

Food and Nutrition Security in Bangladesh: Trends, Challenges, and Policy Interventions

Abstract

Food and nutrition security in Bangladesh is a multifaceted issue encompassing four fundamental dimensions: availability, access, utilization, and stability. Each dimension is influenced by various determinants, including economic factors, social conditions, and governance structures. This study examines key indicators of poverty and food insecurity in Bangladesh as of 2024, highlighting the dietary practices across different demographic groups. Detailed analysis of the consumption of ten food groups over a seven-day dietary recall reveals distinct patterns among adolescent girls and boys, adult women and men, and elderly populations differentiated by place of residence. Despite progress, trends indicate persistent undernutrition among children and fluctuating BMI levels among ever-married women over time. From 2014 to 2023, the agricultural sector exhibited growth in value added, alongside a significant share of rural households engaged in livestock and poultry production.

The study further explores projections indicating a rise in total food consumption from 2015 to 2030, juxtaposed with the escalating cost of a healthy diet, posing affordability challenges for vulnerable populations. Coping strategies employed by households often involve unsustainable practices that threaten long-term food security. Key nutrition indicators underscore ongoing challenges while strategic developments in 2024 reflect concerted efforts to improve nutrition outcomes. The average dietary energy supply adequacy over recent years provides additional context on national nutrition status.

Keywords:

Food security, Nutrition Security, Bangladesh, Undernutrition, Nutrition Strategies, Food Affordability, Food System Dynamics, Policy.

1. Introduction

Food and nutrition security are pivotal concerns for Bangladesh, a nation striving to balance economic growth with the well-being of its population. Recent data underscores the multifaceted challenges the country faces in ensuring adequate food availability, accessibility, and nutritional quality for all citizens.

The Bangladesh Bureau of Statistics (BBS) reported that approximately 21.91% of households experienced moderate food insecurity, while 0.83% faced severe food insecurity (BBS, 2024). This indicates that nearly one in five households struggles to access sufficient and nutritious food. The World Food Program's (WFP) monitoring further highlighted that 30% of low-income households were food insecure, compared to 8% in medium-income and 3% in high-income households, emphasizing the disparity linked to economic status (WFP, 2024).

Nutritional assessments reveal additional concerns. The Global Nutrition Report indicates that 6.2% of adult women and 3.0% of adult men in Bangladesh are living with obesity, figures lower than regional averages but still significant. Moreover, 2.4% of children under five are classified as overweight, signaling emerging health issues (Global Nutrition Report, 2024). Concurrently, the UNHCR's 2023 Standardized Expanded Nutrition Survey (SENS) assessed the health and nutrition status of children aged 6-59 months and pregnant and lactating women, providing critical insights into vulnerable populations (UNHCR, 2023). Economic factors, including high food prices and health expenditures, continue to drive food insecurity. Despite some improvements, these challenges persist, particularly among households with female heads and those with disabilities (United Nations, 2024). Additionally, the United Nations' decision to reduce food rations for Rohingya refugees in Bangladesh from \$12.50 to \$6 per month, effective April 1, 2025, due to funding shortages, is expected to exacerbate hunger in refugee settlements (Reuters, 2024).

These statistics highlight the ongoing struggle to achieve comprehensive food and nutrition security in Bangladesh. Addressing these issues requires a multifaceted approach, including enhancing agricultural productivity, improving economic access to food, and implementing targeted nutritional interventions, especially for the most vulnerable populations.

2. Methodology:

This study employs a mixed-methods approach, combining quantitative data analysis with qualitative assessments to evaluate food and nutrition security in Bangladesh. Secondary data is sourced from national and international reports, including the Bangladesh Bureau of Statistics (BBS), the World Bank, Food and Agriculture Organization (FAO), and the Global Nutrition Report, ensuring a comprehensive and up-to-date understanding of food availability, accessibility, and affordability. Reliable data collection methods were followed, including accessing institutional databases and ensuring proper documentation of publication years, definitions, and sources. Comparative analysis is conducted on food consumption

patterns across different demographic groups, such as children, adolescents, adults, and the elderly, using dietary recall surveys. Agricultural production trends, economic indicators, and poverty-related determinants are analyzed to assess their impact on food security. Additionally, policy documents and strategic reports are reviewed to understand the effectiveness of government and international interventions. The study also incorporates regional comparisons with neighboring countries to contextualize Bangladesh's progress. The findings are synthesized to identify gaps and propose actionable recommendations for strengthening food and nutrition security policies.

3. Results and Discussion

Food Security and Nutrition: Terms and Measurement

Until recently, there was no measure at the individual level that allowed for valid comparisons of food insecurity between countries. In 2013, the FAO introduced a new individual-level measure of food insecurity known as Voices of the Hungry, which had been developed, tested, and utilized by the United States and certain Latin American nations since 1995 (FAO 2020a). The FIES offers a more straightforward assessment of individuals' access to food and indicates the percentage of individuals in the national adult population (aged 15 and older) who experienced moderate or severe food insecurity in the past year. This measure is based on individuals' answers to eight questions, or 15 in the case of the United States, about their access to sufficient food. Since 2014, the FAO survey module has been administered to nationally representative samples of adult populations in 140 countries, covering 90 percent of the global population (FAO 2017b, 2020a, 2020b).

Food security is an indicator of welfare. Income, employment, ethnicity and disability can influence one's food security (Sarker et al., 2022). Food security is determined by four key dimensions: availability, access, utilization, and stability. Physical availability of food refers to the supply side of food security, which depends on factors such as food production, stock levels, and net trade. However, having sufficient food at the national or international level does not automatically ensure household-level security. Table 1 describes the definition of the four dimensions of food security.

| | |
|--------------------------------------|--|
| Physical AVAILABILITY of food | Food availability addresses the “supply side” of food security and is determined by the level of food production, stock levels and net trade. |
| Economic and physical ACCESS to food | An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a |

| | |
|---|---|
| | greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives. |
| Food UTILIZATION | Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals. |
| STABILITY of the other three dimensions over time | Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status. |

Sources: FAO, 2017

Table 1: The definition of the four dimensions of food security

The definition of food security highlights the fact that food security is a multi-faceted problem, which includes four key dimensions: availability, access, utilization, and stability. and Figure 1 shows the four dimensions of food security and their determinants.

| Availability | Access | Utilization | Stability |
|---|--|---|---|
| <ul style="list-style-type: none"> • Domestic production • Import capacity • Food stocks • Food aid | <ul style="list-style-type: none"> • Income, purchasing power, own production • Transport and market infrastructure • Food distribution | <ul style="list-style-type: none"> • Food safety and quality • Clean water • Health and sanitation • Care, feeding and health-seeking practices | <ul style="list-style-type: none"> • Weather variability, seasonality • Price fluctuations • Political factors • Economic factors |

Sources: FAO, 2017

Figure 1: The four dimensions of food security and their determinants

Table 2 highlights the severe economic and social challenges faced by the population. Currently, 41.7 million people are living in extreme poverty, while an additional 6.5% of the population is experiencing severe conditions, indicating widespread hardship. Food inflation has been a major issue, peaking at 13%

in October 2024, which has likely exacerbated food insecurity. Furthermore, recent floods have significantly impacted agriculture, with rice production suffering a loss of 1.1 million metric tons. The total agricultural losses from these floods amount to approximately 45 billion taka (around \$380 million), further straining the country's food supply and economic stability (UNDP, 2024).

| Indicator | Value |
|---------------------------------------|--|
| Population in Extreme Poverty | 41.7 million people |
| Population Facing Severe Conditions | 6.5% of the population |
| Food Inflation Rate | Peaked at 13% in October 2024 |
| Rice Production Loss Due to Floods | 1.1 million metric tons |
| Total Agricultural Losses from Floods | Approximately 45 billion taka (~\$380 million) |

Note: * Significant at 0.01 level; ** significant at 0.05 level

Source: UNDP, 2024

Table 2: Key Indicators of Poverty and Food Insecurity in Bangladesh (2024)

Table 3 underscores the critical need for comprehensive strategies to address food and nutrition security in Bangladesh, especially in the face of climate-induced challenges such as flooding.

| Indicator | Value |
|--|--|
| Population in IPC Phase 3 or above (Feb-Mar 2024) | 14.6 million (20% of analyzed population) |
| Projected population in IPC Phase 3 or above (Oct-Dec 2024) | 23.3 million (26% of population) |
| Prevalence of severe food insecurity (2018-2020) | 10.5% |
| Prevalence of moderate or severe food insecurity (2018-2020) | 31.9% |
| Rice production loss due to floods (2024) | 1.1 million metric tons |
| Agricultural losses due to floods (2024) | Approximately 45 billion taka (\$380 million) |
| Crops damaged by floods (2024) | Worth 33.5 billion taka (\$282 million), affecting 1.4 million farmers |

Source: FAO,2024

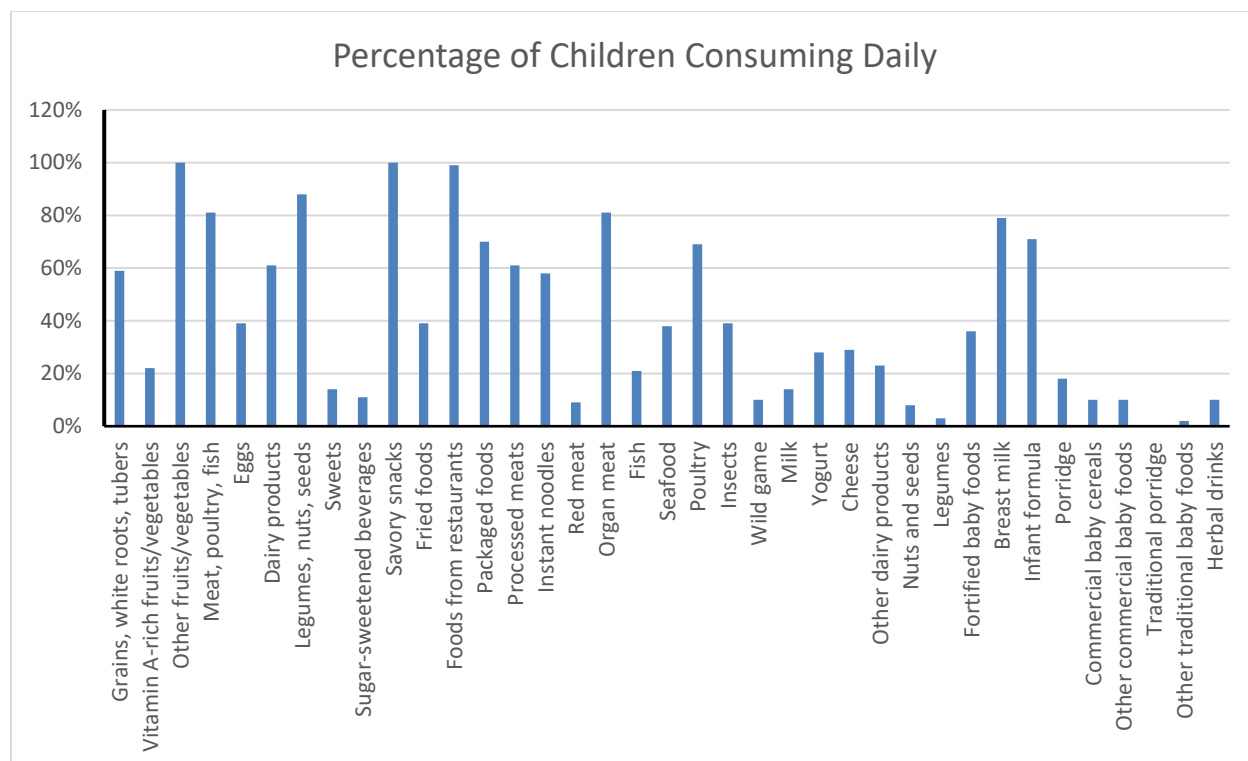
Table 3: Key Food and Nutrition Security Indicators in Bangladesh (2024)

Bangladesh continues to face significant challenges in food and nutrition security, exacerbated by climate change impacts such as flooding. In 2024, food and nutrition security in Bangladesh faced significant challenges. During February and March, approximately 14.6 million people, or 20% of the analyzed population, were in IPC Phase 3 (Crisis) or above, indicating acute food insecurity. This situation is

projected to worsen by October to December 2024, with an estimated 23.3 million people (26% of the population) expected to be in a similar state of crisis (IPC Alert - Bangladesh, 2024). From 2018 to 2020, 10.5% of the population experienced severe food insecurity, while 31.9% faced moderate or severe food insecurity (Bangladesh Food Security and Food Safety Report, 2024). These issues have been compounded by climate events, particularly severe flooding in 2024, which resulted in the loss of 1.1 million metric tons of rice. The economic impact of these floods was substantial, with total agricultural losses estimated at 45 billion taka (\$380 million), and crop damage valued at 33.5 billion taka (\$282 million), affecting around 1.4 million farmers (Reuters - Bangladesh Flood Reports, 2025). Nutritional challenges are also evident, with 13% of the population undernourished from 2017 to 2019, and a national target to reduce this to 10.5% by 2025. Anemia among women aged 15-49 remains high at 36.7%, with no significant progress in reduction, while the exclusive breastfeeding rate for infants aged 0-5 months stands at 62.6%, showing some improvement (Global Nutrition Report, 2024). In response to these challenges, the Bangladeshi government has implemented strategic measures, including the Financial Tracking System for Nutrition (FTS4N) to monitor nutrition-related investments and the launch of the Bangladesh Food Systems Dashboard (BDFSD) in May 2024 for comprehensive food systems monitoring (Global Nutrition Report, 2025). Despite these efforts, the ongoing food insecurity and persistent nutritional challenges highlight the need for continued policy interventions and resilient agricultural practices to ensure sustainable food security in Bangladesh.

Nutrition and Food Status

From six months of age, breastfeeding alone is insufficient to fulfill the nutritional needs of a developing child. As a result, it is essential to include a sufficient variety of foods in their diet. Dietary diversity can indicate micronutrient adequacy and may enhance the nutrient density of complementary foods, thereby supporting optimal growth and development in children. Conversely, a poorly diversified diet can lead to undernutrition and increase children's susceptibility to infections and illnesses. The following table summarizes the consumption frequencies of various food groups among these children. Figure 2 illustrates the consumption frequencies of various food groups among these children. These figures underscore the need for improved dietary diversity among children in Bangladesh to ensure adequate nutrition and support healthy development. Educated people have started to pay attention to their dietary routine from fancy to healthy (Aketr et al., 2021).



Source: Global Diet Quality Project, 2022

Figure 2: Dietary practice of the children

Table 4 below summarizes the consumption frequencies of 10 food groups among adolescent girls over a 7-day recall period. Our findings indicate that nearly all the adolescent female participants, regardless of their residence or division, consumed starchy staples within the 24 hours leading up to the interview. Approximately one-third of the respondents reported eating dark green leafy vegetables, while a quarter indicated that they had consumed pulses (such as beans, peas, and lentils) during the same timeframe. These figures indicate that while staple foods like cereals are almost universally consumed, there is variability in the intake of other essential food groups. Notably, a significant portion of adolescent girls did not consume pulses, fruits, or dairy products within the 7-day period, suggesting potential gaps in dietary diversity.

| Food Group | Percentage of Adolescent Girls Consuming at Least Once in 7 Days |
|-----------------------------|---|
| Cereal-based foods | 99.9% |
| Pulses | 67.6% |
| Dark green leafy vegetables | 80.0% |
| Other vegetables | 98.7% |
| Fruits | 66.1% |
| Meat | 50.0% |

| | |
|---|-------|
| Eggs | 74.0% |
| Fish | 65.0% |
| Milk and dairy products | 65.0% |
| Savory crispy or fried snacks (SCFS) | 56.2% |

Sources: State of Food Security and Nutrition in Bangladesh, 2019

Table 4: Consumption of 10 food groups in the 7-day dietary recall by adolescent girls (10-19 years)

Table 5 summarizes the consumption frequencies of 10 food groups among adolescent boys over a 7-day recall period. The findings indicate that all adolescent boys, regardless of their residence or division, consumed starchy staples within the 24 hours preceding the interview. These figures indicate that while staple foods like starchy staples are universally consumed, there is variability in the intake of other essential food groups. Notably, a significant portion of adolescent boys did not consume dark green leafy vegetables, other vitamin A-rich fruits/vegetables, or dairy products within the 7-day period, suggesting potential gaps in dietary diversity.

| Food Group | Percentage of Adolescent Boys Consuming at Least Once in 7 Days |
|---|--|
| Starchy staples | 100.0% |
| Dark green leafy vegetables | 37.6% |
| Other vitamin A-rich fruits/vegetables | 12.9% |
| Other vegetables | 98.7% |
| Fruits | 66.1% |
| Meat | 50.0% |
| Eggs | 74.0% |
| Fish | 65.0% |
| Milk and dairy products | 65.0% |
| Savory crispy or fried snacks (SCFS) | 56.2% |

Source: State of Food Security and Nutrition in Bangladesh 2018-19

Table 5: Consumption of 10 food groups in 7-day dietary recall by adolescent boys (10-19 years)

Discrimination against women violates human rights principles, hindering their equal participation in politics, social interactions, the economy, and culture (Haq et al., 2023). Table 6 below summarizes the consumption frequencies of 10 food groups among adult women over a 7-day recall period. Our findings indicate that all adult female participants, regardless of their residence or division, consumed starchy staples

within the 24 hours leading up to the interview. These figures indicate that while staple foods like starchy staples are universally consumed, there is variability in the intake of other essential food groups. Notably, a significant portion of adult women did not consume dark green leafy vegetables, other vitamin A-rich fruits/vegetables, or dairy products within the 7-day period, suggesting potential gaps in dietary diversity.

| Food Group | Percentage of Adult Women Consuming at Least Once in 7 Days |
|--|--|
| Starchy staples | 100.0% |
| Dark green leafy vegetables | 37.6% |
| Other vitamin A-rich fruits/vegetables | 12.9% |
| Other vegetables | 98.7% |
| Fruits | 66.1% |
| Meat | 50.0% |
| Eggs | 74.0% |
| Fish | 65.0% |
| Milk and dairy products | 65.0% |
| Savory crispy or fried snacks (SCFS) | 56.2% |

Source: State of Food Security and Nutrition in Bangladesh 2018-19

Table 6: Consumption of 10 food groups in a 7-day dietary recall by adult women (20-59 years)

Table 7 below summarizes the consumption frequencies of 10 food groups among adult men over a 7-day recall period. We discovered that all adult male respondents, regardless of their residence or division, reported consuming starchy staples in the 24 hours leading up to the interview. These figures indicate that while staple foods like starchy staples are universally consumed, there is variability in the intake of other essential food groups. Notably, a significant portion of adult men did not consume dark green leafy vegetables, other vitamin A-rich fruits/vegetables, or dairy products within the 7-day period, suggesting potential gaps in dietary diversity.

| Food Group | Percentage of Adult Men Consuming at Least Once in 7 Days |
|--|--|
| Starchy staples | 100.0% |
| Dark green leafy vegetables | 37.6% |
| Other vitamin A-rich fruits/vegetables | 12.9% |
| Other vegetables | 98.7% |

| | |
|--------------------------------------|-------|
| Fruits | 66.1% |
| Meat | 50.0% |
| Eggs | 74.0% |
| Fish | 65.0% |
| Milk and dairy products | 65.0% |
| Savory crispy or fried snacks (SCFS) | 56.2% |

Source: State of Food Security and Nutrition in Bangladesh 2018-19

Table 7: Consumption of 10 food groups in the 7-day dietary recall by adult men (20-59 years)

Most of the young males and female’s member of rural migrant family leave their rural residence for urban area. The old couples are alone at home. No one is there at home to look after them (Sarker, 2017). Older people face the challenge of living because caregivers do not have the money to take care of them (Sarker et al., 2022). Table 8 below summarizes the frequency of consumption of various food groups among the elderly participants over a 7-day period. These findings indicate that while staple foods like rice are consumed daily by all participants, there is a notable difference in the consumption of other essential food groups between urban and rural elderly populations. Urban elderly individuals tend to consume pulses/legumes more frequently than their rural counterparts. Additionally, a significant portion of both urban and rural elderly populations rarely consume milk, with approximately one-third never consuming it within a week. The intake of green leafy vegetables and citrus fruits is also limited, with the majority consuming them only once or twice a week.

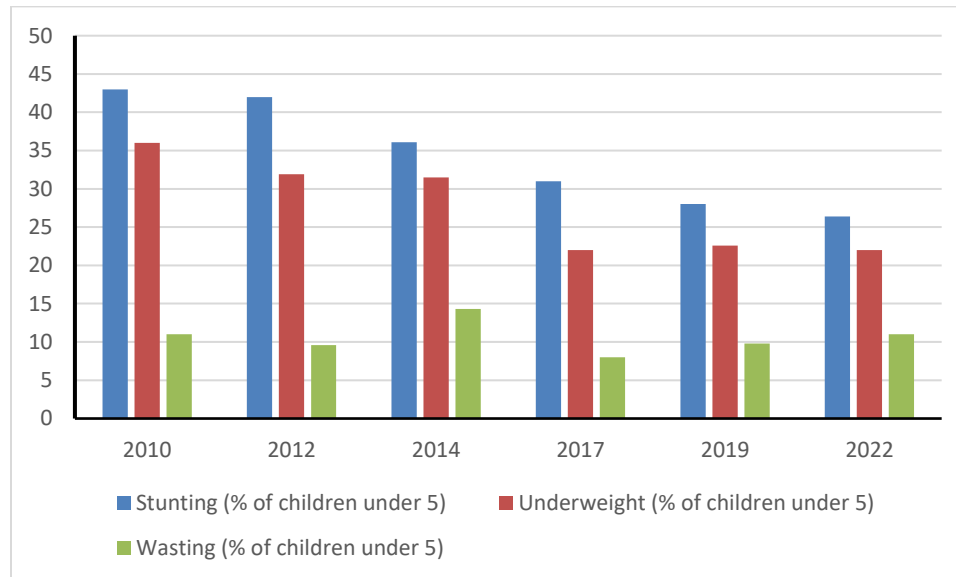
| Food Group | Urban (Consumption Days per Week) | Rural (Consumption Days per Week) |
|------------------------|--|--|
| Rice | 7 days (100%) | 7 days (100%) |
| Pulses/Legumes | 3-6 days (51%) | 1-2 days (50%) |
| Small Fish | 1-2 days (74%) | 1-2 days (73%) |
| Big Fish | 1-2 days (68%) | 1-2 days (62%) |
| Milk | Never (33%) Daily (29%) | Never (31%) Daily (19%) |
| Green Leafy Vegetables | 1-2 days (71%) | 1-2 days (69%) |
| Citrus Fruits | 1-2 days (66%) | 1-2 days (56%) |

Source: State of Food Security and Nutrition in Bangladesh 2018-19

Table 8: Consumption of 10 food groups in 7-day dietary recall by elderly people by place of residence

Bangladesh has achieved notable progress in reducing child stunting and underweight rates. Figure 3 indicates a consistent decline in the prevalence of stunting and underweight among children under five

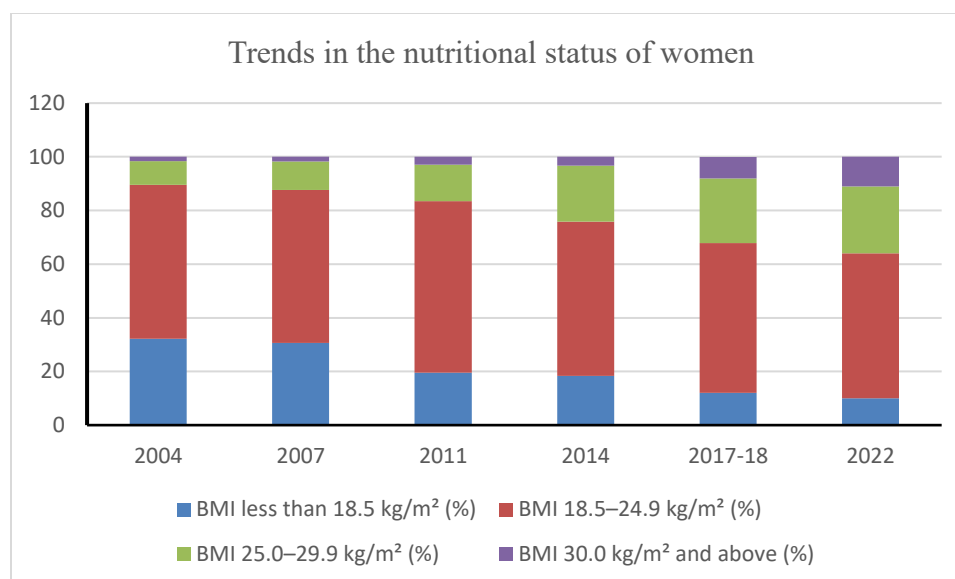
years of age in Bangladesh over the past decade. The reduction in stunting from 43.0% in 2010 to 26.4% in 2022 is particularly noteworthy (BBS,2024). Similarly, underweight prevalence decreased from 36.0% in 2010 to 22.6% in 2019. Wasting rates have shown fluctuations, with a decrease from 11.0% in 2010 to 8.0% in 2017, followed by a slight increase to 9.8% in 2019 (UNICEF, 2023).



Source: UNICEF, 2023; BBS, 2023

Figure 3: Trends in children under nutrition

In rural Bangladesh a major portion of people are underweight (Sarker, 2011). Figure 4 shows the trends in Body Mass Index (BMI) categories among ever-married women aged 15–49 in Bangladesh from 2004 to 2022. Over the years, there has been a significant decrease in the prevalence of underweight women, dropping from 32.2% in 2004 to 10.0% in 2022. Conversely, the proportion of women with normal weight has also gradually declined from 57.3% in 2004 to 54.0% in 2022. Meanwhile, the percentage of overweight women has steadily increased, rising from 8.9% in 2004 to 25.0% in 2022. A more pronounced rise is observed in the obesity category, which saw a dramatic growth from just 1.6% in 2004 to 11.0% in 2022 (BDHS, 2022).



Source: BDHS, 2022

Figure 4: BMIs of ever-married women over time

Production of Food and Availability of Nutrition

Agriculture has a vital role in ensuring food security, rural economy development and political stability, so agricultural is highly regulated and incentivized industry in many countries (Sarker et al., 2025). Bangladesh is part of the group of developing countries in which the rate of population growth is higher than the rate at which food production is increasing (Parvin and Sarker, 2021). The most urgent challenge that countries today face is to double food production by 2050 to feed the growing population (Sarker et al., 2019). According to the collective estimate from BBS, the Ministry of Food, and the Food Planning and Monitoring Unit (FPMU), table 9 presents data on rice and wheat production over several fiscal years, highlighting trends in total food grain production. Aus rice production has shown a steady increase from 2.14 million metric tons (MMT) in 2015-16 to a peak of 3.50 MMT in 2022-23, before slightly declining to 2.97 MMT in 2023-24. Aman rice production has also generally increased, reaching its highest level of 16.66 MMT in 2023-24. Boro rice, the largest contributor to total rice production, has fluctuated but increased overall, rising from 18.94 MMT in 2015-16 to 21.07 MMT in 2023-24. Consequently, total rice production has followed an upward trend, growing from 34.56 MMT in 2015-16 to 40.70 MMT in 2023-24. Wheat production, however, has remained relatively stable, ranging between 1.10 and 1.35 MMT. As a result, total food grain production has steadily increased, reaching 41.87 MMT in 2023-24, the highest in the recorded period. This upward trend suggests improvements in agricultural productivity, despite challenges such as climate-related losses.

| Fiscal Year | Aus Rice (MMT) | Aman Rice (MMT) | Boro Rice (MMT) | Total Rice (MMT) | Wheat (MMT) | Total Food Grains (MMT) |
|--------------------|-----------------------|------------------------|------------------------|-------------------------|--------------------|--------------------------------|
| 2015-16 | 2.14 | 13.48 | 18.94 | 34.56 | 1.35 | 35.91 |
| 2016-17 | 2.14 | 13.06 | 18.01 | 33.21 | 1.20 | 34.41 |
| 2017-18 | 2.62 | 13.80 | 19.56 | 35.98 | 1.15 | 37.13 |
| 2018-19 | 2.79 | 14.23 | 19.60 | 36.62 | 1.20 | 37.82 |
| 2019-20 | 3.29 | 14.37 | 19.95 | 37.61 | 1.20 | 38.81 |
| 2020-21 | 3.30 | 14.02 | 20.88 | 38.20 | 1.30 | 39.50 |
| 2021-22 | 3.47 | 14.96 | 20.77 | 39.20 | 1.10 | 40.30 |
| 2022-23 | 3.50 | 15.00 | 21.00 | 39.50 | 1.10 | 40.60 |
| 2023-24* | 2.97 | 16.66 | 21.07 | 40.70 | 1.17 | 41.87 |

Source: MoF, 2022; FMPU,2023; BBS,2024

Table 9: Food Grains Production

Table 10 shows a consistent increase in fish production across all sources from 2015-16 to 2023-24. Inland open water (capture) production grew from 1.02 million metric tons (MT) to 1.36 million MT, while inland closed water (aquaculture) saw a significant rise from 2.06 million MT to 3.00 million MT. Marine water production also steadily increased from 596,387 MT to 750,000 MT. As a result, total fish production expanded from 3.68 million MT in 2015-16 to 5.11 million MT in 2023-24, reflecting continuous growth in the fisheries sector, likely driven by improved aquaculture practices and sustainable fishing efforts. This consistent upward trend underscores Bangladesh's commitment to enhancing its fisheries sector through sustainable practices, technological advancements, and supportive policies. The country's rise to the second position globally in freshwater fish production, surpassing China, is a testament to these efforts.

| Fiscal Year | Inland Open Water (Capture) MT | Inland Closed Water (Aquaculture) MT | Marine Water (MT) | Total Fish Production (MT) |
|--------------------|---------------------------------------|---|--------------------------|-----------------------------------|
| 2015-16 | 1,023,991 | 2,060,408 | 596,387 | 3,680,786 |
| 2016-17 | 1,240,099 | 2,198,125 | 621,828 | 4,060,052 |
| 2017-18 | 1,240,699 | 2,319,679 | 637,809 | 4,198,187 |
| 2018-19 | 1,263,685 | 2,499,702 | 654,247 | 4,417,634 |
| 2019-20 | 1,280,000 | 2,600,000 | 670,000 | 4,550,000 |
| 2020-21 | 1,300,000 | 2,700,000 | 690,000 | 4,690,000 |
| 2021-22 | 1,320,000 | 2,800,000 | 710,000 | 4,830,000 |
| 2022-23 | 1,340,000 | 2,900,000 | 730,000 | 4,970,000 |

| | | | | |
|----------|-----------|-----------|---------|-----------|
| 2023-24* | 1,360,000 | 3,000,000 | 750,000 | 5,110,000 |
|----------|-----------|-----------|---------|-----------|

Source: The Daily Star, 2024

Table 10: Fish Production Trends in Different Resources

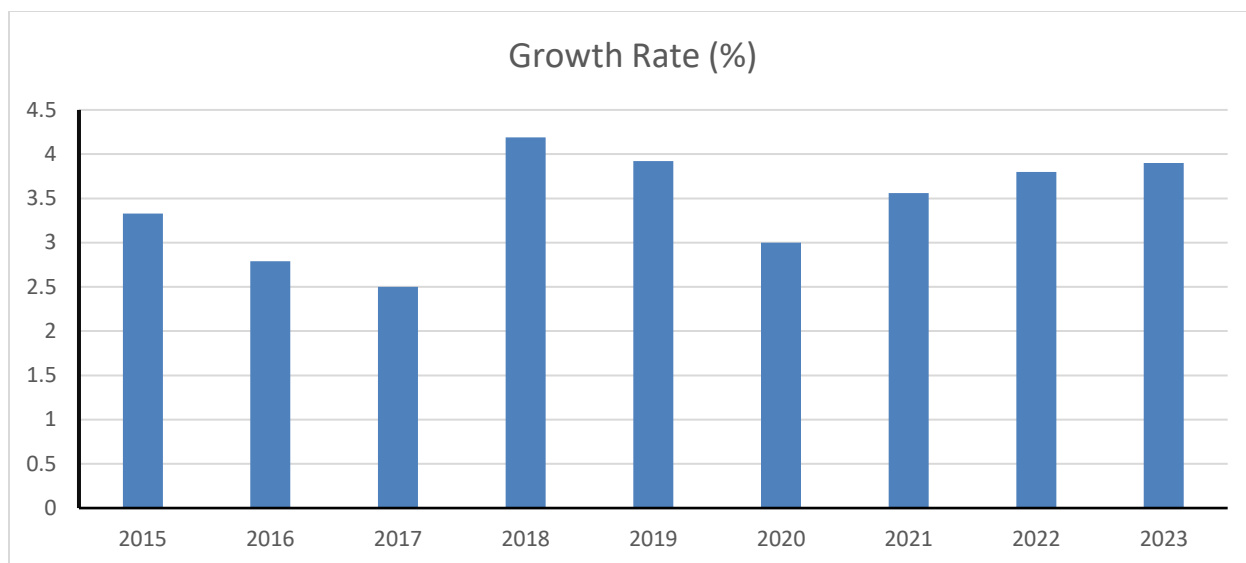
Table 11 illustrates the production volumes for each category over the specified period. Bangladesh has witnessed a notable increase in the production of milk, meat, and eggs from the fiscal year 2015-16 to 2022-23. There has been a consistent upward trend in milk production, increasing from 72.75 lakh metric tons in 2015-16 to 140.68 lakh metric tons in 2022-23. Meat production experienced growth from 61.52 lakh metric tons in 2015-16 to a peak of 92.65 lakh metric tons in 2021-22, followed by a slight decline to 87.10 lakh metric tons in 2022-23. The number of eggs produced rose from 1191.24 crore in 2015-16 to 2337.63 crore in 2022-23, indicating a substantial increase over the years. These figures underscore the significant advancements in Bangladesh's livestock sector, contributing to enhanced food security and nutritional standards across the nation.

| Fiscal Year | Milk Production (Lakh Metric Tons) | Meat Production (Lakh Metric Tons) | Egg Production (Crore Numbers) |
|--------------------|---|---|---------------------------------------|
| 2015-16 | 72.75 | 61.52 | 1191.24 |
| 2016-17 | 92.83 | 71.54 | 1493.31 |
| 2017-18 | 94.01 | 72.06 | 1552.00 |
| 2018-19 | 99.23 | 75.14 | 1711.00 |
| 2019-20 | 106.80 | 76.74 | 1736.00 |
| 2020-21 | 119.85 | 84.40 | 2057.64 |
| 2021-22 | 130.74 | 92.65 | 2335.35 |
| 2022-23 | 140.68 | 87.10 | 2337.63 |

Source: BBS, 2024

Table 11: Production of Milk, Meat and Eggs

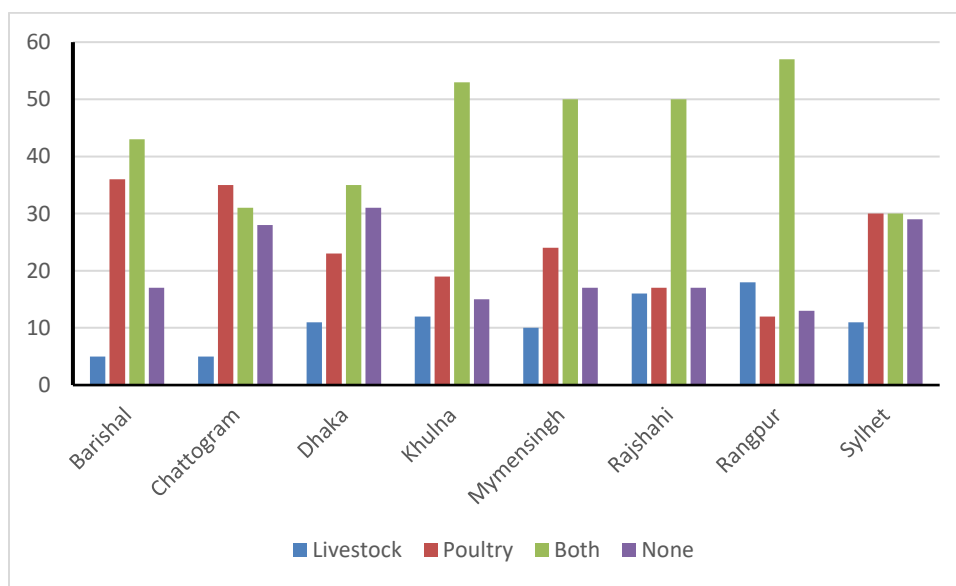
The economic growth of South Asian nations has notably picked up pace, particularly in countries such as Bangladesh and India (Sarker et al., 2025). Figure 5 indicates a general upward trend in agricultural value-added growth, with notable increases in recent years. These growth rates are influenced by various factors, including climatic conditions, policy interventions, and global market dynamics. The slight decline in 2020 can be attributed to challenges such as natural disasters and the global pandemic, which impacted agricultural productivity.



Source: Yearbook of Agricultural Statistics, 2024

Figure 5: Growth rate of value added in agriculture in Bangladesh from 2014 to 2023

Livestock farming is primarily conducted by smallholder farmers in rural areas, with nearly 80% of these farmers involved in either livestock or poultry production. Figure 6 presents data on livestock and poultry ownership across different divisions. Rangpur has the highest percentage of households owning both livestock and poultry (57%), followed by Rajshahi (50%) and Mymensingh (50%). In contrast, Dhaka has a relatively lower percentage (35%) of households owning both. Poultry ownership is most prominent in Barishal (36%) and Sylhet (30%), while livestock ownership is highest in Rangpur (18%) and Rajshahi (16%). The percentage of households owning neither livestock nor poultry is highest in Dhaka (31%) and Chattogram (28%), suggesting regional variations in livestock and poultry-rearing practices.



Source: BBS, 2022

Figure 6: Share of rural households engaged in livestock and poultry production (%)

Prioritizing Food System Change in Bangladesh

To prioritize food system change, Bangladesh is focusing on enhancing agricultural productivity, promoting climate-resilient crops, and improving supply chain efficiency. The government has introduced the Financial Tracking System for Nutrition (FTS4N) to monitor investments in nutrition and launched the Bangladesh Food Systems Dashboard (BDFSD) in May 2024 to enhance food systems monitoring (Global Nutrition Report, 2024). Additionally, efforts are being made to diversify diets and promote local food systems to address malnutrition, which affects 13% of the population.

Strengthening social safety nets, empowering smallholder farmers, and investing in sustainable agriculture practices are crucial for a resilient food system. By prioritizing these strategies, Bangladesh can move towards achieving food security and improved nutrition for all its citizens.

The Foresight4Food framework for foresight consists of several stages:

1. Initiating the process: grasp the interests and concerns of stakeholders, pinpoint essential questions, and outline the process.
2. Mapping the system: delineate major components and connections within food systems and gather as well as display vital information.
3. Evaluating trends and uncertainties: recognize and evaluate the primary drivers, trends, and crucial uncertainties impacting food systems transformation.
4. Creating scenarios: utilize scenarios to determine plausible futures for food systems in light of various uncertainties.
5. Evaluating consequences: analyze the repercussions of different scenarios on food systems and for the interests of stakeholders.
6. Examining system alterations: investigate strategies for enhancing food systems based on stakeholders' visions and the implications of scenarios.

The projected increase in total consumption of 10 major food groups in Bangladesh between 2015 and 2030 reflects changing dietary patterns, economic growth, and population dynamics. Table 12 shows that rice consumption is projected to slightly decline, while demand for wheat, pulses, vegetables, and fruits is expected to rise significantly. Consumption of fish, meat, eggs, and milk is projected to grow rapidly, reflecting improved living standards and changing dietary preferences. Urbanization and rising incomes are driving increased demand for a more varied and nutrient-rich diet. Higher consumption of edible oils reflects lifestyle changes and evolving cooking habits.

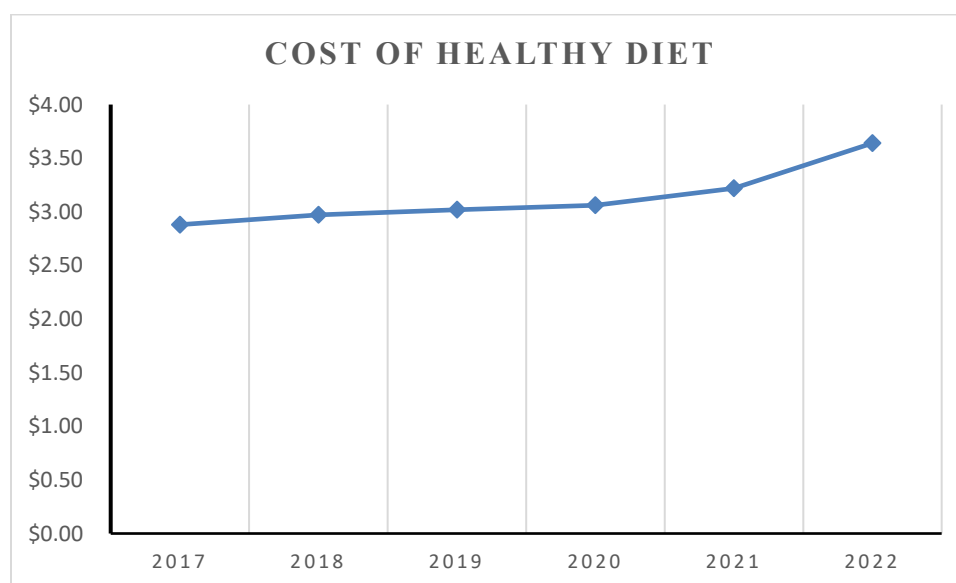
| Food Group | 2015 | 2020 | 2025 (Projected) | 2030 (Projected) | % Change (2015-2030) |
|-------------------|-------------|-------------|-------------------------|-------------------------|-----------------------------|
| Rice | 34.8 | 36.0 | 35.5 | 34.0 | -2.3% |

| | | | | | |
|-------------|------|------|------|------|---------|
| Wheat | 5.0 | 6.5 | 8.0 | 9.5 | +90.0% |
| Pulses | 1.0 | 1.2 | 1.5 | 1.8 | +80.0% |
| Vegetables | 14.0 | 15.5 | 17.5 | 19.5 | +39.3% |
| Fruits | 4.5 | 5.5 | 6.5 | 7.5 | +66.7% |
| Fish | 4.0 | 4.8 | 5.5 | 6.2 | +55.0% |
| Meat | 1.5 | 2.0 | 2.7 | 3.5 | +133.3% |
| Eggs | 0.4 | 0.6 | 0.8 | 1.0 | +150.0% |
| Milk | 7.0 | 8.5 | 10.0 | 11.5 | +64.3% |
| Edible Oils | 1.2 | 1.5 | 1.9 | 2.3 | +91.7% |

Source: BBS, FAO & World Bank, 2024

Table 12: Projected Increase in Total Food Consumption between 2015 and 2030

Bangladesh faces significant challenges in its food system, impacting food security and nutrition across the nation. With a population of over 170 million, ensuring sustainable food security remains a priority. Despite progress in agricultural productivity, the country continues to struggle with malnutrition, food access inequalities, and vulnerability to climate change. As of 2024, 20% of the population (14.6 million people) were in IPC Phase 3 (Crisis) or above in terms of food insecurity, with projections suggesting an increase to 23.3 million by the end of the year (IPC Alert, April 2024). The price of food is a key factor influencing consumption habits, as the high costs associated with nutrient-rich foods hinder individuals from maintaining healthy diets. According to FAOSTAT data, in 2023, an individual needs to spend US\$3.64 daily in Bangladesh to afford a nutritious diet. This amount is considerably higher than what was required in previous years (Figure 7).



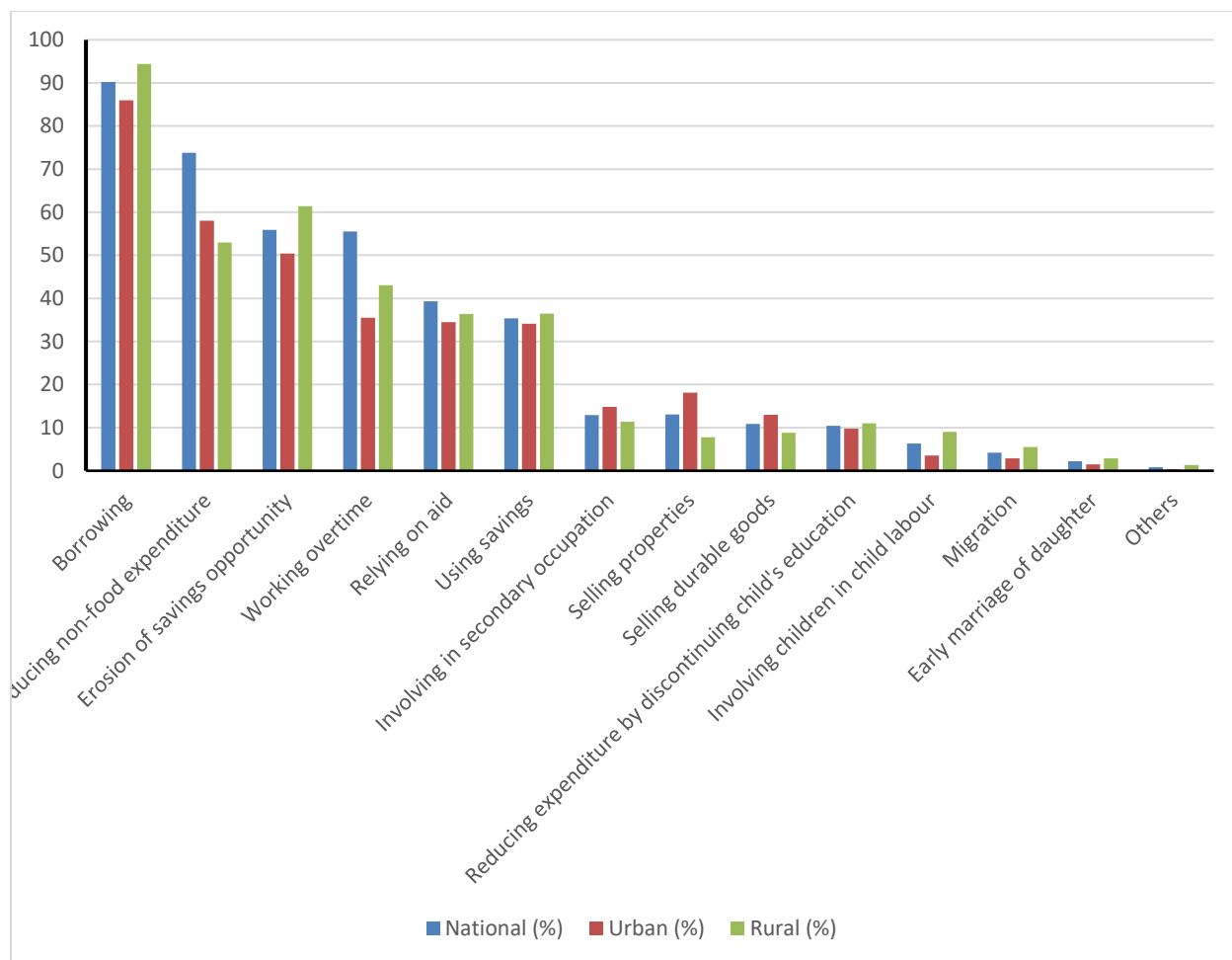
Source: FAO, 2024

Figure 7: Cost of a healthy diet (dollar/person/day)

Nutrition Strategies

Bangladesh has implemented several nutrition strategies to combat malnutrition and enhance food security. These efforts are guided by national policies and action plans, supported by significant financial commitments. During the Nutrition for Growth (N4G) Summit in Tokyo in 2021, the Government of Bangladesh committed to achieving 12 nutrition-related goals. To support these objectives, approximately \$8.4 billion has been allocated for the period 2021-2025. This investment underscores the country's dedication to improving nutritional outcomes (Global Nutrition Reports, 2025).

Figure 7 outlines various coping strategies adopted nationally, in urban areas, and in rural areas. Borrowing is the most common strategy, with 90.2% of households relying on it, especially in rural areas (94.4%). Reducing non-food expenditures is also widely practiced, more in urban areas (58.0%) than in rural areas (53.0%). Savings erosion is a significant issue, affecting 61.4% of rural households compared to 50.4% in urban areas. Strategies such as working overtime (55.5%), relying on aid (39.3%), and using savings (35.4%) are also common. Rural households are more likely to resort to extreme measures such as child labor (9.0%), migration (5.5%), and early marriage (2.9%), while urban households more frequently sell properties (18.1%) or durable goods (13.0%). The data reflects financial strain and varying resilience strategies based on location (SANEM, 2023). Climate change exacerbates these issues, leading to frequent floods and cyclones. In 2024 alone, Bangladesh lost 1.1 million metric tons of rice due to severe flooding, resulting in agricultural losses valued at 45 billion taka (\$380 million). This has significantly impacted 1.4 million farmers, stressing the need for a resilient food system (Reuters, 2024).



Sources: SANEM Household Survey Report, 2023

Figure 8: Coping strategies adopted by households' unsustainable means to obtain food

Between October and December 2024, over a quarter of the population (26%), representing approximately 23.3 million individuals, were projected to experience high levels of acute food insecurity (IPC Phase 3 or above). This situation highlights the urgent need for humanitarian food security assistance (Global Food and Nutrition Security, 2024). Limited progress has been observed in addressing diet-related non-communicable diseases. As of the latest data, 6.2% of adult women and 3.0% of adult men are living with obesity. While these rates are lower than the regional averages, they indicate a growing concern that requires attention (Global Nutrition Reports, 2025). Table 14 highlights key nutrition indicators in Bangladesh. The prevalence of undernourishment was 13% (2017-2019), with a target to reduce it to 10.5% by 2025. Obesity rates among adults are relatively low, with 6.2% of women and 3.0% of men affected, both below the regional averages of 10.3% and 7.5%, respectively. However, overweight prevalence among children under five is 2.4% and is off course to prevent further increase, indicating concerns about rising childhood obesity. While progress has been made in reducing undernourishment and maintaining lower obesity levels, efforts are needed to address childhood nutrition challenges.

| Indicator | Value | Status |
|---|-----------------|--------------------------------------|
| Prevalence of Undernourishment | 13% (2017-2019) | Target to reduce to 10.5% by 2025 |
| Obesity in Adult Women (≥ 18 years) | 6.2% | Lower than regional average of 10.3% |
| Obesity in Adult Men (≥ 18 years) | 3.0% | Lower than regional average of 7.5% |
| Overweight in Children Under 5 Years | 2.4% | Off course to prevent increase |

Source: Global Nutrition Report, 2025

Table 13: Key Nutrition Indicators in Bangladesh

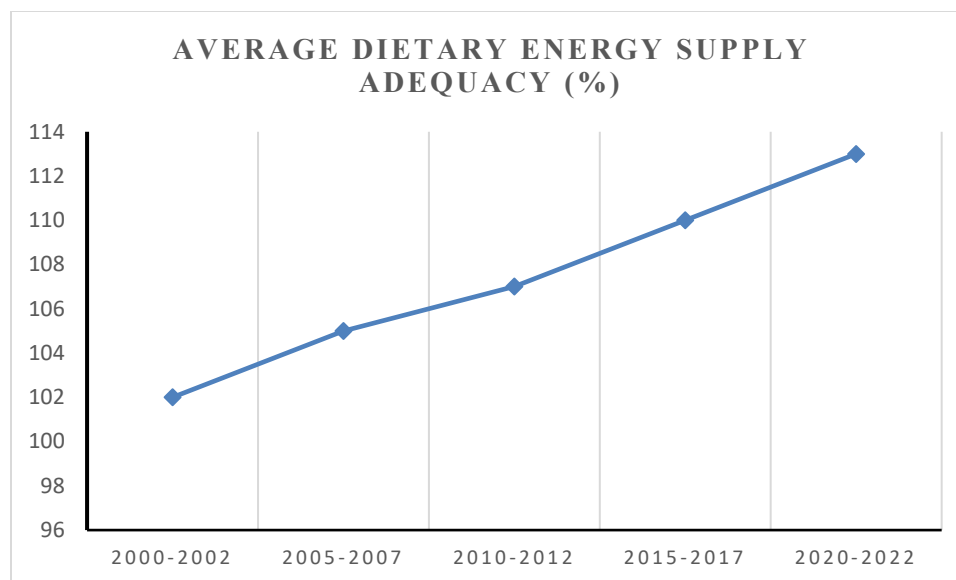
Bangladesh has been actively implementing and monitoring various nutrition strategies to address malnutrition and improve food security. Table 14 summarizes table highlighting key nutrition indicators and strategic developments.

| Indicator/Development | Details |
|---|--|
| Prevalence of Undernourishment | 13% (2017-2019); target to reduce to 10.5% by 2025 |
| Anaemia Among Women (15-49 years) | 36.7%; no progress towards reduction target |
| Low Birth Weight Prevalence | 27.8%; some progress observed |
| Exclusive Breastfeeding Rate (0-5 months) | 62.6%; some progress towards target |
| Financial Tracking System for Nutrition (FTS4N) | Development initiated; operational before 2024 |
| Bangladesh Food Systems Dashboard (BDFSD) | Launched in May 2024 to monitor food systems |
| Prevalence of Severe and Moderate Food Insecurity | Decreased from 32.2% (2014-2016) to 31% (2020-2022) |
| Population Experiencing Acute Food Insecurity | 14.6 million (20% of analyzed population) in IPC Phase 3 or above (Feb-Mar 2024) |

Source: Global Nutrition Report, 2025

Table 14: Key Nutrition Indicators and Strategic Developments in Bangladesh (2024)

These indicators and developments reflect Bangladesh's ongoing efforts and challenges in improving nutritional outcomes. However, persistent issues such as undernourishment and anaemia among women highlight the need for continued and targeted interventions. The Average Dietary Energy Supply Adequacy (ADESA) is a metric that indicates the sufficiency of a country's food supply in meeting the population's energy requirements. In Bangladesh, the ADESA has shown a gradual increase over the past two decades, reflecting improvements in the country's food security (FAO, 2024). Figure 9 summarizes the three-year average ADESA percentages for the selected period.



Source: FAO, 2024

Figure 9: Average dietary energy supply adequacy (3-year average)

Governance Issues for Food Security and Nutrition

Governance issues in food security and nutrition in Bangladesh are a significant challenge, with key concerns related to policy implementation, institutional coordination, and accountability. Despite the existence of various policies, such as the National Food Policy (2006) and the National Nutrition Policy (2015), governance challenges have hindered their effectiveness.

1. **Policy Implementation Gaps:** While Bangladesh has established food security and nutrition policies, implementation remains inconsistent due to poor coordination between government agencies. There is often a lack of synchronization between agriculture, health, and social welfare sectors, leading to fragmented approaches to food security (Global Nutrition Report, 2023).
2. **Institutional Weaknesses:** Institutional capacity to oversee and enforce food security policies is limited. Local government agencies and institutions tasked with implementing food security interventions frequently lack the necessary resources, technical expertise, and political will to carry out effective programs. This leads to slow or inadequate responses to emerging food security challenges.
3. **Corruption and Accountability:** Corruption within food distribution systems and mismanagement of resources are major barriers to effective food security governance. This results in inefficient targeting of food assistance programs, with benefits often not reaching the most vulnerable populations. A lack of transparency in food aid distribution also exacerbates inequalities (UNICEF, 2023).
4. **Political Instability and Policy Continuity:** Political instability and frequent changes in government have led to shifts in policy priorities, reducing the continuity and long-term planning needed to address

food security. Short-term political agendas often undermine the sustainable implementation of food and nutrition security measures.

5. **Resource Allocation and Budgeting:** Despite increasing recognition of food insecurity as a national issue, budget allocation for food security and nutrition programs remains insufficient. For example, the allocation for nutrition-specific interventions is often a small fraction of the total government spending, limiting the reach and impact of these initiatives.
6. **Lack of Data and Monitoring Systems:** Data on food security, nutrition, and agricultural productivity is often inadequate or outdated, making it difficult for policymakers to design evidence-based interventions. Additionally, the monitoring and evaluation mechanisms for food security programs are weak, resulting in a lack of accountability for policy outcomes.

Policy and institutional experiences with recommendations

In Bangladesh, food and nutrition security policies have evolved in response to ongoing challenges such as poverty, undernutrition, and the economic barriers to accessing a healthy diet. The government, alongside international organizations like the World Food Programme (WFP) and UNICEF, has implemented various interventions to improve food availability and access, especially in rural areas. Key policies such as the National Food Policy and the Food Safety Act aim to ensure food security, stabilize prices, and enhance agricultural productivity. Institutional efforts have focused on promoting sustainable agriculture, improving nutrition programs, and addressing the impacts of climate change on food systems. The Trade Corporation of Bangladesh (TCB) is a national Government programme that maintains a stock of certain food items and makes them available at fixed prices that are subsidized. Affordable food items – such as sugar, cooking oil, lentils, chickpeas, and dates – are needed, but since prices are mostly fixed, they can be out of reach for the poor (Sarker & Fagun, 2021). Despite these efforts, the country faces challenges like high food prices, inadequate infrastructure, and disparities in food access between rural and urban populations. Recent initiatives, such as the Integrated Food Security and Nutrition Programme (IFSNP), work to address these gaps by focusing on vulnerable groups like women, children, and the elderly. However, the effectiveness of these policies remains hindered by funding limitations and the ongoing economic strain faced by low-income households. Future policy interventions must prioritize strengthening agricultural resilience, improving access to nutritious foods, and addressing socio-economic barriers to ensure long-term food and nutrition security.

To address food and nutrition security challenges in Bangladesh, several policies and suggestions are recommended:

1. **Enhance Agricultural Productivity:** Invest in climate-smart agriculture and technology to increase crop yields and livestock production. Providing farmers with access to modern farming tools, seeds, and knowledge can help mitigate the impact of climate change and improve food availability.

2. **Strengthen Food Distribution Systems:** Improve infrastructure for food storage, transportation, and distribution, particularly in rural and remote areas, to reduce food loss and ensure equitable access.
3. **Address Food Affordability:** Implement targeted subsidies for vulnerable groups, such as low-income households, women, and children, to make nutritious food affordable. Additionally, policies to stabilize food prices and reduce market volatility are crucial.
4. **Promote Nutritional Education and Awareness:** Launch nationwide campaigns to educate people about healthy dietary practices, focusing on the importance of balanced diets and locally available nutritious foods.
5. **Improve Social Protection Programs:** Expand social safety nets, including food assistance programs and cash transfers, to ensure that vulnerable populations can access sufficient and nutritious food during crises or economic downturns.
6. **Strengthen Gender-Sensitive Policies:** Address gender disparities in food security by promoting women's participation in agriculture, ensuring equal access to resources, and empowering women in decision-making roles regarding household food security.
7. **Support Regional Cooperation:** Collaborate with neighboring countries, like India and Pakistan, to share best practices and address regional challenges in agricultural production, trade, and food security.
8. **Invest in Nutritional Programs for Vulnerable Groups:** Prioritize nutrition programs for children, pregnant women, and the elderly to combat malnutrition, especially in areas with high poverty rates.
9. **Policy Integration:** Integrate food security and nutrition goals into broader economic and development policies to ensure a holistic approach that addresses both the supply and demand sides of food security.

By implementing these policies, Bangladesh can make significant progress in addressing the trends and challenges related to food and nutrition security, ensuring a healthier, more resilient population.

4. Conclusion

In conclusion, food and nutrition security in Bangladesh continues to be a vital concern, influenced by intricate trends and ongoing obstacles. Although the nation has achieved considerable progress in enhancing agricultural output and food availability, notable inequalities in food distribution, affordability, and nutrition remain, especially in rural regions and among at-risk communities. Even with the execution of various strategies targeted at mitigating food insecurity, including the National Food Policy and the National Nutrition Policy, issues related to governance, inadequate institutional capacity, and limited resources still hinder their effectiveness.

The escalating effects of climate change, swift urban development, and socio-economic disparities make the task of attaining sustainable food security even more challenging. The level of overall happiness or subjective well-being within households plays a pivotal role in shaping health-related behaviors (Haq et al., 2024). An all-encompassing strategy that tackles both the supply and demand aspects of food security—

such as boosting agricultural output, enhancing food distribution systems, and developing improved nutrition programs—is vital. To navigate these hurdles, it is imperative to strengthen governance, enhance policy alignment, and ensure sufficient investment in food security and nutrition initiatives.

To guarantee long-term food and nutritional security in Bangladesh, comprehensive and integrated policies that focus on the most at-risk communities and advocate for sustainable farming practices are necessary. By addressing the current deficiencies in policy execution and bolstering institutional structures, Bangladesh can advance toward a future where all its citizens enjoy food security and proper nutrition.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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