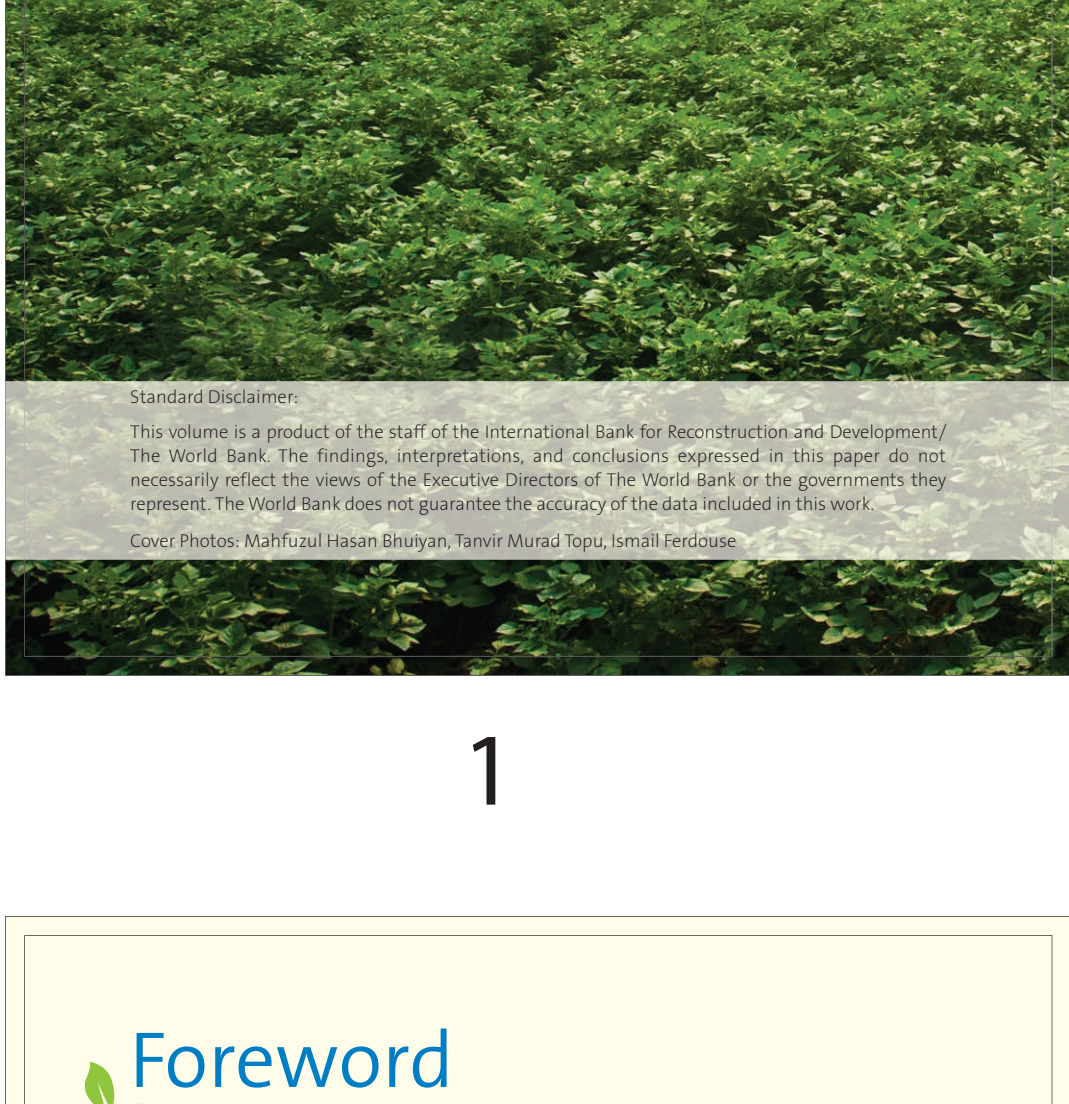
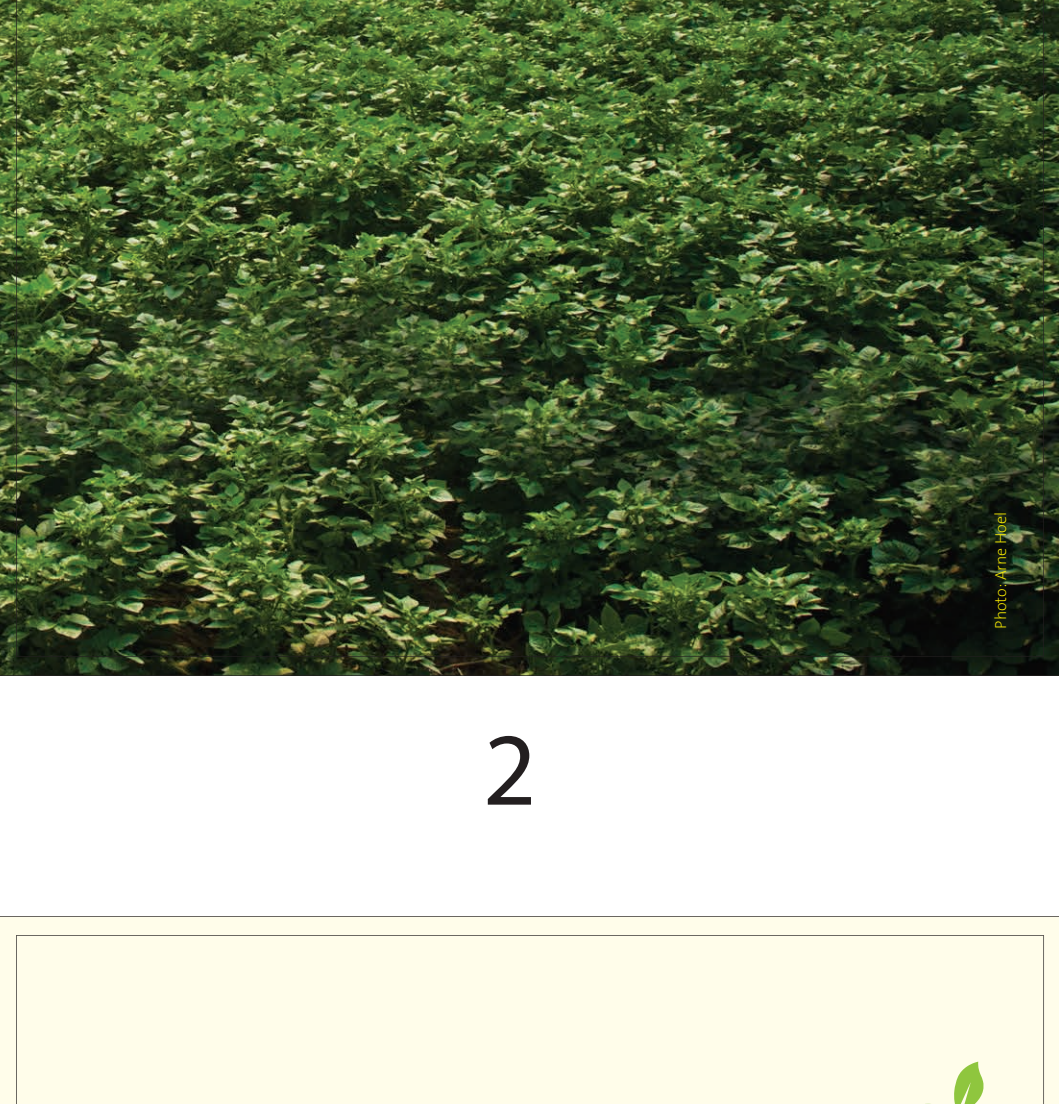


Dynamics of Rural Growth in Bangladesh: SUSTAINING POVERTY REDUCTION



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Foreword

Bangladesh's economy is vibrant. Healthy growth of nearly six percent per year over the past decade has propelled Bangladesh to a remarkable position in the fight against poverty. The number of poor people in Bangladesh dropped by one-third over that decade. The achievements of Bangladesh in improving food security and human development outcomes for its people are impressive and widely recognized. Less well appreciated is the story behind that story—the achievements of Bangladesh in agriculture.

This study, "Dynamics of Rural Growth in Bangladesh: Sustaining Poverty Reduction," is the result of a partnership between the Government of Bangladesh Planning Commission and the World Bank. It rigorously looks at the changes taking place in the farm and non-farm segments of the rural economy, how well the markets for high-value agricultural products are performing, and assesses agriculture-nutrition linkages to delineate the implications for policy and strategic priorities to sustain future rural development, poverty reduction, food security, and nutrition.

The findings are compelling. Agricultural growth matters to—and directly benefits—a disproportionately large number of poor people. In fact, improved agricultural incomes have been the main source of poverty reduction since 2000. Agricultural growth also has a catalytic effect on broader non-farm economy: a 10 percent increase in farm incomes generates an increase of 6 percent in non-farm incomes



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through strong, economy-wide forward and backward linkages. An important message of this study is that a balanced growth strategy that focuses on agricultural as well as non-agricultural growth, and that focuses on a more diversified strategy within agriculture, will be more effective than single-sector strategies in delivering the higher growth that Bangladesh requires to overcome poverty, malnutrition, and environmental degradation.

Bangladesh's many advances in the ongoing fight against poverty need to be more widely known in development circles and among policymakers. The purpose of publishing this report is to inform policy, identify strategic directions, and generate consensus on actions that can be taken to unleash resilient, sustainable growth in the rural economy for overall improvement in the lives of ordinary Bangladeshi citizens.

We trust that the findings will find broad appeal with development practitioners and contribute to global thinking on the role of agriculture in achieving rural transformation, underscoring Bangladesh's success story both within the country and externally.

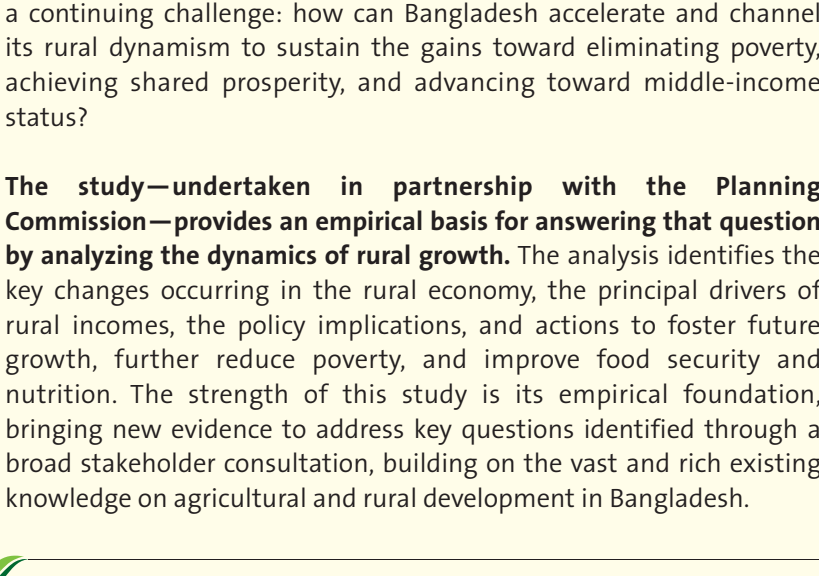
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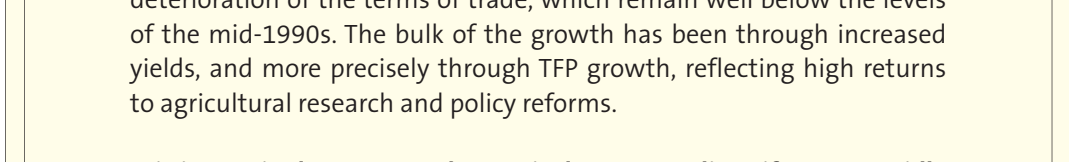
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Dynamics of Rural Growth in Bangladesh: Sustaining Poverty Reduction



The rural economy in Bangladesh has been a powerful source of economic growth and has substantially reduced poverty, especially since 2000, but the remarkable transformation and unprecedented dynamism in rural Bangladesh are an underexplored, underappreciated, and largely unexplored story. Its origins in this mutually reinforcing forces of policy reform, technological progress, investments in infrastructure and human capital, and the persistent enterprise of rural Bangladesh have begun. The progress achieved so far is commendable, yet poverty and malnutrition remain high, posing a continuing challenge: how can Bangladesh accelerate and channel its rural dynamism to sustain the gains toward eliminating poverty, achieving shared prosperity, and advancing toward middle-income status?

The study—undertaken in partnership with the Planning Commission—provides an empirical basis for answering that question by analyzing the dynamics of rural growth. The analysis identifies the key changes occurring within agriculture, the principal drivers of rural incomes, the policy implications, and actions to foster future growth, further reduce poverty, and improve food security and nutrition. The strength of this work analyzed the main findings, bringing new evidence to address key questions identified through a broad stakeholder consultation, building on the vast and rich existing knowledge on agricultural and rural development in Bangladesh.



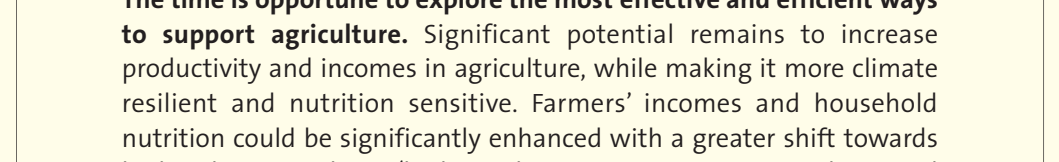
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Principal findings

Agriculture in Bangladesh has performed extremely well, despite being one of the sectors that is most vulnerable to climate shocks. The trend growth rate (over rolling 10-year periods) has increased steadily for the past two decades, reaching a high 5 percent in recent years—high by agricultural growth standards. This growth has been driven primarily by productivity growth, underpinned by a combination of technical progress and efficiency gains triggered by policy reforms. The major macro-economic and trade reforms of the early 1990s, building on the momentum of previous agricultural reforms in agricultural input and output markets, had a significant positive impact on agricultural productivity. Total factor productivity (TFP) has grown at an average annual rate of about 2.7 percent—among the highest in the world, comparable to China and better than the star performers in East Asia.

Agriculture's performance is even more impressive considering that it has been achieved in the face of adverse incentives created by some macro policies (in essence, while "swimming against the tide"). Even under the much-improved policy framework, domestic terms of trade for agriculture have steadily declined. An implicit anti-agriculture domestic policy bias has persisted with continued protection for the manufacturing sector, likely aggravating rural-urban income and poverty gaps. This macro policy context also means that while higher food prices in many years helped agricultural growth (a misperception of concern to many), the steadily accelerating long-term growth in agriculture is not simply a price effect—it has been driven by productivity growth.

The study findings clearly demonstrate the pro-poor and catalytic nature of agricultural growth, the leading contributor to poverty reduction in Bangladesh since 2000. The analysis provides important insights into the structural transformation underway in Bangladesh, occurring mostly within the rural space, from the farm sector to the rural non-farm sector. The fortunes of the rural non-farm economy depend largely on agriculture, reflecting the changing role of agriculture from being a direct contributor to GDP to a more leveraged contributor. Analysis shows that a 10 percent increase in farm incomes generates an additional 6 percent in non-farm incomes through strong forward and backward linkages.



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The economy-wide scenario analysis using a computable general equilibrium model further shows that a growth strategy stressing both agricultural and non-agricultural growth, and within agriculture a more diversified strategy is superior to neither neglect nor overemphasize key development outcomes including higher growth, more poverty reduction, sustaining food security and promoting better nutrition.



The most important drivers of agricultural growth—facilitated by policy reforms since the 1980s and strategic investments in research and infrastructure—have been irrigation expansion, modern technology (high-yielding varieties), better road connectivity, more efficient markets, and increased mechanization. High real prices have helped farmers in recent years, but only by preventing a further deterioration of the terms of trade, which remain well below the levels of the mid-1990s. The bulk of the growth has been through increased yields, and more precisely through TFP growth, reflecting high returns to agricultural research and policy reforms.

It is increasingly apparent that agriculture must diversify more rapidly if Bangladesh is to meet changing demand, improve nutrition, and adapt to a changing climate. The overall structure of agriculture has changed little. Rice dominates the crop sector and has driven much of the growth in agricultural productivity. The share of high-value agriculture (horticulture, livestock, and fisheries products) has grown, but slowly. The progress on diversification partly reflects the past emphasis of policy and strategy on food grains, principally rice, to achieve food security, which remains the central objective of the government's agriculture strategy. Policies and public interventions are designed to promote rice production, including output price support, rice stabilization, and input subsidies. Leveling the playing field and more robust diversification is an important priority going forward, given changing consumption patterns and the need to improve nutritional outcomes through a more diversified diet. One step in this direction would be to remove the remaining regulatory constraints to private sector participation in the seed sector (as has been done for hybrid maize and maize) to inject new technological vigor.



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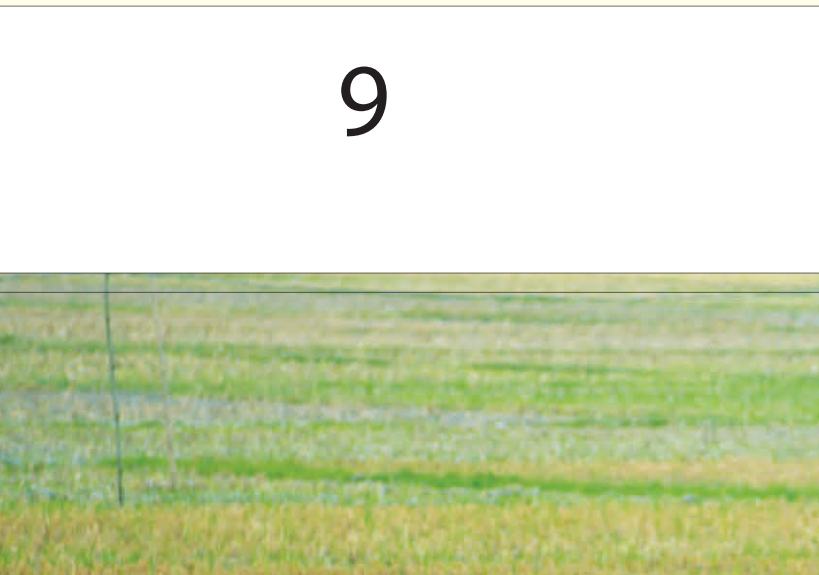
The time is opportune to explore the most effective and efficient ways to support agriculture. Significant potential remains to increase productivity and incomes in agriculture, while making it more climate resilient and nutrition sensitive. Farmers' incomes and household nutrition could be significantly enhanced with a greater shift towards high value agriculture (higher value crops, non-crop agriculture and value addition). To induce farmers to adopt these non-rice agricultural enterprises, their returns need to be further stabilized and solidified through investments in technology, markets, and infrastructure. Yet the much-needed investments in public goods to bring about this change—including investments in research (especially on the long-neglected non-rice crops, livestock, and fisheries), extension, and infrastructure—remain very low. The largest share of the public expenditure on agriculture goes to fertilizer subsidies, which have increased significantly since 2007. At the same time, an important finding from the farm-level analysis is that considerable wastage appears to be associated with the growth. Almost half of all farmers overuse fertilizer, but that excess fertilizer is not delivering any additional output. Further, the overuse of chemical fertilizers imposes large potential environmental and health costs. Priorities to address this issue are to provide appropriate technical advice to farmers through extension services while removing the remaining incentives that might encourage farmers to overuse inputs.



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Pathways out of poverty are neither linear nor predictable, as confirmed by the analysis of the dynamics of poverty. Even during a period of robust growth such as 2000–13, a large share of households regularly "churn" into and out of poverty, indicating a high level of vulnerability. Given the substantial risks associated with both farm activities (mostly natural risks, but also market-related risks) and non-farm activities (which carry economic and business as well as personal and health risks), upwardly mobile households pursue multiple strategies for generating income, diversifying their risks, and adopting reinforcing pathways out of poverty. It is thus not surprising to find that most rural households rely on both farm and non-farm incomes, with over 87 percent reporting at least some income from agriculture. In other words, most rural households retain one "leg" in agriculture as central to their strategy to climb out of poverty. These findings are important for Bangladesh's development strategy; they also contribute to the global thinking on the role of agriculture for poverty reduction and shared prosperity.

Although agriculture remains the dominant source of rural livelihoods, non-farm incomes will continue to grow in importance, and it will be need to adopt strategies to promote more robust development of the rural non-farm economy. As farm sizes decline, even more households will seek to earn income off the farm. The 2010 Labourforce Survey shows that rural non-farm employment in Bangladesh is almost 50 percent greater than all urban employment put together. Rural non-farm employment is also growing faster than urban employment, and three-quarters of rural households have at least some form of non-farm income. Clearly, facilitating more rapid economic transformation requires strategies that will improve the enabling environment for creating better and more productive jobs in the rural non-farm sector.




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A strategy to promote robust development of the rural non-farm economy should pay attention to the country's secondary cities. Aside from agriculture, key drivers of growth in the rural non-farm sector are connectivity and proximity to urban areas. The need to focus on previously neglected secondary cities is highlighted by an interesting combination of facts. More jobs are located near the mega-cities of Dhaka and Chittagong, but the growth has been in informal and seemingly vulnerable jobs, while (surprisingly) the shares of all other (more productive) types of jobs have fallen. Well-connected cities have had positive growth in better quality jobs (especially business). Poorly connected cities have shown no dynamism when it comes to creating employment, calling attention to the need for infrastructure development.

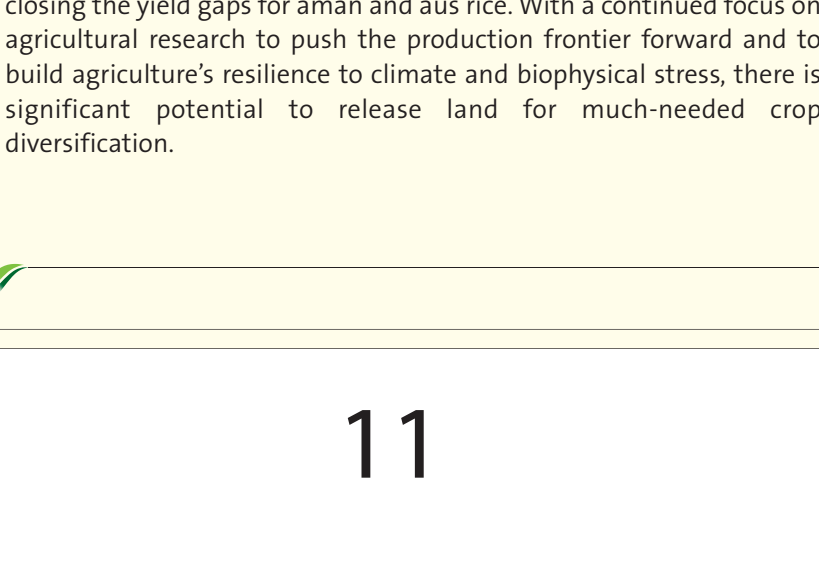
An emerging concern is that rural non-farm activities do not seem to be growing in scope or sophistication over time. Many rural non-farm activities are linked to agriculture, consistent with the process of transformation—processing, trading, food preparation, and so on. But the conundrum is that they are not progressing much from basic to more sophisticated activities. This stagnation in the types and quality of non-farm activities is puzzling, because such rural non-farm enterprises are associated with higher returns. A binding constraint on rural non-farm enterprises appears to be the lack of credit, as well as the lack of infrastructure (power and water).

With a large share of rural non-farm enterprises engaged in trading agricultural produce, the good news from surveys of traders and farmers is that markets appear to be functioning very well. The market survey found very little evidence on the cartelization of markets by a few powerful traders fleeing farmers or other forms of uncompetitive behavior. Marketing margins are reasonable and transport costs are the major source of traders' variable costs. Findings also show that physical post-harvest losses are very low (under 5 percent)—much lower than the 30–40 percent generally quoted. While the liberalized markets of Bangladesh serve both producers and consumers very well, but further improvements in market infrastructure and better access to finance are vital to move Bangladesh to the next level of more modernized and more efficient supply chains. Further investment is needed in roads, electricity infrastructure, and upgraded market facilities. Traders, especially those operating in markets for high-value products, require substantial working capital and better access to finance.



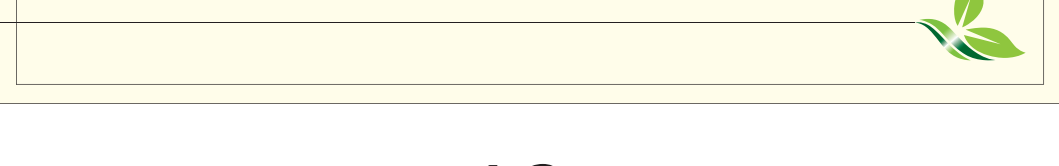
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Projections indicate that the future supply of rice relative to demand is unlikely to be a major concern, but the supply of other food groups needs to grow significantly faster. This has implications for strategic priorities and public investments. The prospects for agricultural growth, food security, and nutrition are promising, but the trade-off appears to be less of an issue now than in the past, when self-sufficiency in rice was the overarching imperative. The scope for improving rice yields is substantial, especially if farmers succeed in closing the yield gaps for aman and aus rice. With a continued focus on agricultural research to push the production frontier forward and to build agriculture's resilience to climate and biophysical stress, there is significant potential to release land for much-needed crop diversification.



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A more immediate policy priority is to achieve better outcomes in nutrition. Malnutrition rates remain high, with serious human development and economic impacts. Nutritional security is a complex, multi-sectoral challenge, with many contributory factors, among which agriculture is prominent. The empirical findings show a significant impact of agricultural diversification (out of rice) on dietary diversity, which remains very low in Bangladesh. They also show that dietary diversity has a strong direct impact on the nutritional status of fathers but not mothers. Women suffer from basic undernutrition, as seen in the body mass index (BMI) of mothers, which is significantly affected by caloric insufficiency (at the household level). Regarding nutritional outcomes in children under five years of age, the BMI of both parents has a strong negative influence, as do relative prices of foods, reflecting the significant impact of agricultural policies on nutrition.



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Priority areas for action

Based on the findings summarized here, the five priority areas for action are:

- A balanced development strategy.** A development strategy that stresses both farm and non-farm growth, and pursues a diversified strategy within agriculture (favoring no agricultural subsector over others), is superior to alternative sector-specific strategies in all dimensions of development: pursuing growth, furthering the gains in poverty reduction, reducing economic vulnerability, maintaining food security, and promoting better nutrition outcomes.
- More rapid diversification in agriculture—with carefully balanced attention to rice.** Within agriculture, diversification into high-value agriculture (non-crop agriculture and crops other than rice) is a priority, but it is important to neither neglect nor overemphasize the rice sector. Consolidating the prospects for rice is important and is eminently feasible, through an approach that emphasizes exploiting the remaining yield gaps, investing in traditional and non-traditional technologies (planting hybrids and responsibly realizing the potential of biotechnology), and leveraging the private sector to move the current technology frontiers. This approach will safeguard past achievements while injecting new momentum into productivity growth and will be critical in building resilience to potential climate change impacts. Strategic priorities include improving aman rice yields and freeing up the more suitable boro rice areas for a diverse range of high-value and more sustainable crops, giving greater attention to various aspects of developing the high-value crop, livestock, poultry, and fisheries subsectors.
- Further improving the policy framework and rebalancing public expenditure priorities.** At the macro level, policy distortions protecting the non-farm economy remain and create an implicit anti-agriculture domestic bias. The Diagnostic Trade Integration Study by the World Bank analyzed the main findings and identified key actions to address them. Among sectoral policies, a careful review is warranted to assist farmers in pursuing economically and ecologically optimal use of inputs. Overuse of chemical fertilizers causes significant wastages (with large environmental and health costs), which may be due to insufficient technical knowledge or inappropriate incentives.



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Rationalizing public expenditures to emphasize investments in research (with increased attention to non-rice crops, livestock, and fisheries), extension services, markets, and infrastructure will help to enhance incomes, value-chain efficiencies, and competitiveness. Finally, removing the remaining regulatory and institutional constraints to private sector participation in the seed sector will have a large potential payoff.

- An enabling environment for robust rural non-farm growth and more efficient value chains.** For rural non-farm growth to flourish, especially the growth of businesses enterprises, the empirical analysis reaffirms the essential role of the enabling environment. Access to finance, power, and roads are critical elements, as are better access to technology and information, and the removal of business environment barriers, such as those influencing terms of trade, discriminatory taxes, and stifling regulations. Value-chain analyses highlight the importance of focusing on food safety standards and modern market infrastructure, given the large share of rural non-farm enterprises that pursue agriculture related activities (such as trading and processing). The value-chain analyses also clearly show that agricultural markets are functioning quite efficiently, with low marketing margins (driven mostly by transport costs), dispelling the general myths on the distortions and inefficiencies associated with the liberalized market environment. The priority is to avoid distracting debates and focus on improving market infrastructure and facilitating more efficient value chains.
- Continued investment in connectivity.** The widespread impact of connectivity is well demonstrated. Looking to the future, continued investments in infrastructure are a high priority. Rural roads have been a key part of the past success in raising productivity, promoting the limited diversification that has taken place, and creating better employment opportunities. Closely related to connectivity is the need to focus on secondary cities that remain poorly connected, because they are potential drivers of economic activity and better quality jobs. The evidence shows that while the mega-cities have attracted more business jobs, they have overwhelmingly attracted informal jobs with higher vulnerability. Well-connected cities have had positive growth in employment, while poorly connected cities have languished, with no structural change in the types of jobs created.

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