services | 34 | 27.4 | 28.7 | 22.7 |
| Repair Services, NEC | 21.1 | 18.8 | 13.4 | 11.9 |
| Laundry, Cleaning, Dyeing Service | 18.5 | 15.5 | 5.2 | 26.8 |
| Misc. Personal Services | 17.5 | 18.8 | 7.6 | 5.1 |

Note: A blank indicates that an activity was not significant
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<th>Sector</th>
<th>As of June 1989</th>
<th>As of June 1994</th>
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<td>Amt of Loans</td>
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<td>[42.3]</td>
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<td>Services</td>
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Note: Figs in Parentheses are percentages of the total and total excl. agriculture and forestry.
### TABLE A.4: TOP TEN MICROENTERPRISE ACTIVITIES FUNDED BY THE GRAMEEN BANK
(Tk. Million)

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<tr>
<td>1</td>
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<td>2</td>
<td>Paddy Husking</td>
<td>Cow Fattening</td>
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<td></td>
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<td>[7.9]</td>
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<tr>
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<tr>
<td></td>
<td>Tk. 211.56</td>
<td>Tk. 1090.52</td>
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<tr>
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<td>[7.85]</td>
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<tr>
<td>4</td>
<td>Rice/Paddy Trading</td>
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<td>[4.17]</td>
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<td>Tk. 46.8</td>
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<td>[2.08]</td>
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<td>Bamboo Works</td>
<td>Poultry Raising</td>
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<td>Goat</td>
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<td>Tk. 1217.06</td>
<td>[40.86]</td>
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Note: Figs in Parentheses are percentages of total loans disbursed during the year
Bibliography


Ravallion M., and Q. Wodon, 1997, What are a poor farmer's prospects in Rural Non-Farm Sector?, mimeo World Bank


* Background Papers for this study