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## *A perspective*

# Big Boro rice harvest during COVID-19 pandemic: an optimism for resilient rice system in Bangladesh

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## **ABSTRACT**

The 'big Boro rice harvest' in 2021 amidst the COVID-19 pandemic has created new optimism for a resilient rice system in Bangladesh. Boro rice (dry season rice) has appeared as the strategic crop in sustaining resilience in the national rice system and food security with a steady rise in production trend. However, the prospect of Boro rice has been challenged by a myriad of factors such as changing climate, hydrological regimes, value-chain and crop diversification. Any unexpected production loss of Boro rice might bring about a big setback in total food security. Therefore, holistic policy planning and research supports, strong value-chain, efficient procurement system and, farmer's capacity development have been suggested to sustain the production trend of Boro rice in the year to come.

**Key Words:** Boro rice, Covid-19, Resilient rice system, Policy lesson and Rice harvest

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## **I. Introduction**

A resilient rice system is a strategic priority for the food and nutrition security in Bangladesh (Timsina et al., 2018). Rice alone plays a vital role in ensuring the food and nutrition security of more than 165 million rice-loving population (Kabir et al., 2020). Annual per capita rice consumption is still the highest in the world (Salam et al., 2019). The availability of rice at an affordable price has always been a critical factor for peace, stability, and socio-economic development in Bangladesh (Kabir et al., 2015).

In the wake of the COVID-19 pandemic in March 2020, policy concern for food security escalated globally, sensing the impending disruption in production, value chain and trade (Mobarok et al., 2021). On-farm activities, postharvest processing and manufacturing, trade and distribution, retail market, and regulatory processes were affected by COVID-19. A dream for 'zero hunger' by 2030 faced a

gigantic hurdle due to the pandemic situation. With an unexpected global deadlock, a big concern for a steady rice supply has frustrated the rice farmers, consumers, and policymakers (Kathiresan et al., 2020).

Two consecutive bumper harvests of Boro rice (dry season rice), which is the central pillar of rice security in the country, have pacified the rice security concern nationally and internationally. The highest ever Boro rice production of 20.7 million tonnes in 2021 is a big step towards a resilient rice system in Bangladesh (MOA, 2021). When the first lock-down in March 2020 was imposed countrywide, Boro rice was at the flowering stage. A deep uncertainty spread over the successful harvest of the main rice. However, farmers in Bangladesh presented a good harvest braving the pandemic, lock-down, and disaster (DAE, 2020). With a good Boro rice production in 2020, Bangladesh graduated to 3<sup>rd</sup> position in the rice world, sitting next to China and India (USDA, 2020). However, the Aus and Aman rice in 2020 faced usual monsoon flooding, and the production target was not achieved. At the end of 2020, the domestic rice stock and the retail market price of rice started to be volatile again. A successive big Boro production became necessary to stabilise the domestic rice supply. Rice farmers were once again assigned with a big responsibility to produce more rice in the Boro season.

Finally, Bangladesh has been able to achieve a big Boro rice harvest in 2021. The concern over food security until December has disappeared. While the economy is diminishing, the value-chain is trembling, GDP is shrinking, the market system is falling - the heroic rice farmers have braved the pandemic and presented golden news from the golden paddy field.

## II. Resilience rice system

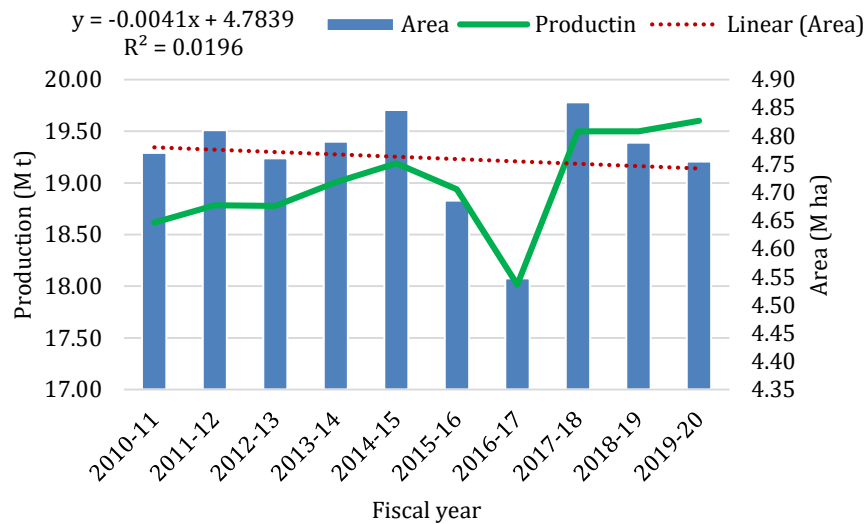
The resilience of the food system is considered in terms of its capacity for eradicating weaknesses and dealing with future uncertainty, including disruptive shocks, taking a holistic perspective over the complexity of such systems (Tendall et al., 2015). In Bangladesh, a resilient rice system is critically important to ensure food security and socio-economic stability. A steady supply of rice at an affordable price is a policy concern. Domestic production, healthy public stock, a steady distribution system and efficient value-chain and market are important considerations for maintaining resilience. A big import from the international market is not a good option for the country's economy and domestic and international rice market. The present status of resilience is not comfortable and might be challenged in the near future. Due to procurement failure in the last two consecutive rice seasons, government food stock stood at a critical level. The Ministry of Food had to import more than one million tonnes of rice from the international market. Therefore, the prime focus should be given to resilience in domestic production.

## III. The trend in Boro rice in recent years

COVID-19 pandemic years (2020 and 2021) have experienced a very good Boro rice production (Figure 01). In 2021, Boro rice production has reached the highest ever level (20.8 million tonnes), 6 % higher than in 2020 (MOA, 2021; USDA, 2021). The highest ever production growth has been achieved during the COVID-19 pandemic.

If we look at the last decade (2011-2020), the Boro rice area shows a decreasing trend (Figure 01). However, the production trend shows a steady rise except in 2016 and 2017. In 2017 the Boro rice production reduced to 18.01 million tonnes due to a flash flood in Haor basins. The national harvest of Boro rice in 2021 has crossed the line of 20 million tonnes. Boro rice yield has reached the highest ever level (4.29 t/ha) (MOA, 2021) due to favourable environmental conditions, better management, government supports and cultivation of high-yielding varieties.

The trend of last ten years and this year's production success are set to put some policy ingredients. To meet the increasing demand for rice, a steady increase in yield is essential.



**Figure 01. Area and production trend of Boro rice in Bangladesh (2010-11 to 2019-20).**  
(Source: BBS, 2019; MOA, 2021).

#### IV. The driving force behind the big harvest in 2021

During the COVID-19 pandemic, a record-breaking Boro rice production is definitely satisfying news for the farmers, consumers and the government. A favorable climatic condition at the growing and harvest stage, steady supply of inputs and farmer's motivation were the main driving force behind this good harvest. A better market price of paddy at the farmer's level was thought to be a good incentive for motivating farmers to increase rice cultivation. The market price of paddy at farmer's level was BDT 20000 to 25000 per tonne, which is 40% higher than the pre-COVID-19 age (DAM, 2021). Due to the reduced mobility of farm labour to urban areas, there was a good availability of labour in villages this year. During COVID-19 pandemic, many jobless urban returnees deployed themselves in farming activities in their ancestral home. The government was more cordial to support rice farmers with subsidised inputs and farm machinery, available credit and support price. Community participation, voluntary service and administrative support helped to harvest paddy from stressed ecosystems. During the pandemic situation, extension service providers were in farmer's field. Finally, the strong immunity of hard-working farmers kept them free from COVID-19 infection.

#### V. Why Boro rice is strategic for a resilient rice system

Boro rice has appeared as the central pillar for a resilient rice system with its rising yield and production. Boro rice contributes more than 55 % of total rice production (BBS, 2019). Modern rice farming technologies, high-yielding varieties, and groundwater irrigation facilities have significantly improved Boro rice since 2000 (Jamal et al., 2021). The rising cultivation of hybrid rice varieties has also promoted the total production of Boro rice.

On the other hand, the national area and production trend of Aman and Aus rice almost flat for the last 10 years (BBS, 2019). Aman rice usually faces flood, submergence, tidal surge and other climatic extreme events. A significant increase in yield and production of Aman rice is difficult. Despite policy supports and incentives, the prospect of Aus rice is still not optimistic. The prospect of further increase of Boro rice area is unrealistic. Therefore, increasing yield is the only option to increase total production. However, the yield potential of Boro rice is uncertain due to different stresses and challenges in rice ecosystems. More than 50% of Boro rice comes from the low-lying Haor basins, drought-prone Barind track and salinity affected coastal zone (BBS, 2019). Draw-down of groundwater in the Barind track will potentially impact the irrigation intensive Boro rice production (Mainuddin et al., 2014). Cultivation of water luxuriant Boro rice in water-scarce south-west coastal Bangladesh is not feasible hydrologically or economically (Rahman and Islam, 2018).

Nearly two million tonnes of Boro rice harvest from Haor basins is very uncertain due to flash floods. In 2017, reduced production due to flash food created an inevitable situation to import 3.4 million tonnes of rice from the international market (BER, 2019).

In the last five years, the average Boro rice area was 4.76 million ha, and there is minimal scope to increase the area under Boro rice. Due to the diversification and intensification of high-value non-rice crops, the Boro rice area is likely to be reduced gradually. Now, it is high time to think critically at the policy level about how to sustain the increased Boro rice production.

## VI. The policy lessons for a resilient rice system

Behind the big harvest festival celebration, we must be very cautious about policy planning for the resilient rice system in the future. Bangladesh must formulate a holistic policy for increased yield to achieve the 45 million tonnes rice production target by 2050. A resilient rice system in Bangladesh always bears unique policy implications. A Boro rice production shock of more than 10% due to any reason might result in a devastating crisis and market anarchy in the country. Access to soft credit in the state-owned bank is still limited for rice farmers. Highly risky farming business is still uninsured in Bangladesh. Many small farmers are getting marginalised with the ominous impact of the capitalistic market. Many rice farmers are compelled to quit their ancestral cultivation; deprivation of rice farmers due to continuous income loss pushing them towards alternate farming and livelihood activities. To ensure the price justice of 13 million rice farmers, a farmer-friendly rice procurement and value-chain policy are essential now. Without the magical touch of 13 million rice farmers, the dream for a resilient rice system will be imaginary indeed. Therefore, we must take all necessary steps to keep the rice farmers in the rice field with price justice, recognition and supports.

## VII. Conclusion

The COVID-19 pandemic has been a wake-up call for thinking on supply chains and the resilience of the future food system. COVID-19 has strongly justified the need for keeping smallholder rice farmers in farming activities. The land heroes once again proved their heroic role in food security. Smallholder rice farmers are the major part of rice systems in Bangladesh. COVID-19 crisis could trigger the development of a resilient food system in response not only to future pandemics but also to the sustainable development of agricultural systems in Bangladesh.

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