

# Fertilizer Industry of Bangladesh



The  
Demand,  
Consumption,  
and  
Challenges



# Fertilizer Industry of Bangladesh: The Demand, Consumption, and Challenges

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## Abstract

As Bangladesh's primary driving force of the economy, the agriculture sector stands at 11.50% of the country's GDP, with the sectoral growth rate at 2.20% in the fiscal year 2021-22. To ensure food security for Bangladesh's rapidly growing population, modern agricultural farming practices expanded, including chemical fertilizer for High Yielding Variety (HYV) crops with intensified cultivation needed, which again leads to increased demand for fertilizers & soil nutrients. Therefore, to meet the nutritional demand of these varieties, it is necessary to ensure a timely supply of both organic and chemical fertilizers. Recent changes in the global economy have created a dilemma in fertilizer supply, a concern for a developing country like Bangladesh. However, concerning the past data, this study forecasted ten years of growth for consumption, production, and import. The result showed an increasing trend for all but with fluctuation for the production forecast. A sustainable solution to the recent concern can be to move towards the alternative way out and increase our organic fertilizer production.

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## Introduction

Fertilizer plays an essential part in the agriculture sector of any economy, and supply shortage in fertilizer can lead to disruption in the food supply. Thus, the international turmoil, including Covid-19 and the recent Russia-Ukraine war, poses a challenge to the supply chain of food in Bangladesh. According to the Quarterly Labour Force Survey 2015-16, the agricultural sector's contribution (including crops, animal farming, forests & fishing) to the country's GDP is 11.50%, and the country's labor force is about 41% (Ministry of Finance, 2022). Among the fertilizers used in Bangladesh, Diammonium Phosphate (DAP), Muriate of Potash (MOP), Triple Super Phosphate (TSP), and Urea are the most widely used products which deliver essential plant nutrients to the soil. Although Bangladesh is involved in fertilizer production, 80% of the country's demand for fertilizer is met through import.

**Current Demand and Consumption:** In FY2022, a total of 5.69 crore MT of fertilizer had been used, and 2.16 crore MT of fertilizer had been urea. The peak season for fertilizer use is during the Boro season, the largest crop, which starts in November and continues till February. The fertilizer demand is usually there over the whole year as dealers stockpile the products to supply to the retail outlets, who then supply to the individual farmers. According to an estimate by the Department of Agricultural Extension, there are more than 5,500 fertilizer dealers across the country (Department of Agricultural Extension, 2020). The use of chemical fertilizer has grown over the years as Bangladesh focused on ensuring the country's food security. The consumption over the decade increased by:

- 12% for Urea
- 5% for TSP
- 277% for DAP
- 46% for MOP

**Table 1. Demand and Consumption of Urea, TSP, DAP & MOP (in Lac metric ton)**

Year	Urea		TSP		DAP		MOP	
	Demand	Consumption	Demand	Consumption	Demand	Consumption	Demand	Consumption
2012-13	25.00	22.47	7.00	6.54	6.00	4.34	8.70	5.71
2013-14	24.50	24.62	6.75	6.85	6.50	5.43	8.00	5.77
2014-15	27.00	26.39	7.25	7.22	6.75	5.97	7.00	6.40
2015-16	28.00	22.00	7.50	7.20	7.00	6.56	7.50	7.15
2016-17	25.00	23.00	7.50	7.10	7.50	6.50	8.00	7.75
2017-18	25.00	24.27	6.50	7.06	8.50	6.90	8.50	7.89
2018-19	25.50	25.95	7.00	7.81	9.00	7.63	8.50	7.24
2019-20	26.50	25.10	7.50	6.91	9.00	9.62	8.50	7.16
2020-21	24.50	24.63	5.00	5.23	15.00	14.24	7.50	7.98
2021-22	26.00	25.19	7.00	6.85	16.50	16.38	7.50	8.32

Source: Bangladesh Fertilizer Association, (2022)

Except for MOP, Bangladesh produces Urea, TSP, and DAP. The nutrients of the fertilizers are also mixed together to enrich the soil quality and increase the soil's fertility, which supports crop yield and plant growth. The basic idea is to make a balanced mix, and the ratio may vary depending on which nutrient to be used most. Other chemical fertilizers providing nutrients to the soil have been used over the years in certain portions, which are listed below.

**Table 2. Consumption of Other Chemical Fertilizer in FY2022 (in Lac metric tons)**

FY	SSP	NPKS	AS	Gypsum	Zinc	Others
2013-14	0	2.70	0.30	12.60	4.20	0.04
2014-15	0	2.70	0.62	12.20	3.90	0
2015-16	0	3.96	0.99	22.94	5.34	0
2016-17	0	4.00	1.00	32.33	5.75	0
2017-18	0	5.00	1.00	25.00	8.00	9.00
2018-19	0	5.00	1.00	28.50	9.50	12.00
2019-20	0	4.20	0.60	36.00	11.50	10.10

<b>2020-21</b>	0	4.00	0.40	55.00	14.10	13.00
<b>2021-22*</b>	0	2.70	0.43	45.50	11.75	12.07

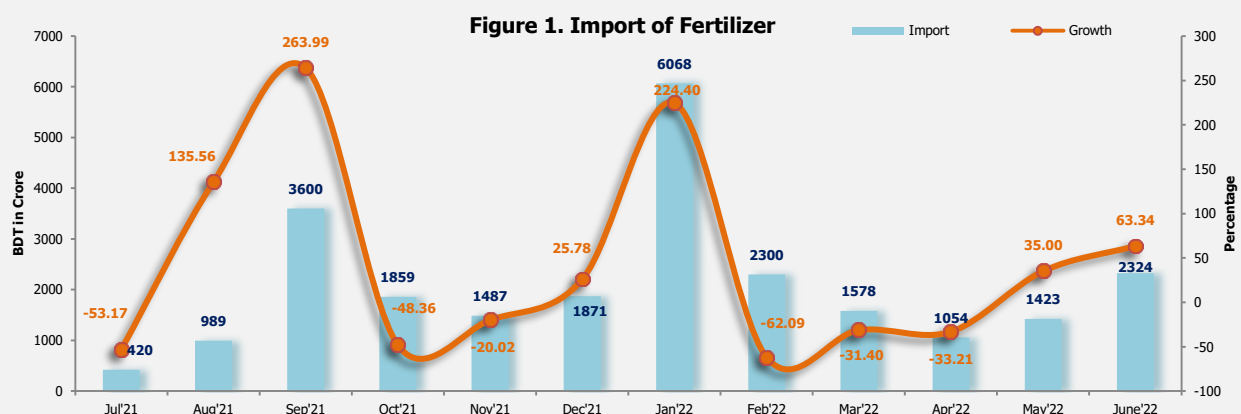
Source: FFM, Ministry of Agriculture (Ministry of Finance, 2022)

\*Up to February 2022 AS=Ammonium Sulphate; SSP= Single Super Phosphate

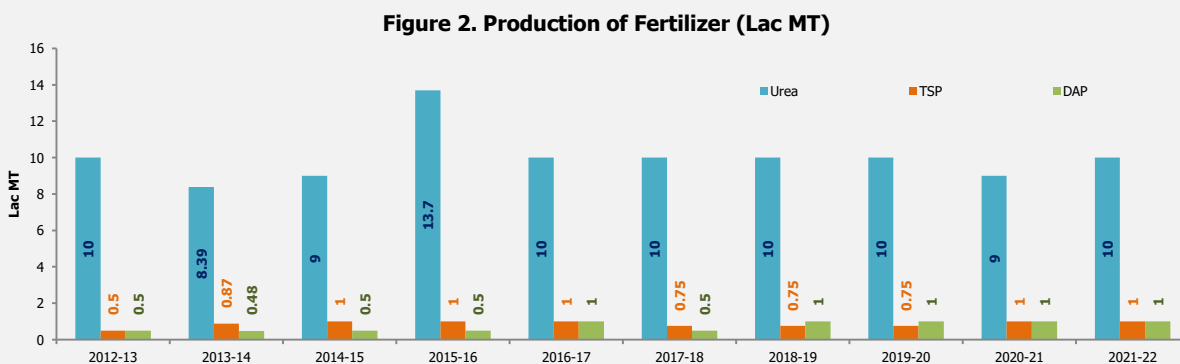
Chemical fertilizer is a part of modern agriculture and cannot be imagined without it. According to Bangladesh Fertilizer Association (BFA) and USDA 2022, the annual demand in Bangladesh for chemical fertilizers is about 6 million metric tons. However, recent global and national economic changes are affecting the supply and production of fertilizers, raising the challenge of ensuring food security in the future. Thus, an alternative solution could help to meet the crisis.

## Challenges of the Fertilizer Industry

**Import Statistics and Price:** During the two-year-old Covid-19 pandemic, the international market for importing chemical fertilizers had doubled in price. After the war between Russia and Ukraine, the global economy got affected, which intensified the impact on underdeveloped and developing countries like Bangladesh. The dollar price appreciated against major currencies worldwide, and BDT depreciated, further hurting the nation's imports. The import growth in FY2022 experienced frequent fluctuation due to war. There was a supply shortage, and production also declined during this time. The inflation at the national and international level, increased fertilizer price, national energy crisis, fuel prices hiked up to 51.7%, regular load shedding, etc., is creating havoc in the industry. There had been fluctuations in the fertilizer import over the past FY2022.



Source: Bangladesh Bank (2022)



Source: Bangladesh Fertilizer Association (2022)

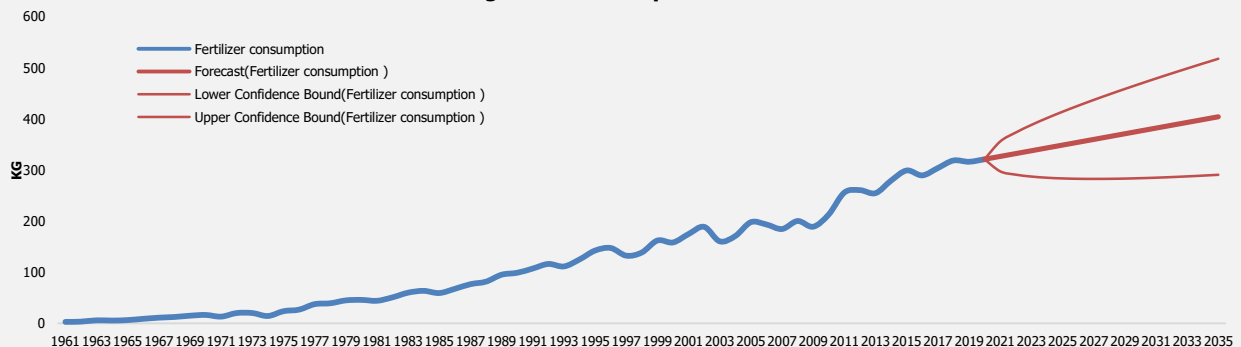
Moreover, Russia is the key export country of MOP to Bangladesh, and around 7.50-8.00 lac metric tons of MOP fertilizer are required yearly. Thus the war had a significant impact on the import of the product. The country imports 40% of MOP fertilizer from Russia and 20% from Canada, and some from Belarus. Besides MOP, TSP and DAP fertilizers are also imported from Russia (USDA Foreign Agricultural Service, 2022).

Additionally, the nationwide gas crisis is disrupting the manufacturing sector in Bangladesh and the fertilizer industry is also included. These interruptions can create a supply shortage causing higher domestic chemical fertilizer prices. Thus, the farmers will also reduce cultivation or be indifferent to cultivating agricultural lands due to increasing the cost of production and making less profit not to get the accurate price of their agricultural products. Recently, there has been a conflict between the Myanmar and Bangladesh border, which might increase the possibility of imports being hurt. However, government support and subsidies had been helping the farmers beforehand, and further government support might help mitigate this impact on the agro sector.

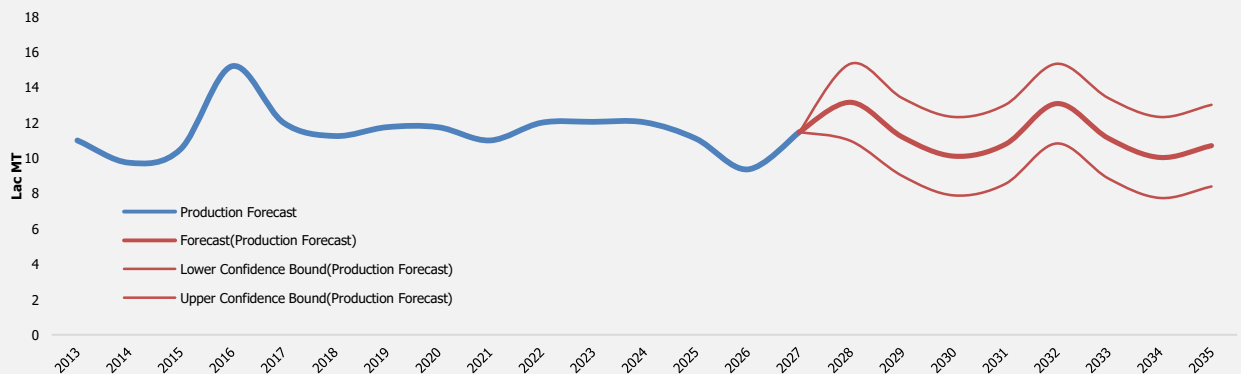
### Fertilizer Production and Import Forecast

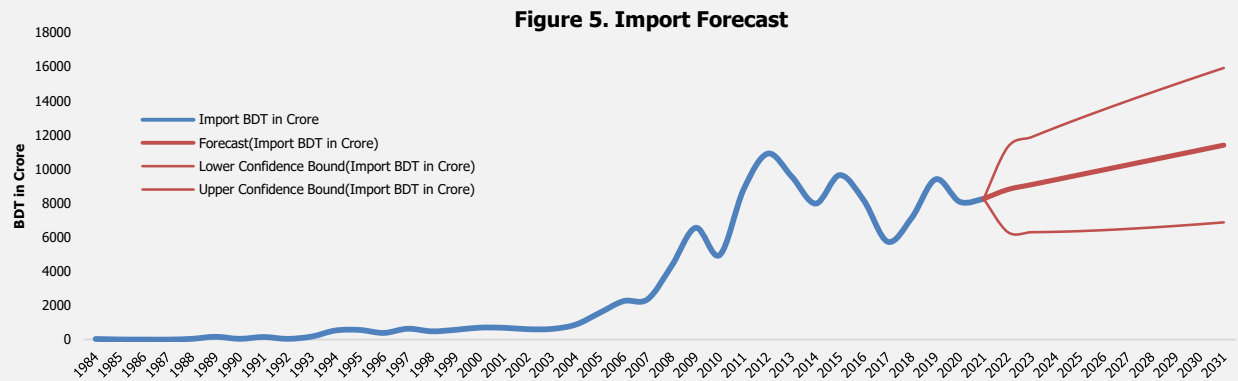
This study forecasted chemical fertilizer production and consumption units for the next ten years using yearly data from Bangladesh Fertilizer Association and assuming all other factors were constant (Bangladesh Fertilizer Association, 2022). The result showed that fertilizer consumption would increase slowly within the upper and lower confidence bounds. The production forecast will experience some fluctuation with steady movement. The result came out with 95% confidence interval accuracy.

**Figure 3. Consumption Forecast**



**Figure 4. Production Forecast**





This study also took Bangladesh Bank's fertilizer import data since 1984 (Bangladesh Bank, 2022). Figure 5 shows instability in fertilizer import as per past data, and the forecast displayed an increasing trend in the next ten years. However, other external factors and confounding variables can significantly impact the import or production, which might change the outcome.

## Conclusion and Recommendation

Although European Union agreed to allow the trading of grains and fertilizer from Russia, the case may change due to unrest. If the turmoil continues, it will be a challenge for all, which is now one of the major concerns for the country's comprehensive and sustainable economic development. These conflicts have a slower solution, but the food crisis needs to be met with immediate action. Therefore, government support and policies to increase organic fertilizer production is a long-term sustainable solution that will increase the fertilizer supply, and we will not have to depend entirely on imports. This is a possibility for decreasing dependence on chemical fertilizer and increasing the use of organic fertilizer, which will also increase soil quality and be a healthier alternative to soil fertility.

## Bibliography

Bangladesh Bank. (2022). *Bangladesh Bank*. <https://www.bb.org.bd/en/index.php>

Bangladesh Fertilizer Association. (2022). *BFA Statistics*. [https://www.bfa-fertilizer.org/?page\\_id=4598](https://www.bfa-fertilizer.org/?page_id=4598)

Department of Agricultural Extension. (2020). *Department of Agricultural Extension*. <http://www.dae.gov.bd/site/page/d3b65ada-99a0-429b-bc86-437dd722ec52/http%3A%2F%2Fwww.dae.gov.bd%2Fsite%2Fpage%2Fd3b65ada-99a0-429b-bc86-437dd722ec52%2FDealers-%26-Retailers>

Ministry of Finance. (2022). *Chapter Seven, Agriculture*. Ministry of Finance. [https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fabb\\_29c1\\_423a\\_9d37\\_cdb500260002/16\\_BER\\_22\\_En\\_Chap07.pdf](https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/f2d8fabb_29c1_423a_9d37_cdb500260002/16_BER_22_En_Chap07.pdf)

USDA Foreign Agricultural Service. (2022). *Bangladesh: Russia-Ukraine War Impact on Fertilizer Supply and Use in Bangladesh*. USDA Foreign Agricultural Service. <https://www.fas.usda.gov/data/bangladesh-russia-ukraine-war-impact-fertilizer-supply-and-use-bangladesh>

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