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Bangladesh's Agrifood System

Structure and Drivers of Transformation

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Introduction

Bangladesh experienced strong annual economic growth of 6.6 percent between 2009 and 2019 (BBS 2021). While the global COVID-19 pandemic caused a significant growth slowdown in 2020, growth started to recover in 2021. However, the recovery was hampered by global commodity market disruptions related to the war in Ukraine beginning in 2022 and the global recession in 2023 (Arndt et al. 2023; Diao and Thurlow 2023). The World Bank (2023) projects growth of 5.2 percent for 2023 and 6.2 percent for 2024, which is slower than the country's pre-pandemic growth rate. Rapid growth in the past has already led to significant structural shifts in Bangladesh's economy along with a transformation within the agrifood system (AFS). In this brief, we unpack these trends and future projections further to understand how Bangladesh's AFS is contributing to growth and transformation in the country.

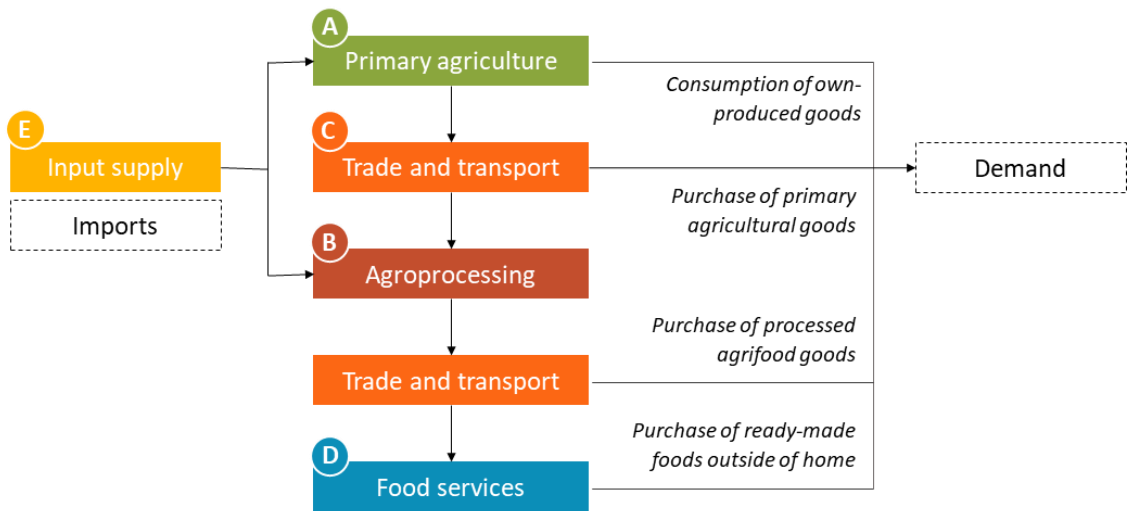
The AFS is a complex network of actors who are connected by their roles in supplying, consuming, and governing agrifood products and jobs. Just as economies transform, agrifood systems are also expected to evolve as countries develop (Diao, Hazell, and Thurlow 2010; Timmer 1988). Subsistence farming typically dominates agriculture during the earliest stages of development; as agricultural productivity rises, however, farmers start to supply surplus production to markets, thus creating job opportunities for workers in the nonfarm economy both within and outside of agrifood sectors (Haggblade, Hazell, and Dorosh 2007). Rising rural incomes generate demand for more diverse products, leading to more processing, packaging, transporting, trading, and other nonfarm activities. In the early stages of transformation, the agriculture sector serves as an engine of rural and even national economic growth. Eventually, urbanization, the nonfarm economy, and nonagricultural incomes play more dominant roles in propelling agrifood system development, with urban and rural nonfarm consumers creating most of the demand for agricultural outputs via value chains connecting rural areas to towns and cities (Dorosh and Thurlow 2013). The exact nature of this transformation process varies across countries because of the diverse structure of their economies and the unique growth trajectories of their various agrifood and nonfood subsectors.

This brief describes the current and changing structure of Bangladesh’s AFS and evaluates the potential contribution of different value chains to accelerate agricultural transformation and inclusiveness. We start by offering a simple conceptual framework of the AFS and then compare Bangladesh’s AFS to that of other countries at different stages of development. We go on to disaggregate Bangladesh’s AFS across agricultural value chains, taking into consideration their different market structures and historical contribution to economic growth and transformation. Finally, we use a forward-looking economywide model to assess the diverse contributions that specific value chains can make to each of a set of broad development outcomes. We conclude by summarizing our main findings.

A Simple Conceptual Framework of the Agrifood System

A country’s AFS is a complex network of actors who are connected by their roles in supplying, using, and governing agrifood products (see Fanzo et al. 2020 for a detailed conceptual description of the AFS). In this brief, rather than examining all components of Bangladesh’s AFS, we employ a narrower focus. We first measure its size, structure, and historical contribution to economic growth and transformation through a data-driven exercise; second, we use the International Food Policy Research Institute (IFPRI) Rural Investment and Policy Analysis (RIAPA) model (IFPRI 2023a) to assess the effectiveness of AFS growth (led by productivity gains in different agricultural value chains) in promoting multiple development outcomes in Bangladesh. Our measurement of the AFS is done from a supply-side perspective; that is, we use national accounts and employment statistics to either track or simulate growth and employment changes over time. By disaggregating the AFS into several value chain groups, this analysis offers a unique and useful perspective on the drivers of AFS growth and transformation.

Figure 1. A simple conceptual framework of the agrifood system



Source: Thurlow et al. (2023)

Figure 1 provides a simple conceptual framework of the AFS, made up of five components, A to E (see Thurlow et al. 2023). *Primary agriculture* (A) comprises the supply and demand of all agricultural products, including crops, livestock, fisheries, and forestry products. *Agroprocessing* (B) is part of the manufacturing sector and includes those subsectors that process agriculture-related food or nonfood products. *Trade and transport services* (C) includes those services associated with the transporting, wholesaling, and retailing of agrifood products between farms, firms, and final points of sale. *Food services*

(D) includes services, such as meals prepared at restaurants, food stalls, or hotels. Finally, *input supply* (E) is the portion of domestically produced intermediate inputs that is used directly in agricultural and agroprocessing production such as fertilizers and financial services.

Using this conceptual framework, it is possible to measure the size and structure of Bangladesh’s AFS from a supply-side perspective. Following the definitions of Thurlow et al. (2023), AFS GDP (or AgGDP+) is the sum of the GDP contributions of the five components (A to E), while AFS employment (or AgEMP+) is the total number of jobs across those components. As the economy grows and transforms over time, there will be changes in the relative contributions of the various on-farm and off-farm components of the AFS to total AgGDP+ or AgEMP+. A transforming economy, for example, will typically be characterized by more rapid growth in the off-farm components of the AFS; there will thus be an increased contributions by off-farm components to AgGDP+ and AgEMP+ and a relative decline in the contribution of primary agriculture. By disaggregating AgGDP+ and AgEMP+ by specific agricultural value chains, we can further assess the contribution of each of those value chains to AFS growth and transformation.

Current Structure of Bangladesh’s Agrifood System

Table 1 presents the structure of Bangladesh’s AFS in 2019 based on official national accounts data and sectoral employment statistics (BBS 2021; ILO 2020), as compiled in a 2019 Social Accounting Matrix (SAM) for Bangladesh (IFPRI 2023b). National estimates are broken down into estimates for the AFS (that is, AgGDP+ and AgEMP+) and the rest of the economy. The AFS is further broken down into the on-farm (primary agriculture) and off-farm components. The estimates for manufacturing and services (including the trade and transport services subsector) at the bottom of the table include activities in both the AFS and non-AFS sectors, thus providing a perspective on the relative size of the off-farm AFS components within the overall manufacturing and services sectors.

As shown in the table, the AFS accounted for 23.8 percent of Bangladesh’s national GDP and 49.5 percent of employment in 2019. Primary agriculture alone contributed only 12.5 percent of GDP and 38.6 percent of employment, while the four off-farm components of the AFS contributed 11.3 percent to GDP and 10.8 percent of employment. Rapid economic growth has significantly changed Bangladesh’s economy, and agriculture is no longer a large sector. While AgGDP+ is almost twice the size of primary agricultural GDP, it is just slightly more than total manufacturing (at 21.7 percent) in national GDP. Bangladesh’s manufacturing is dominated by the garment industry and other nonfood related activities, and agroprocessing, which is part of AgGDP+, is only 3.5 percent of national GDP. Within the AFS, the off-farm components account for almost half of AgGDP+ but a much smaller share (22 percent) of AgEMP+.

The comparison of on- and off-farm GDP and employment shares shows that labor productivity in the off-farm components of the AFS is significantly higher than on the farm. The continuous movement of farm workers into these off-farm components—a process of agricultural transformation—may thus be beneficial to household incomes.

Table 1. Current structure of Bangladesh's agrifood system and economy (2019)

	GDP		Employment	
	Value (US\$ billion)	Share (%)	Workers (million)	Share (%)
Total economy	348.0	100	66.9	100
Agrifood system	82.9	23.8	33.1	49.5
Primary agriculture (A)	43.5	12.5	25.8	38.6
Off-farm AFS	39.5	11.3	7.3	10.9
Processing (B)	12.2	3.5	2.0	3.1
Trade and transport (C)	18.6	5.3	3.6	5.4
Food services (D)	3.7	1.1	1.1	1.7
Input supply (E)	4.9	1.4	0.5	0.7
Rest of economy	265.1	76.2	33.8	50.5
Total manufacturing	75.6	21.7	9.9	14.7
Total services	185.5	53.3	27.0	40.4
Total trade and transport	82.1	23.6	16.6	24.8

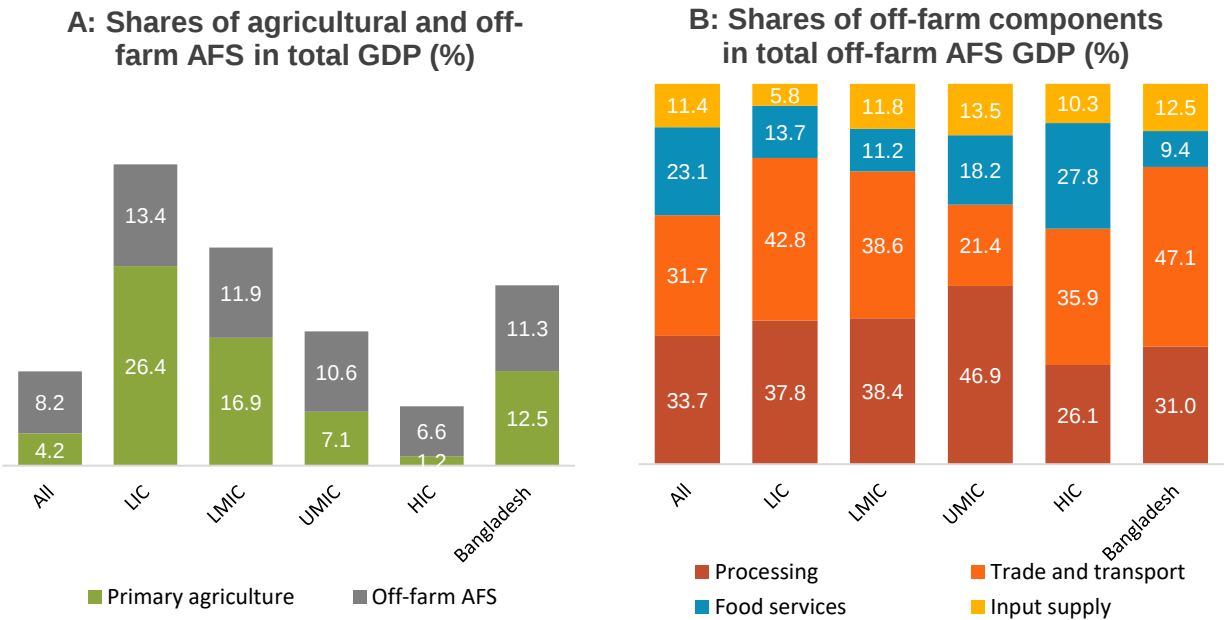
Source: Authors' calculation based on the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

Note: A to E correspond to the five agrifood system (AFS) components from Figure 1.

Comparing Bangladesh's Agrifood System to Other Countries

The structure and economic contribution of a country's AFS varies at different stages of its development. Evidence is provided in Figure 2, which compares the 2019 AFS structures of low-income (LIC), lower-middle-income (LMIC), upper-middle-income (UMIC), and high-income countries (HIC). Bangladesh is an LMIC, while the on-farm component of Bangladesh' AFS and its contribution to national GDP are lower than that of its peer countries and the off-farm component is similar (Panel A). Within the four off-farm components of the AFS, Bangladesh's agroprocessing is relatively smaller to that in other LMICs, while the agrifood trade and transport component is relatively larger (Panel B).

Figure 2. Comparing Bangladesh’s agrifood system to other countries (2019)



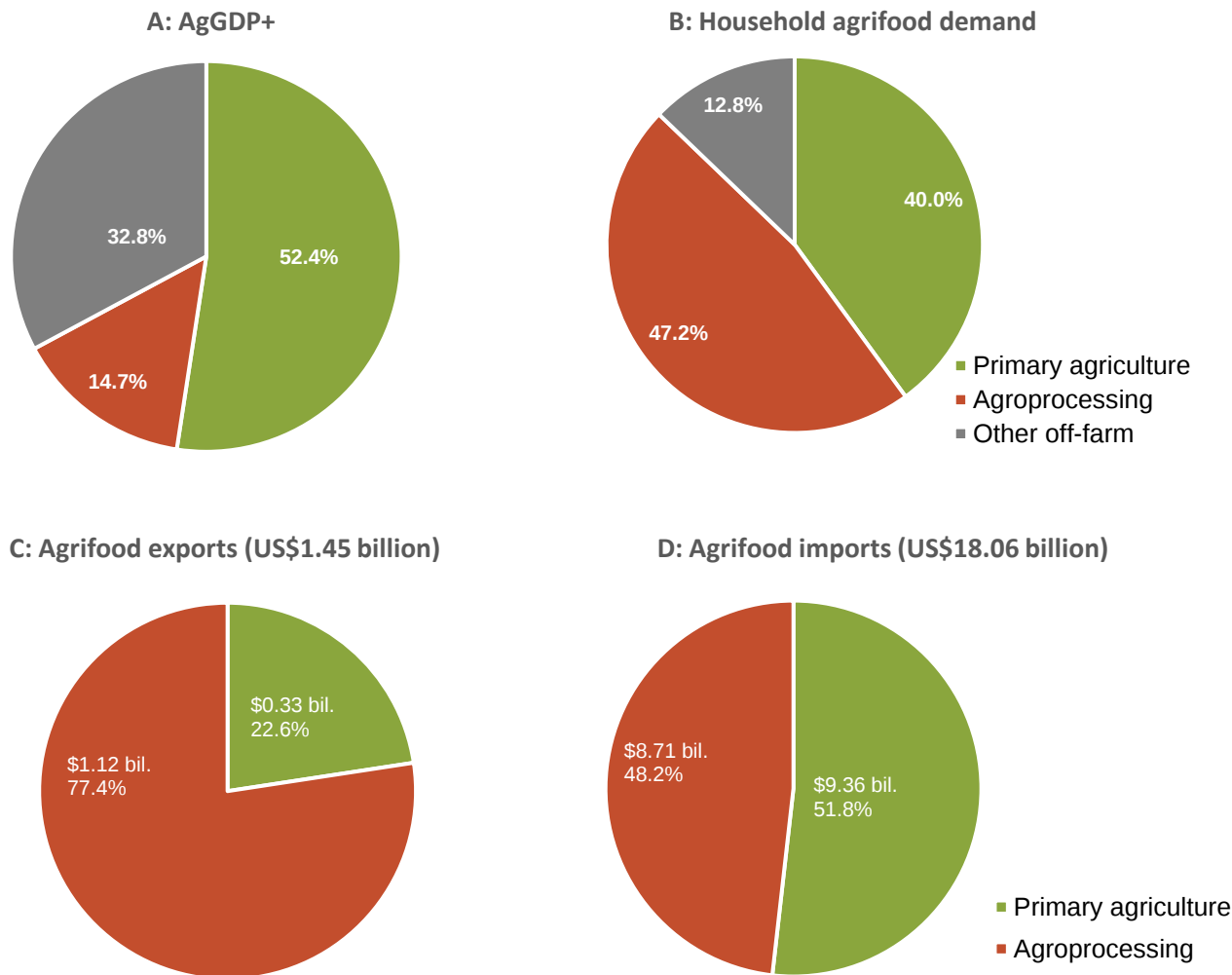
Source: IFPRI’s Agrifood System Database (Thurlow et al. 2023) and the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

Note: LIC = low-income country; LMIC = lower-middle-income country; UMIC = upper-middle-income country; and HIC = high-income country.

Unpacking the Demand Side of Bangladesh’s Agrifood System

In Figure 3, the structure of Bangladesh’s AFS from the supply side, as measured by AgGDP+ (Panel A), is compared to the structure of the AFS from the demand side, as measured by household consumption of agrifood products (Panel B). While 52.4 percent of AgGDP+ is from primary agriculture, primary agricultural commodities account for only 40.0 percent of household demand. In contrast, household demand for processed agrifood products accounts for 47.2 percent of total agrifood demand, even though the associated sector accounts for only 14.7 percent of AgGDP+. On the trade side, however, processed products accounted for 77.4 percent of Bangladesh’s total agrifood exports, but only 48.2 percent of total agrifood imports (Panels C and D). Bangladesh, nevertheless, has a substantial deficit on its agrifood commodity trade balance for both primary agricultural and processed agrifood commodities. Bangladesh imported US\$8.71 billion of processed agrifood products and US\$9.36 billion of primary agricultural products in 2019, while the corresponding export values were US\$1.12 billion and US\$0.33 billion respectively.

Figure 3. Composition of agrifood system GDP, household demand, and trade (2019)



Source: Authors’ calculation based on the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

Disaggregating the Agrifood System across Value Chains

For a more detailed assessment of structural and historical growth patterns within the AFS, we group Bangladesh’s agrifood system into 12 value chain groups (see Table A1 in the Appendix for details on how individual value chains or subsectors are mapped to value chain groups). The 12 value chain groups are further categorized into three subgroups based on their trade orientation. Exportable and importable value chains are defined as those value chains with export–output and import–consumption ratios above the national average, respectively. Trade in both primary and processed agrifood products is considered in the calculation of these trade ratios. The remaining value chains are classified as less-traded value chains.

Table 2 shows the 12 value chain groups, categorized into exportable, importable, and less-traded value chains. The table also reports the contribution of each value chain group to AgGDP+, primary agricultural GDP, and GDP in the off-farm components of the AFS. Consistent with Figure 3, Table 2

shows that Bangladesh has a substantial deficit in agrifood trade with an import–consumption ratio of 10.0 percent, much higher than the export–output ratio of 0.8 percent. Of the 12 value chains, only 2 (jute and capture fish) are classified as exportable value chains with their export–output ratios exceeding the national average for AFS value chains. Both jute and capture fish exports require minimal processing, and their sectors have a relatively small off-farm AFS GDP share of 8.3 percent, lower than their primary agricultural GDP share of 11.4 percent.

Table 2. Bangladesh’s agrifood system composition by trade orientation of value chain (2019)

	AFS (AgGDP+)	Share of GDP (%)		Exports / output (%)	Imports / demand (%)
		Primary agriculture	Off-farm AFS		
Total	100	100	100	0.8	10.0
Exportable	9.9	11.4	8.3	10.6	0.4
Jute	1.8	2.2	1.5	33.2	0.0
Capture fish	8.1	9.2	6.8	3.9	0.5
Importable	24.8	18.8	31.3	0.2	29.0
Maize and wheat	3.2	1.7	4.9	0.2	27.7
Pulses and oilseeds	3.8	3.1	4.6	0.1	37.1
Horticulture	5.8	6.5	4.9	0.0	26.4
Other crops	12.0	7.5	17.0	0.3	26.3
Less traded	63.6	69.8	56.8	0.0	1.2
Rice	21.0	26.3	15.1	0.0	0.5
Roots	2.4	3.0	1.8	0.0	0.0
Cattle and dairy	11.1	6.5	16.3	0.0	3.4
Other livestock	6.2	9.3	2.8	0.0	2.3
Aquaculture	8.4	13.0	3.3	0.0	0.0
Forestry	14.4	11.6	17.5	0.0	0.0

Source: Authors’ calculation based on the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

Note: Maize is mainly used in the feed industry in Bangladesh while wheat is used mainly for food. They are grouped together because both value chains are relatively small.

Of the 12 value chains, 4 are classified as importable and 6 as less-traded. Both importable and less-traded groups of value chains account for more AgGDP+ than the exportable group—24.8 and 63.6 percent, respectively, versus 9.9 percent for the exportable group. Many importable value chains require more processing and trade and transport services, and together account for a relatively larger share of off-farm AFS GDP (31.3 percent) than their primary agricultural GDP share (18.8 percent). Less-traded value chains, on the other hand, have relatively small off-farm components; these value chains contribute a relatively smaller share to off-farm AFS GDP (56.8 percent) compared to their primary agricultural GDP contribution (69.8 percent). The cattle and dairy value chain is a clear exception, and is associated with significant value addition off-farm (such as meat processing and dairy products). Expansion of some importable value chains and cattle and dairy (less-traded) could effectively drive agricultural transformation by boosting value addition and off-farm employment in the value chain.

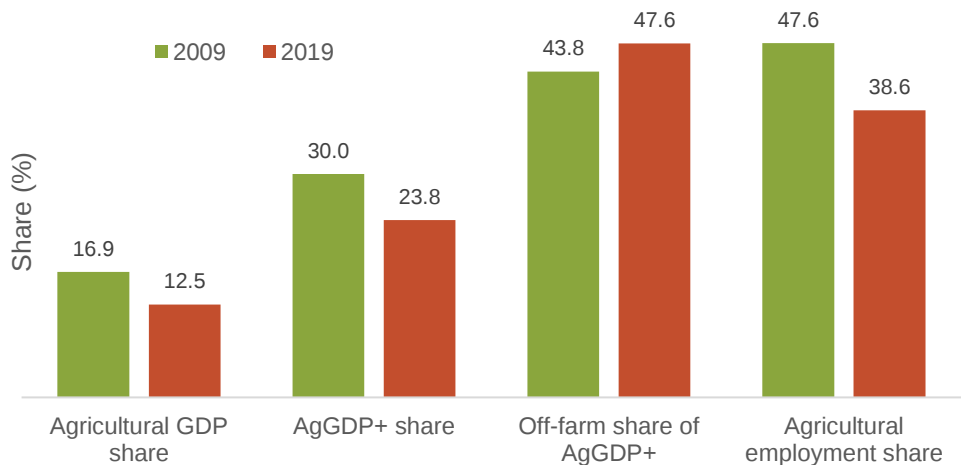
Structural Change and Drivers of Agrifood System GDP Growth

The previous sections have provided a snapshot of the current structure of Bangladesh’s AFS, the disaggregation of the AFS across the 12 value chain groups, and the trade orientation of those value chains. We have demonstrated that Bangladesh has substantial deficits in both processed and primary agrifood trade. Less-traded value chains are dominant in terms of their contribution to AgGDP+, primary agriculture, and off-farm AFS GDP. With cattle and dairy as a clear exception, these value chains are generally less oriented toward value addition in the off-farm components of the AFS (that is, their contribution to off-farm AFS components is small relative to their contribution to primary agriculture, especially when compared to importable value chains). Prioritizing growth in importable value chains and the cattle and dairy value chain could therefore be an effective strategy for expanding off-farm value addition and jobs, which would contribute positively to AFS transformation.

In this section, we assess the performance and structural transformation of Bangladesh’s AFS in recent years. Labor productivity is typically lowest in primary agriculture, and higher in off-farm activities, such as in the agrifood processing and food services, and in sectors outside the AFS. Economic growth and urbanization are associated with relatively faster growth in these nonagricultural sectors, which can help create higher-paying jobs for both rural and urban households. As such, even smallholder farm households with family members who obtain off-farm employment may benefit from structural transformation.

Figure 4 compares the shares of agricultural GDP and AgGDP+ in Bangladesh’s national GDP, and agricultural employment as a share of total employment. It also includes an estimate of the share of the off-farm component in AgGDP+. The figure covers the period between 2009 and 2019. Agricultural GDP and AgGDP+ shares as well as the agricultural employment share all fell significantly between 2009 and 2019, while the off-farm component of AgGDP+ increased. Rapid economic growth has been accompanied by a significant structural change in the broad economy and Bangladesh’s AFS has been transforming. Primary agriculture is now a relatively small sector in the economy, and off-farm components increased to almost half of total AgGDP+ by 2019, up from 43.8 percent in 2009. While primary agriculture has a relatively small share in Bangladesh’s national GDP, it remains a large sector in terms of its employment share.

Figure 4. Agricultural GDP, agrifood system GDP, and employment shares (2009–2019)



Source: Authors’ estimates using the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

Table 3 evaluates the growth performance across AFS value chains over the 2009 to 2019 period. As before, value chains are grouped according to their trade status, that is, exportable, importable, and less traded. Overall, Bangladesh's AFS grew at 4.2 percent per year in this period. The off-farm component of the AFS grew faster (5.1 percent) than primary agriculture (3.5 percent), with agrifood processing, a subcomponent of the off-farm component of the AFS, growing particularly fast at 7.8 percent per year.

Table 3. Agrifood system GDP growth rates by value chain (2009–2019)

	Average annual GDP growth rate (%)			
	Total AFS	Primary agriculture	Off-farm AFS	Agro-processing
Total AFS	4.2	3.5	5.1	7.8
Exportable	3.3	3.5	3.1	4.6
Jute	2.3	2.8	1.4	2.2
Capture fish	3.6	3.6	3.5	7.0
Importable	2.9	1.3	4.1	7.7
Maize and wheat*	4.8	3.0	5.6	10.7
Pulses and oilseeds	3.7	2.3	5.0	7.9
Horticulture	0.4	-0.5	1.8	9.1
Other crops	3.6	2.4	4.6	6.5
Less traded	4.7	4.2	5.5	7.8
Rice*	4.3	4.0	4.8	6.8
Roots	2.4	3.0	1.5	22.3
Cattle and dairy*	4.9	3.5	5.4	8.7
Other livestock	2.2	1.9	3.4	22.0
Aquaculture*	6.6	6.9	5.4	0.0
Forestry*	5.9	4.4	7.2	6.7

Source: Authors' analysis using the 2009 and 2019 Social Accounting Matrixes for Bangladesh (IFPRI 2023b).

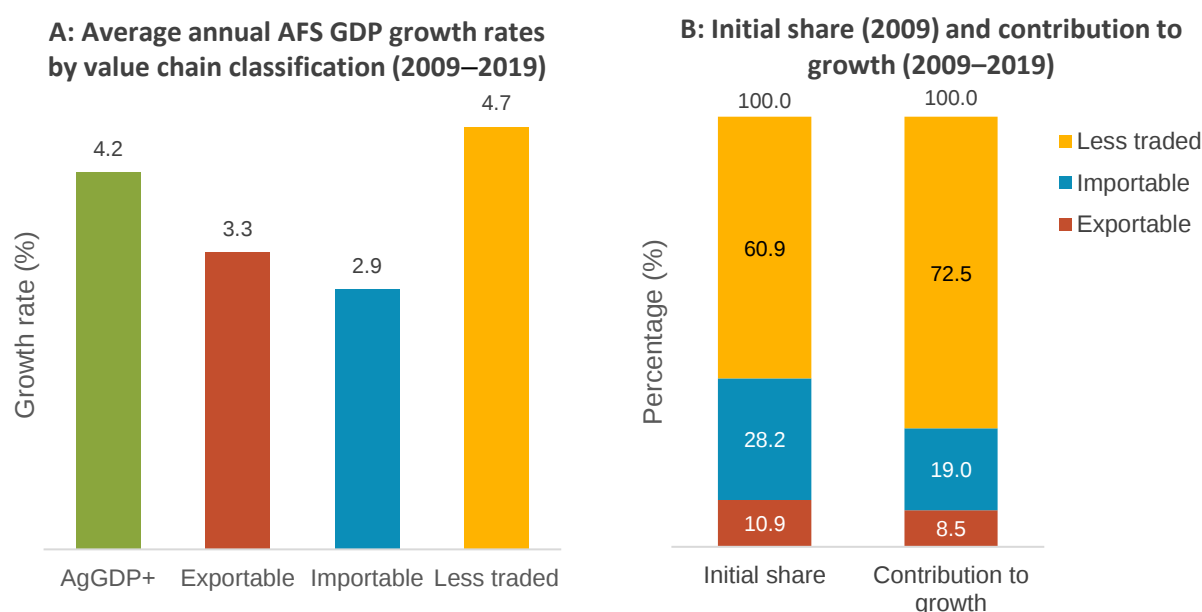
Note: Value chains that experienced above-average AgGDP+ growth over the 2009 to 2019 period (that is, higher than 4.2 percent) are marked with an asterisk (*).

Among the 12 value chains, 5 achieved above-average growth during the 2009 to 2019 period, that is, more than 4.2 percent per year (these are marked with an asterisk in Table 3). Most fast-growing value chains are less traded, including rice, cattle and dairy, aquaculture, and forestry. The maize and wheat value chain, categorized as importable, also achieved above-average growth. For these rapidly growing value chains, growth in the off-farm components of the AFS was usually faster than growth in the primary agricultural component. In all the value chains that achieved above-average growth—and also in many of the slower-growing value chains—the processing components grew particularly rapidly. This is consistent with the broader patterns of growth and structural change in Bangladesh's AFS, with growth in the off-farm component of the AFS faster than growth on the farm, and processing agricultural GDP growing more rapidly.

Figure 5 summarizes the key growth trends from Table 3. On average, less-traded value chains (4.7 percent) grew faster than the national AgGDP+ (4.2 percent) (Panel A). The less-traded group of value

chains also makes up a large share of the AFS (60.9 percent); the less-traded value chains, thus, contributed the most to the AFS growth, at 72.5 percent (Panel B).

Figure 5. Drivers of Bangladesh’s AFS GDP growth (2009–2019)



Source: Authors’ analysis using the 2009 and 2019 Social Accounting Matrixes for Bangladesh (IFPRI 2023b).

Assessing Growth Outcomes Using IFPRI’s RIAPA Model

IFPRI’s Rural Investment and Policy Analysis (RIAPA) model is a tool for conducting forward-looking, economywide country-level analysis (IFPRI 2023a). RIAPA has been used in a wide variety of contexts to simulate the impacts of policies, investments, and economic shocks. Here we employ RIAPA to assess the effectiveness of productivity-led growth in Bangladesh’s different agricultural value chain groups for promoting multiple development outcomes. The analysis was carried out for 9 value chain groups, which were selected from the original list of 12; other crops, capture fish, and forestry were excluded, and the maize value chain, instead of maize and wheat, was included. We considered five development outcomes:

- A poverty–growth elasticity that measures the percentage-point change in the poverty head-count rate per unit of agricultural GDP growth generated within the targeted value chain;
- A growth multiplier that measures the change in GDP per unit of increase in agricultural GDP in the targeted value chain;
- An employment multiplier that measures the change in the number of jobs created per unit of increase in agricultural GDP in the targeted value chain;
- A diet-quality indicator that measures the percentage change in a diet quality index per unit of agricultural GDP growth generated within the targeted value chain; and
- A hunger–growth elasticity that measures the percentage-point change in the rate of undernourishment per unit of agricultural GDP growth generated within the targeted value chain.

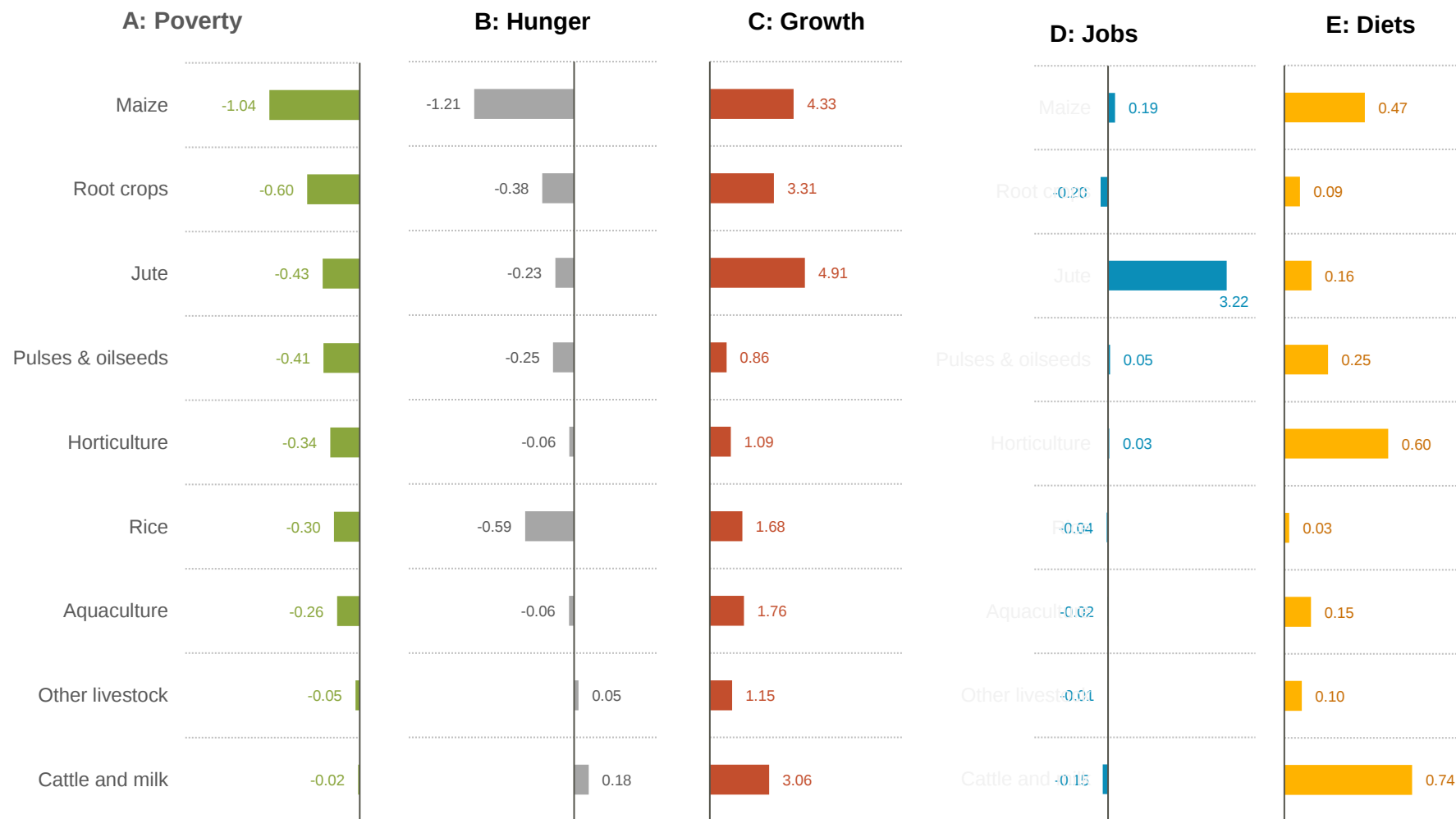
The simulations entail increasing on-farm productivity separately in each targeted value chain and comparing development outcomes across the value chains. While this exogenous productivity shock is imposed only in the primary agriculture component of each value chain, there are spillover effects into that value chain's off-farm components as well into other agricultural value chains or sectors outside the AFS. These spillovers are captured by the economywide model and provide an indication of the transformation effect that agricultural productivity growth in the value chain has within the AFS and in the broader economy. There are also structural differences across value chains. Value chains, for example, have unique links to other sectors as suppliers or users of intermediate inputs, or they have unique links to rural or urban households in different income groups because of the types of workers they employ or the consumption preferences of households for the agrifood products produced by those value chains.

As such, each value chain growth scenario is expected to have a unique impact on the development outcomes; moreover, not all value chains will be equally effective at improving outcomes. In some cases, there may even be trade-offs due to competition for resources across value chains. With the aid of the RIAPA model, these complex effects can be unpacked, thus providing information to governments or development partners that can be used to prioritize across different value chains, subject of course to the development outcomes they value most highly.

Figure 6 shows the scores each value chain achieves across the five development outcome indicators. We arbitrarily rank the value chains by their poverty score. Value chains clearly differ significantly in terms of their effectiveness in improving different development outcomes. The maize value chain, for example, has strong poverty effects and is also effective at reducing hunger, but it is much less effective in improving diet quality or increasing jobs. The cattle and dairy value chain, in contrast, is most effective at improving diet quality, but ranks at the bottom for the poverty outcome. It even has negative hunger and employment effects; that is, growth led by the cattle and dairy value chain would not reduce the national hunger rate or increase the number of jobs. These results highlight the possible trade-offs that may emerge when prioritizing individual value chains, as no single value chain is the most effective at achieving every development objective. Promoting a few value chains jointly will not only diversify agricultural growth; it can also help to simultaneously achieve multiple development objectives.

A composite score across different outcome indicators is created in order to narrow down the number of value chains that might be prioritized. Because of a high correlation between poverty and hunger impacts across value chains, the hunger score is omitted from the composite score. Also, since the different outcome indicators have different underlying units, the individual outcomes are normalized so that they are comparable while still retaining their ranking within the outcome category. Normalization entails assigning a score of 1 to the value chain that is most effective within an outcome category and a score of 0 to the least effective value chain. All value chains with adverse effects on an outcome are also assigned a score of 0. This includes value chains with a growth multiplier of less than one (pulses and oilseeds) or those with negative employment effects (root crops, rice, aquaculture, other livestock, and cattle and dairy). The remaining value chains receive a score between 1 and 0 that is proportionate to their original score relative to the highest-ranked value chain. The individual normalized scores for the outcomes are then combined into a composite score for each value chain. The default approach assumes that each of the four outcome indicators is equally important, so an equal weight is assigned to each score; however, if policymakers consider a particular development outcome to be more or less important than the other outcomes, the weights assigned to each particular outcome score can be adjusted accordingly.

Figure 6. Impact of value chain growth on development outcomes

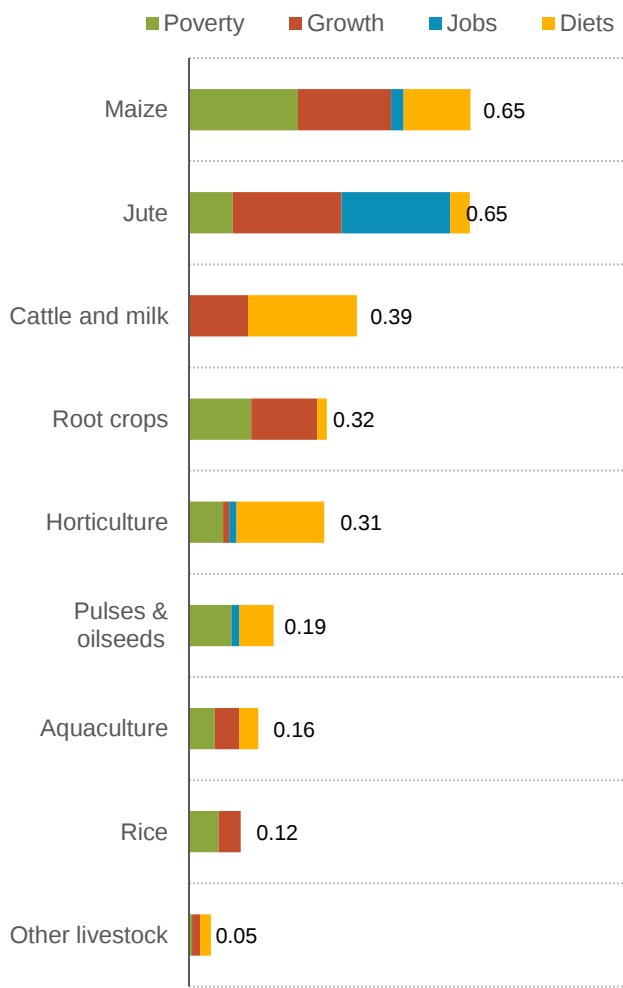


Source: RIAPA model results.

Note: Panel A shows the percentage point changes in poverty rate that are associated with a 1 percent increase in agricultural GDP; Panel B shows the percentage point changes in hunger rate that are associated with a 1 percent increase in agricultural GDP; Panel C shows the changes in total GDP (in US\$ millions) that are associated with a US\$1.0 million increase in agricultural GDP from the targeted value chain; Panel D is the change in total economywide employment (in thousand persons) that is associated with a US\$1.0 million increase in agricultural GDP from the targeted value chain; and Panel E is the percentage improvement in diet quality that is associated with a 1 percent increase in agricultural GDP. The figure is ordered by the poverty rate outcome.

Figure 7 presents the composite scores using equal weights across the four development outcome indicators (that is, excluding hunger). Each component in the bars shows the relative contribution of a particular outcome indicator in the final score. The maize, jute, and cattle and dairy value chains are ranked highest. For maize, the highest-ranked value chain, three of the four outcome components make important contributions to the composite score, but the contribution from the job outcome is minimal. For cattle and dairy, the third-ranked value chain, there is no contribution from either the poverty or the job component; this means cattle and dairy-led growth would not contribute positively to poverty reduction or job creation, even though it could have important impacts on the growth and diet outcomes. While a ranking of their impacts on multiple development outcomes on the basis of composite scores allows us to identify and prioritize value chains, trade-offs clearly exist as to which outcomes are most significantly affected by productivity-led growth in each value chain.

Figure 7. Composite score of development outcomes: Equal weights



Source: RIAPA model results.

Note: The composite score is a simple average (equally weighted) of the scores for each of the four outcome categories; the figure is ordered according to the highest composite score.

Summary

Bangladesh's economy grew rapidly at 6.6 percent per year in the decade prior to the COVID-19 pandemic. Although the agrifood system (AFS) did not grow as fast, it still achieved a respectable growth rate of 4.2 percent per year. Rapid economic growth has been accompanied by a significant structural change in the broad economy, and Bangladesh's AFS has been transforming. The growth rate for the off-farm component of the AFS was faster than the growth rate on the farm (5.1 and 3.5 percent, respectively); as a result, the off-farm components accounted for almost half of AgGDP+ in 2019, up from 43.8 percent in 2009. Agriculture is no longer a large sector in Bangladesh, though the share of agricultural employment remains relatively large.

Almost all the growth in Bangladesh's AFS between 2009 and 2019 was contributed by less-traded value chains (72.5 percent). The large contribution from the group of less-traded value chains is explained both by its large initial size and above-average growth rate.

The RIAPA model-based comparison of future sources of growth shows that there is no single value chain group that is the most effective in achieving all desired development outcomes, that is, declining poverty, declining hunger, economic growth, job growth, and improved diets. The maize, jute, and cattle and dairy value chains rank highly in their composite outcome scores. For maize (the highest-ranked value chain), however, the contribution for the job outcome is minimal, while for cattle and dairy (the third-ranked value chain) there is no contribution for either the poverty or job components. Promoting these value chains together, therefore, offers an effective and broad-based way to achieve these development outcomes.

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Appendix

Table A1. Value chain groups and their corresponding agricultural subsectors

Value chain groups and their share of AgGDP+	Individual value chains (or agricultural subsectors) in the group and their share of the group's agricultural GDP
Rice (21.0%)	Rice 100%
Maize and wheat (3.2%)	Maize 75.3% Wheat 24.7%
Pulses and oilseeds (3.8%)	Pulses 36.1% Oilseeds 63.9%
Roots (2.4%)	Irish potatoes 100%
Horticulture (5.4%)	Leafy green vegetables 12.3% Other vegetables 38.3% Nuts 5.6% Bananas 12.5% Other fruits 31.3%
Jute (1.8%)	Jute 100%
Other crops (12.0%)	Sugarcane 4.9% Cotton 0.2% Tobacco 24.0% Tea 6.5% Other crops 64.5%
Cattle and dairy (11.1%)	Cattle meat 63% Raw milk 37%
Other livestock (6.2%)	Poultry meat 22.0% Eggs 17.3% Small ruminants 50.4% Other livestock 10.4%
Aquaculture (8.4%)	Aquaculture 100%
Capture fish (8.1%)	Capture fisheries 100%
Forestry (14.4%)	Forestry 100%

Source: Authors' calculation based on the 2019 Social Accounting Matrix for Bangladesh (IFPRI 2023b).

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