Government of the People's Republic of Bangladesh
Ministry of Agriculture

Program on Agricultural and Rural Transformation for Nutrition Entrepreneurship, and Resilience in Bangladesh (PARTNER)

Bangladesh Agriculture Outlook: In Focus Potato

Highlights

- Food grains (rice and wheat) are cultivated in 75% of total cropped areas in Bangladesh.
- The projected food grain production in 2024-25 is 3.9% higher than previous year.
- For 2024-25, the projected area and production of all major agricultural products show an increasing trend in Bangladesh.
- However, the global outlook for total grain production and stocks indicates a slight decrease, primarily driven by a decline in maize production, although the outlook for rice shows a modest increase.
- International rice prices are showing a declining trend, whereas prices for corn and wheat are trending upward.
- Specifically, the area coverage and production forecast for potatoes in Bangladesh indicate an increasing trend, driven by favorable climatic conditions.
- Potato demand and supply estimates show surplus supply. However, in the last couple of years, the price of potatoes has remained very unstable in domestic market during lean season (very high) from July to December and harvest season (very low) from January to March.
- Timely estimates of supply and demand along with stock, export and import related trade and fiscal policy decisions are crucial to stabilize the domestic market.
- Regulating private cold storages, particularly through licensing along with regular reporting on both private and public stock, investing and incentivizing private and public storage development and distribution (like food grain), could be an effective strategy for domestic market stabilization.
- For increasing domestic production and supply, greater investment in research and development of climate resilient, export and processing oriented improved varieties, their adoption and diffusion as well as the timely provision of inputs particularly quality seed at a fair price is very much essential.

Bangladesh agriculture outlook at a glance

Bangladesh is an agro-based country inhabited with 173.52 million population and gross domestic product (GDP) valued at 50,480,274 million BDT. Agriculture contributes approximately 11.37% to the GDP, with the crop and horticulture sector accounting for about5.53% (BBS, 2024). The total cropped area in the country is 15,955 thousand hectares, of which 52.48% is irrigated. The cropping intensity stands at 198%, with a total of 16,881,757 farm holdings (BBS, 2024). Rice and wheat, the major food grains, are cultivated on approximately 75% of the total cropped area. In 2023-24, domestic food grain production including rice and wheat stood at 41.87 million metric tons (MMT) (BBS, 2024). However, the Department of Agricultural Extension (DAE) has projected food grain production to reach to 43.52 million metric tons for the year 2024-25, reflecting a 3.9% rise over the previous year. Despite this anticipated growth, several crops particularly Aus and Aman rice suffered damage due to flooding. Therefore, to ensure food security, the government has set an import target of 1.05 MT of food grains in 2024-25, comprising 0.35 MMT of rice and 0.70 MMT of wheat. The estimated area under maize cultivation has increased by 25.43% compared to 2023-24. For potatoes, the cultivated area is projected to rise by

1.52%, with production expected to grow by 7.42%. Additionally, the targeted production for onion and chili has been increased by 0.82% and 3.67%, respectively, for the fiscal year 2024-25 (Figure 1).

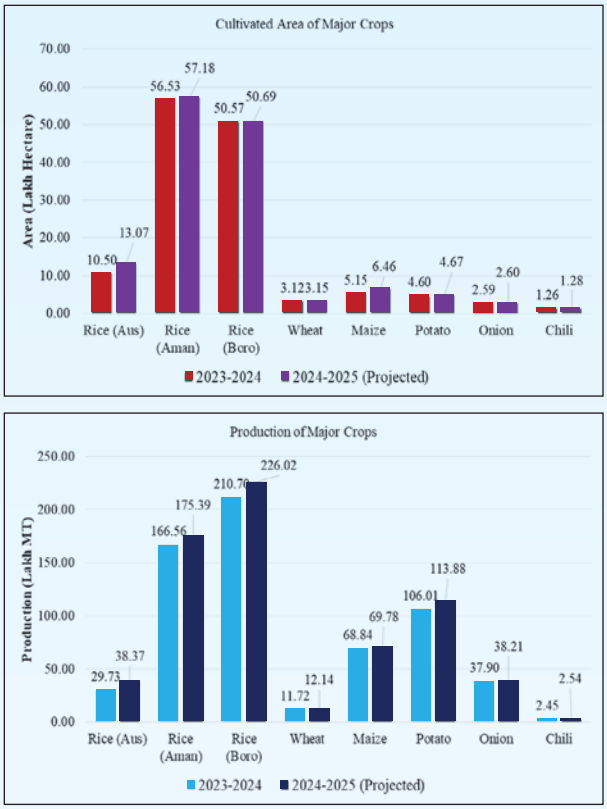

Figure 1: Area and production outlook of major crops in Bangladesh
Source: FAO, BBS, DAE, 2024

World production and market price outlook of major agricultural commodities

According to the latest forecast by the Food and Agriculture Organization (FAO), global cereal stocks are expected to decline by 2.2%, or 19.3 million tonnes. Similar downward trends have also been projected by the USDA and the International Grains Council (IGC). Despite the anticipated decline, the global cereal stocks-to-use ratio for 2024/25 remains at a relatively comfortable level of 29.8%, slightly below the 30.9% percent recorded in 2023/24. Among major cereals, maize and wheat stocks are forecast to decrease, while rice stocks are expected to rise compared to the previous year (Figure 2).

Figure 2: Cereal production, utilization and stocks.
Source: FAO-AMIS Market Monitor No. 125 February 2025)

In the international market, wholesale coarse rice prices increased by 2.17% from August to October 2024. In contrast, wheat prices declined by 7.5% in April compared to March remained relatively stable until November, influenced by trends in the global wheat market. However, wheat prices rose again by 7.8% in December 2024. Retail rice prices saw a modest increase of 1.9%. Meanwhile, the export prices (FOB) for both rice and wheat from major exporting countries have been on a downward trend.

General, food and non-food inflation in Bangladesh

The annual inflation rate decreased to 10.89% in December 2024, down from a four-month high of 11.38% in November. However, this still marks a 15.73% increase compared to the inflation rate in December 2023. The cost of food in Bangladesh has risen over the past year, with food inflation outpacing the general inflation rate.

Food inflation reached its lowest point between December 2023 and April 2024, as food prices were somewhat stabilized. However, the food inflation rate surged to 13.8% in November 2024, marking a 28.25% increase compared to the same period last year.

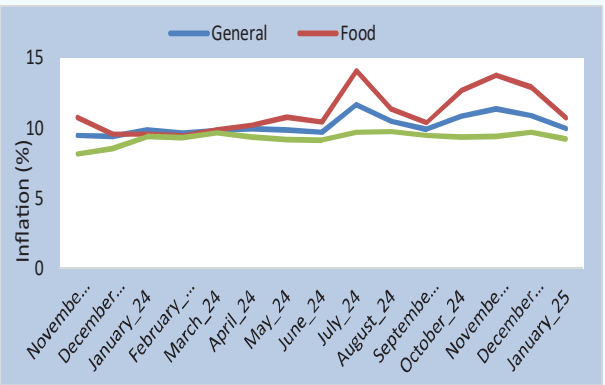

Figure 3: Inflation rate in Bangladesh

On a monthly basis, consumer prices declined for the second consecutive month, falling by 1.02% in December, following a 0.5% decrease in the previous month. This trend indicates that inflation significantly contributed to price increases for major agricultural products, particularly between October to December 2024 (Figure 3).

National and international policy outlook related to major agricultural commodities and their implications for Bangladesh

Table 1: International policy outlook and their implications for Bangladesh in 2024

Crops	Worldwide policy shifts with focus on India	Implications for Bangladesh
Rice	In October, India lowered the duty tax from 20% to 10% and approved the resumption of non-basmati white rice shipments, it can sell its 5% broken white rice for about $460 per metric ton, making its supplies more competitive	This shift was supposed to induce more rice import from India, which might become challenging for the local farmers competing with imported rice
Onion	In May, India lifted the export ban on onions, but it limited by imposing a 40% export duty and continued upto September but quickly eliminated the MEP on onion shipments.	This change caused price rise in Bangladesh and seek diversified sources for onion import like Myanmar, Turkey, Egypt, Pakistan etc.
Potato	In July, the Indian government considered importing potatoes from Bhutan to address rising domestic prices and lower yields.	This may cause to create shortage of import and look for alternative sources of import
Maize	May, the Indian government raised the cost of purchasing ethanol produced from maize. This caused maize imports to soar to 1 million tons in 2024. This move transformed India from a major maize exporter to a net importer, impacting both domestic industries and global markets.	Due to quick availability, Bangladesh used to purchase corn from India. After this policy change, the country was forced to import maize from South America and the US.
Wheat	In October, Russia's agriculture ministry recommended that exporters follow a de facto floor price of $250 per metric ton on a free-on-board basis. In December, Russia announced a 41% rise in its wheat export tariff to reduce export. In addition, the wheat export tariff was raised by more than 18% in the beginning of December.	As India banned wheat export, Bangladesh started to import from Russia. However, the policy shift in Russia caused price volatility. Bangladesh seek alternative sources like Ukraine, Canada, or Australia.

Potato outlook

Wholesale and Retail Price

Potato prices (BDT/kg) have been steadily increasing with regular fluctuations and seasonal patterns over the past two decades, with a major shift occurring in 2022. Potato market experienced its lowest wholesale and retail prices at the end of February in 2024 while the prices peaked during the first week of December, 2024 at 80 BDT/kg. On average, the prices rose by about 33% since October primarily due to a significant reduction in cold storage. The retail and wholesale market prices for potato are co-integrated (as confirmed by a co-integration test). The prices of local, haland white and haland red varieties have long run relation in both retail and wholesale markets. The price change in one market is transmitted to the other at a rate of 63%.

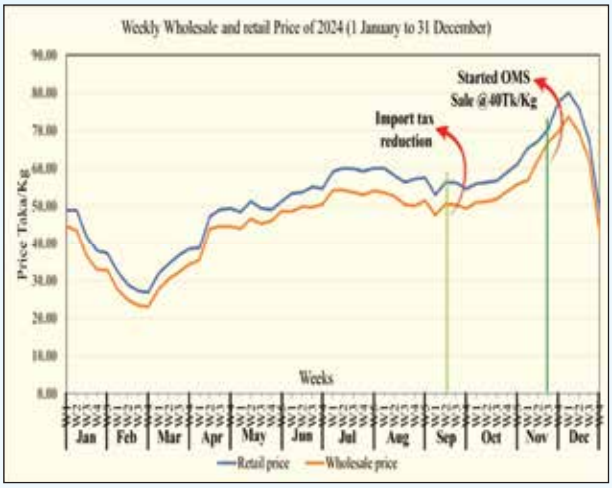

Figure 4: Impact of major policy changes on potato price in 2024 Source: DAM, 2024

To increase supply and reduce import costs, the Bangladesh Trade and Tariff Commission (BTTC) recommended the National Board of Revenue (NBR) to reduce the tariff on potato imports from 25% to 15% at the beginning of September 2024. By 23 November 2024, potatoes were being imported from India at a rate of BDT 21.60 per kg. The prices drop slightly in response to this policy changes. To further control the surging market prices, government began selling potatoes through open market sale (OMS) at the end of November (Figure 4). Despite these initiatives, the situation was not improving due to syndicates in both commission trade and cold storage.

International Price and Import

About 21.56 thousand MT of potatoes were imported at the very beginning of 2024. The government once again imported potatoes to regain control over the volatile market in July.

Figure 5: Import and price scenario of potato Source: DAM, Bangladesh Bank

Bangladesh imported over 1 thousand metric tons of potatoes in October. The import volume peaked in November and amount was more than 55 thousand MT (Figure 5). However, the timing if these imports was quite late, as early varieties of potatoes began entering the Bangladeshi market in the second half of December. As a consequence, price started to decline in mid- December, highlighting the critical role that import timing and related policy changes play in stabilizing the market. Neighboring country India has been one of the major exporters of potato in Bangladesh. Prices in Bangladesh continue to remain higher at both wholesale and retail levels compared to those in India. Between July and December 2024, potato prices in India experienced a notable increase relative to the first half of the year which may have exerted additional pressure on potato prices in Bangladesh given the interconnected nature of regional agricultural markets (Figure 6).

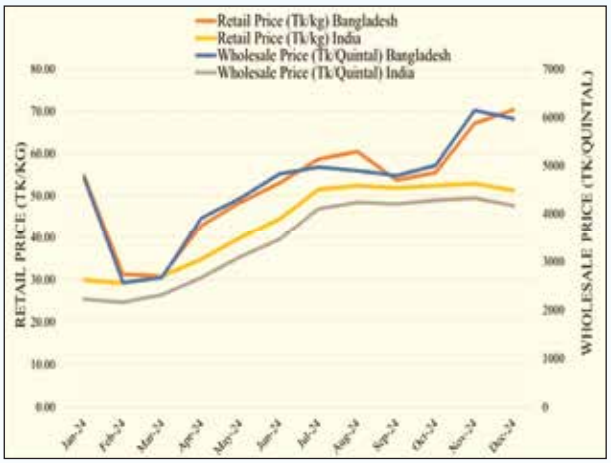

Figure 6: Comparison of price between Bangladesh and India Source: DAM, & Dept. of Consumer Affairs, India

Forecasting Future Price

Given the seasonal nature of potato prices, a Seasonal Autoregressive Integrated Moving Average (SARIMA) model was employed to forecast future price trends. The projections for both wholesale and retail prices revealed a consistent seasonal pattern.

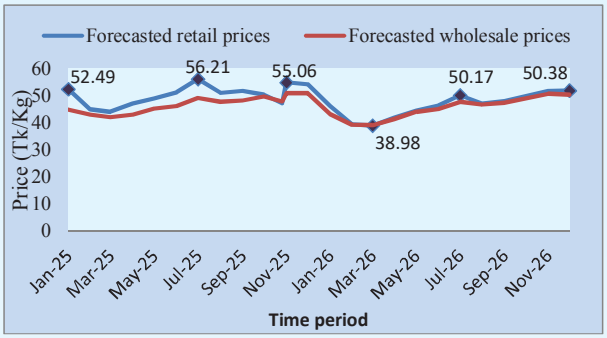

Figure 7: Forecasted potato prices

Prices typically rise from June to December and remain relatively lower between February and April each year (Figure 7). This pattern highlights the importance of incorporating seasonal price variations into policy planning and market intervention strategies. However, the actual price in 2025 is lower than the forecasted price due to the higher production of potato. In the forecasted model, the price data have used from January 2006 to December 2024, and the price was highly fluctuated and comparatively higher in 2023 and 2024, therefore the forecasted price in 2025 follows similar trend.

Growth, Instability and Forecasting of Area, Production, Yield and Consumption

Potato production remarkably increased by 3.66% during 1961 to 2024 reaching its peak during 1981 to 2000 with a growth rate of 9.63%. The area under potato cultivation also expanded most rapidly during this period, recording an annual growth rate of 4.69%. However, the most notable improvement in yield occurred after 2000, primarily driven by the widespread adoption of high-yielding potato varieties. Potato consumption increased significantly at 2.89 percent over the entire period with a substantial rise after 1980, although the growth rate has slowed in recent years. While potato consumption exhibited the highest degree of instability, yield remained relatively stable and less volatile compared to both production and cultivated area (Figure 8). These trends highlight the presence of significant fluctuations in potato area,

production, yield, and consumption over time. In 2023-24, production growth was comparatively lower, even area growth was negative which may contributed to price hike in the lean season in the last couple years. The primary causes of low potato yield in Bangladesh have been reported as mainly the use of poor-quality seed potatoes and the adaptation of scientific management practices to increase the average yield of potatoes (Hoque et al., 2024).

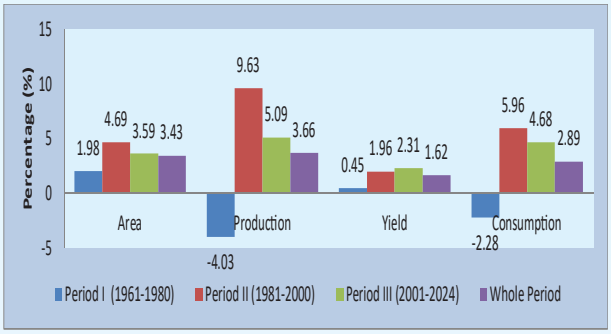

Figure 8: Growth rates (%) of area, yield, production and consumption of potato

Using the auto regressive integrated moving average model, it is anticipated that the potato cultivation area will continue to expand, reaching approximately 4.95 lakh hectares by 2030. This represents a notable increase of 8.32% compared to the potato cultivation area in 2024 (4.57 lakh ha). Likewise if present trend continue, potato yield will be increased at 24.83 MT/ha which is supposed to be 6% higher than the yield of 2024 (23.19 MT/ha.). Quality seed is very important for production as well as export. Moreover, the value-added products such as potato chips, frozen fries, starch, and flakes offer a lucrative domestic and export opportunity, especially with rising urbanization and demand for convenience foods. Importance of continued research and innovation towards enhancing potato production has been pointed out from these scenarios.

Annual Supply and Demand of Potato in Bangladesh

The domestic production of potato has continued to increase since 2020. However, approximately 26% of production was lost at different stages of the supply chain (Sabur et al. 2021). After accounting for these losses, the quantity of usable potato stands at 7844.87 thousand MT in 2024.

In the same year, the country exported 12 thousand MT of potatoes and imported 79.05 thousand MT. As a result, the net availability of potato for human consumption was 7911.82 thousand MT in 2024, representing a 10.16% increase compared to 2018. The net demand for potato was 6483.62 thousand MT in 2024 which is 1.91% lower than that the previous year. Consequently, the total surplus of potato reached 1428.19 thousand MT in 2024 making a significant increase over previous years (Figure 9).

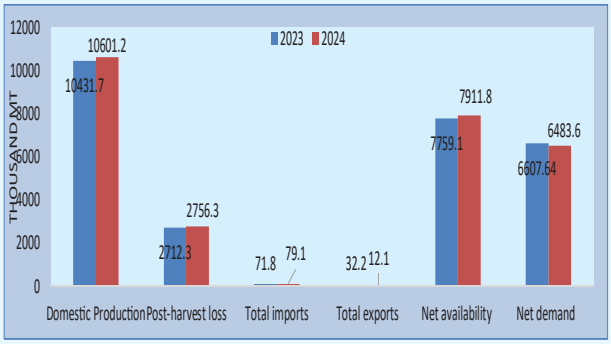

Figure 9: Annual supply and demand of potato in Bangladesh Source: FAO (2024) and BBS (2024); Sabur *et al.*, 2021; Hortex Foundation, 2024; HIES (2016 & 2020); Population from United Nations statistics.

Apart from surplus production, demand for potatoes is price inelastic (0.15) which means changes in price have a minimal effect on consumer demand. Moreover, potatoes have greater income elasticity (0.455) in rural areas than the urban areas (0.325) suggesting that when income rises rural residents eat more potatoes than urban ones. In the long run, a 100% increase in the potato price results in an increase in potato supply by 33%. Given these dynamics, bringing more area under potato cultivation emerges as the most effective policy to boost potato production as well as supply. Furthermore, historical evidence shows that agricultural product price follows cobweb phenomenon as well as rise and fall of price during lean and harvest season, therefore, required policy measures like buffer stock, and public storage at government level like grain, timely export and import and investment in diversified use of potato through processing should be taken to stabilize the price volatility.

Why Potato Prices Rose in Bangladesh in 2024: What Farmers and the Media Are Saying?

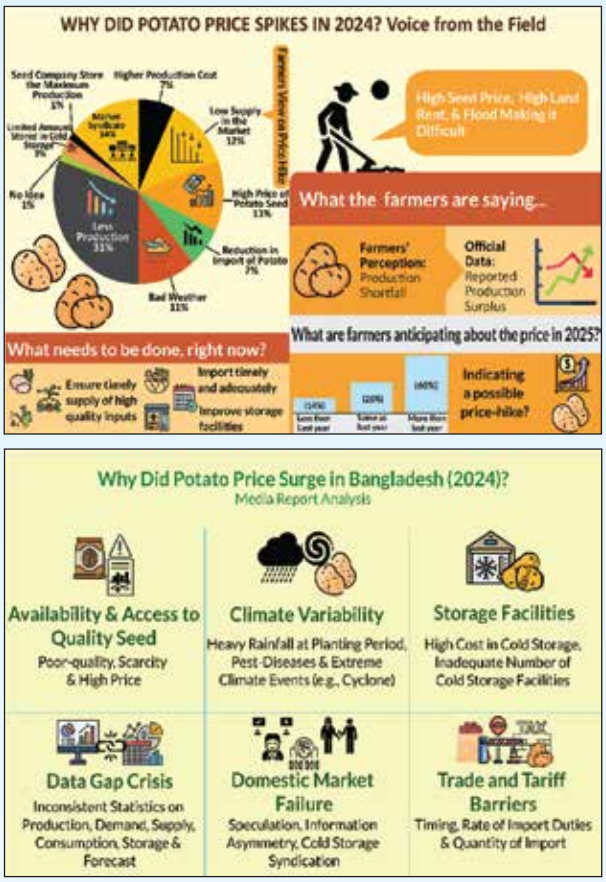

Figure 10: Media report and farmers perception analysis

Conclusions and Policy Implications

Both domestic and global cereal production and supply have shown a positive trend, with the exception of maize, whose supply and stock at world levels are declining. Similarly, export (FOB) prices for most grains are on a downward trend except for maize. The supply of potato in Bangladesh is mainly sourced from domestic production. However, most of the potato markets are controlled by the traders, who stock large quantities of potato in cold storage, often creating artificial shortages. They take advantage of the situation by delaying the release of their stored potato into the market to drive up prices and make extra profit. According to farmers, market syndicate, lower production due to unfavorable weather, and high price of fertilizer, pesticide and quality seed are the key reasons behind recent potato price hike. Furthermore, though government take number of trade and fiscal policies to stabilize potato price hike but that did not affect so much as import decision was too late, almost near to next harvest season.

Short-term policy recommendations:

i) Government should implement proper policy to ensure timely supply of high quality inputs including seed, fertilizer and pesticide in fair price for enhancing domestic potato and other import dependent commodity production.

ii) Although government and private imports have the potential to decrease market price including potato, their expected impacts on prices need to be more carefully assessed including when and what amount need to import and export. Government entity (e.g. competitive commission) shall have to be alert during this period to prevent traders from engaging in speculative storage during this period.

iii) Potato prices remain very low during the harvest season (January to March). Hence, the government should promote marketing networks, potato exports and processing industries to meet the growing demand for diversified potato products—both domestically and in niche export markets.

iv) Seasonal price variation also suggests promoting storage facilities and reducing post-harvest losses for ensuring steadiness in the domestic supply during the lean and harvest period.

Medium-term policy recommendations:

i) Government should explore ways to promote more participation in the potato trade (e.g. public trading through public storage like grain) by creating an enabling environment. This would increase competition in the supply market and thereby erode the scope for seeking extra profits through speculation.

ii) Timely, accurate and comprehensive information of supply, demand and stock along with export and import are the basis for effective policy formulation and decision-making. However, major discrepancies often exist in national statistics. To address these issues, a system of mandatory licensing for storage facilities should be introduced. Regulating private cold storages, particularly regular reporting on both private and public stock and establishment of public storage, procurement and distribution (like food grain), could be an

effective strategy for potato domestic market price stabilization.

In addition, efforts must be made to reconcile data from various agencies, enhance data quality, and reduce reporting delays to support timely and evidence-based policy actions.

Long-term policy recommendations:

i) The most effective and sustainable way to control price hikes of import dependent commodities including potato would be increasing domestic production. Supply response analysis suggests that bringing more area under cultivation particularly will be the best policy to increase in potato production as well as supply.

ii) More investment in research, extension and development for developing new agricultural technologies and innovations including climate resilient technology development and adoption should be promoted for vertical expansion of food production in the country. A significant portion of potato cultivation is still based on local varieties, which tend to have lower yields. Given the scarcity of land and very little scope of horizontal expansion, the agricultural extension system should actively encourage farmers to transition from local varieties to high-yielding potato varieties to enhance productivity.

iii) The government and private sector should develop appropriate infrastructure to support potato export and processing. This includes establishing export market linkages, setting up international-standard processing and grading facilities, and promoting the development and dissemination of potato varieties suited for export and processing purposes.

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