

# An Evaluation of G-33 Proposal of Public Stockholding for Food Security in the Least Developed Countries: A Case Study on Bangladesh

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## ABSTRACT

**Purpose:** This study evaluates whether food security is a genuine case for public stockholding of rice in Bangladesh and whether the country should make the most of the G-33 proposal as an eligible signatory.

**Research Methodology:** Using a qualitative research approach with descriptive statistics, this study analyses Bangladesh's food security, food self-sufficiency, existing public stockholding policy, and the potential impact of public stockholding of rice on production, market prices, and agricultural trade of Bangladesh.

**Findings:** The findings show that Bangladesh is still positioned at the "serious" hunger level and could not achieve sustainable food self-sufficiency. At various crises, Bangladesh relies on the international market to supplement the required amount of rice, which justifies its rice stockholding for food security. Therefore, this study finds a legitimate ground for Bangladesh to exceed the current *de minimis* limit set under the AoA and use the provisions of the G-33 proposal only as an interim solution.

**Practical Implications:** This study outlines the legitimate ground for adopting the G-33 proposal of public stockholding for food security in Bangladesh.

**Originality:** This study also extends the theoretical base of the G-33 proposal for Least Developed Countries (LDCs), which are currently non-signatory of this proposal but requires more government support for food security in the country.

**Limitations:** More in-depth research is required to quantify Bangladesh's new *de minimis* limit if the country wishes to adopt the G-33 proposal as an interim solution.

## 1. Introduction

Until the Uruguay Round of General Agreement on Tariffs and Trade (GATT), agricultural trade relentlessly declined by greater than before domestic subsidies, deteriorated world market prices, accumulated stocks, and increased domestic support's costs (Tanner, 1996). Consequently, the Agreement on Agriculture (AoA) was established in Uruguay Round to liberalize the agriculture trade by promoting a fair trade system, reforming domestic trade policy, and reducing trade-distorting agricultural support and protection (Nakuja, 2016). The reform suggested in the AoA covers three main areas- market access, export subsidies, and domestic support. The AoA limits subsidies and other support programs in domestic support by classifying those into three major "boxes"- red, amber, and green. However, a group of 33 developing countries (hereinafter "G-33") led by India urged additional flexibility in the World Trade Organization's (WTO's) rules of agriculture, which incorporate three components (Hepburn & Bellmann, 2013). The first component proposed the inclusion of an extra sub-category for land reform, poverty alleviation, and rural livelihoods programs beneath the existing category of 'general services' within the green box, the

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second component proposed excluding food purchases at administered prices from the maximum permitted subsidy limits for a developing country at the WTO if it is part of the public stockholding program for food security, finally, the third component relates to a footnote to the requirements on food stockholding and domestic food aid (Hepburn & Bellmann, 2013). These components of the G-33 proposal contradict the core principles of WTO and open scope for further trade distortion.

The Aggregate Measurement of Support (AMS) in AoA is one such trade-distorting domestic support, classified under the amber box. The AMS expresses the yearly monetary value of the product-specific and non-product-specific domestic support provided to the producers of the primary agricultural product in a member country. According to AoA, the AMS limit is 5% of the country's agricultural GDP for developed countries and 10% for developing countries, known as *the de minimis* ceiling. However, G-33 countries argued that it is difficult for developing countries to be confined within the *de minimis* ceiling during public stockholding for food security. Therefore, the G-33 countries, in their proposal, urged an amendment in the AoA so that the public stockholding would not be challenged even if developing countries breached the agreed *de minimis* limit. However, this component of the G-33 proposal became controversial as others, especially the developed countries, argued that such an amendment might weaken the WTO rules regarding free trade. Therefore, in the Bali Ministerial Conference in 2013, G-33 countries were permitted to stockpile for food security purposes as an interim solution, but members also agreed to negotiate and find a permanent solution to this proposal. Since then, G-33 countries have been exceeding the *de minimis* limit to stockpile for food security, which argues whether other developing and LDCs should consider the provisions of this G-33 proposal if food security is a genuine case for public stockholding of staple food in those countries.

In this regard, Bangladesh could be an interesting study point. Bangladesh is currently listed as a LDCs in WTO but at the final stage of graduation from LDCs under the criteria set by the United Nations (Rahman, 2021). Further, Bangladesh is one of the five fastest-growing economies globally, moving fast towards a lower-middle-income country with a current growth rate of 8.15% (World Bank, 2021). Therefore, Bangladesh best represents the emerging LDCs eligible to be included in the extended G-33 countries as developing and LDCs. Moreover, agriculture symbolizes the lifeblood of Bangladesh, like many other agrarian economies (Bishwajit et al., 2014). Currently, agriculture accounts for nearly one-sixth of the national GDP and half of the total employment for Bangladesh, with appreciably high rates for females and residents in rural areas (World Bank, 2021). Additionally, the country uses a significant portion of its arable land for rice production as it is the primary staple food of the country (BBS, 2018). At present, Bangladesh is the third-largest rice producer globally (FAO, 2021). However, a continuous decrease in arable land, a higher rate of natural disasters, and a large population with an increasing growth put the country's food security in a challenge. To ensure price stability, offer fair prices to procure, and provide grains to social safety net programs, Bangladesh actively builds public stocks of rice through domestic procurement and necessary imports (OECD, 2018).

Therefore, this study considers Bangladesh in its research scope as a representative of other developing and LDCs, which are eligible to be included but are not currently signatories of the G-33 proposal. This research further aims to evaluate whether food security is a genuine case for public

stockholding of rice in Bangladesh and whether the country should take advantage of this G-33 proposal. In this regard, this study questions whether food security is a genuine reason to support the public stockholding policy of Bangladesh. Besides, this study also questions whether Bangladesh should join the group of countries which made the G-33 proposal to WTO or instead promote free and fair agricultural trade without any increment to trade-distorting government support. To get answers to these questions, this study set its objective to evaluate the country's food security status, food self-sufficiency status, agricultural production of rice, producers' and consumers' prices of rice, agricultural trade values of rice, and the potential impact of public stockholding rice on national and international contexts.

The findings of this study have several implications. It sheds light on the existing knowledge of the G-33 proposal of public stockholding for food security in developing and LDCs which are not currently signatories of the G-33 proposal. Besides, it also discusses the potential impacts on production, consumption, and trade of national staple foods in those countries and the scope of offering AMS more than the usual limit suggested in *de minimis* ceiling. This study also evaluates the country's food security and food self-sufficiency status to evaluate whether food security is a genuine case for public stockholding in the country and whether it justifies allowance of AMS more than the agreed *de minimis* ceiling for the member countries of WTO. Therefore, this study also notably contributes to trade policymaking at local, regional, and global levels. The advocates of free trade are expected to find insights, whether this interim solution of the G-33 proposal should continue for a more extended period by member countries who are facing severe challenges in food security or a permanent solution needs to be adopted to the G-33 proposal to restore a free and fair global agricultural trade without any trade-distorting government support.

The remainder of this paper is organized as follows. The following section presents a literature review examining the relevant scholarship on WTO AoA, its different components, the G-33 proposal, and its impact on production, consumption, and international trade. Following that, the methodology of this study is presented in section 3, which explores the research approach, data and sources, data collection and analysis techniques. Section 4 presents an analysis of this study's significant findings, followed by a discussion of relevant details in section 5. Finally, the conclusion is presented in the final section.

## 2. Literature Review

The concept of "Food Security" was first coined in the World Food Summit in 1996, which later clearly defined by the Food and Agriculture Organization (FAO) as "the access for all people at all times to enough food for an active and healthy life" (FAO, 1996). Since then, food security has usually been assessed on four interrelated dimensions: physical availability of food, food utilization, economic and physical access to food, and stability of the other three dimensions over time. Governments can either depend on international food markets for food security or ensure local production and stockpiling with a food self-sufficiency policy (Caballero-Anthony et al., 2015). However, due to limited support from international markets in crisis periods like World War I and II and the 2007-2008 food price crises, public stockholding of staple foods has become an essential national food policy worldwide. In addition, previous studies revealed that governments maintain

public stockholdings for emergency or humanitarian, safety net, international trade, and food security (Caballero-Anthony et al., 2015, 2016).

For food security purposes, the government maintains public stockholding by purchasing, stockpiling, and distributing essential food staples at a discounted price or free (Galtier, 2017). Therefore, such a public stockholding program requires government support, raising the debate whether these domestic supports are trade-distorting at the expense of national food security (Margulis, 2018). One such prevalent trade-distorting domestic support is product-specific AMS, where producers receive a guaranteed price for each quantity of a product (Montemayor, 2014). This price offers an incentive to the producers as it recovers costs and generates profits even if market prices fall below a certain level but threaten trade's proper functioning as government incentives might result in surplus stocks and then dumped in the international market (Margulis, 2018). Therefore, AMS is limited to 5% of the country's agricultural GDP for developed countries and 10% for developing countries due to its trade-distorting nature and categorized in amber box support under the WTO AoA.

The rule for product-specific AMS calculation considers the difference between the administered price and fixed external reference price (FERP) with the quantity of the eligible production (Montemayor, 2014). The mentioned FERP is based on the food prices of the period 1986-1988. Consequently, most countries find an overestimation of AMS when comparing the current market price of food products with that of FERP of the 1986-1988 period (Montemayor, 2014). The author also states that while the 2008 food crisis led several developing countries to increase their food stockholding and subsidy programs, such rules of AMS calculation made developing and LDCs vulnerable to comply with the *de minimis* allowance. Consequently, G-33 countries in the Bali Ministerial Conference of WTO in 2013 proposed an amendment in the AoA so that the public stockholding for food security would not be challenged even if developing countries breach the agreed *de minimis* limit. G-33 was initially formed in 2004 as an alliance for Strategic Products (SP) and Special Safeguard Mechanism (SSM) and now has 47 member countries.

The G-33 proposal of public stockholding for food security immediately raised many disputes among members. While G-33 countries argued that stockholding for food security is necessary for nations because exporting countries create barriers to food exports during the crisis times, keeping the importing countries in crisis, exporting countries oppose the policy, arguing that such initiative will increase the level of subsidies to the producers in importing countries and distort the international trade (Nakuja, 2018). Few other developing and developed countries skeptically argued that such a level of domestic support could even undermine food security and rural employment in non-participating countries of this proposal (Montemayor, 2014). Therefore, due to this dichotomy among the WTO member countries, the developing and LDCs were permitted to breach the agreed *de minimis* limit of stockpiling only for food security purposes. Although this amendment does not comply with WTO's core principles, it has been offered an interim solution until the permanent solution is reached.

Several researchers further explored the legitimacy and impact of the G-33 proposal on participating countries and international trade. Nakuja (2016), in a holistic approach, explored three

crucial issues regarding trade policy, food security, and public stockholding in developing countries. The author first explores the necessity of public stockholding in developing countries by examining market response speed to consumption shocks. The author advocates for public stockholding programs as a legitimate policy in developing countries as the study found that more than 50 percent of food consumption distortions cannot be restored by relying on international markets in the event of a shock. In the second phase, the author explores whether or not the current *de minimis* rules on public stockholding constitute a restriction to food security in developing countries. The study demonstrates that the current *de minimis* AMS policy is restrictive on stockholding for food security. Consequently, the author advocates for expanding the regulation to enhance stockholding in selected countries.

Nakuja (2016) finally explored the impact of public stockholding of developing countries on international trade. The author shows no objection to the stockholding policy of small countries as the study found a relatively small impact of stock acquisition for small consumption countries on international trade. However, the study shows concern over stock disposal as it could significantly decrease international trade. Therefore, governments should accurately evaluate the potential impact of public stockholding policies from both domestic and foreign perspectives (Caballero-Anthony et al., 2016). Caballero-Anthony et al. (2016) classified the possible impact of public stockholding into domestic and international magnitudes. In domestic implications, public stockholding creates a fiscal burden, intensifies food losses and inefficiencies, and reduces the incentive for food diversity in production. Besides, the authors demonstrated a potentially vicious cycle of stockholding policies to explain its spillover effect on international trade. According to this cycle, the stockpiling decision of a country immediately put an additional demand for that food in the international market, leading to further price escalation, higher volatility, and the threat of not securing common stocks on time.

Therefore, the consequences of public stockholding are not straightforward. The impact of stockholding also spills over to the productions, prices, employment, and trade of other countries. Consequently, selected countries should be examined to find the impact of their public stockholding policies on both domestic and international markets. A developing country that would like to take advantage of the interim solution of the G-33 proposal should adopt public stockholding only if there is a legitimate justification for food security. Developing and LDCs with increasing production of staple foods, access to the international market, and ability to purchase at competitive world price should not rationalize its domestic support exceeding the agreed *de minimis* limit for public stockholding program with food security clause. Hence, there is a scope for further research to evaluate the public stockholding program of selected developing and LDCs to see whether currently, eligible but non-signatory countries should make the most of this G-33 proposal if food security is a genuine case for public stockholding of staple food in those countries.

Bangladesh, the representative of other developing and LDCs in this study, has public stockholding policy for rice, which is the country's primary staple food. Despite its ever-increasing annual rice production, the country is at risk of a severe food security crisis (Bishwajit et al., 2014). Bangladesh stockpiles a targeted amount of rice through both local procurement and stock acquisition from the international market. The local procurement allows producers a guaranteed price for each quantity of a product that directly matches the AMS support measure of WTO AoA (Montemayor, 2014). Therefore, AMS is limited to 10% of the country's agricultural GDP as

Bangladesh is not a member of the extended G-33 countries. However, Bangladesh has the scope to take advantage of the interim solution proposed on G-33 proposals and exceed the agreed *de minimis* limit of public stockholding for food security purposes. Such an initiative can only be justified if food security is found a genuine case for public stockholding of rice in Bangladesh. This study sheds light on this research scope.

### **3. Methodology**

This study adopts a qualitative research approach which is beneficial to scrutinize a phenomenon, reality, or meaning and get a comprehensive understanding of future conclusive research (Creswell & Creswell, 2017). This approach also explains a real-life setting more meaningfully using a descriptive and non-numeric method. Besides using an analytical method, this study is descriptive research, which describes the legitimate ground of adopting the G-33 proposal of public stockholding for food security in Bangladesh and its potential impact on production, price, and international trade. Additionally, this study analyzed the composed data and context using descriptive statistics, articulating the findings of the previous studies and cases to support the arguments.

Data has been gathered on the food security and its components, hunger level, and current public stockpiling policy of the country to determine the food security status of Bangladesh and its legitimacy to adopt the G-33 proposal. In addition, data is also collected regarding agricultural production to find the food self-sufficiency status of Bangladesh concerning its food security. As rice is the main crop for nutrients in Bangladesh, this food is usually stockpiled for food security. Consequently, data are composed of the production volume, producer and consumer prices, and agricultural trade value to find the potential impact of public stockholding of rice on the aspects mentioned above. Besides, these data are sourced from the online databases of the WTO, Global Hunger Index (GHI), Global Food Security Index (GFSI), World Bank, United States Department of Agriculture (USDA), Ministry of Food (MOF) of Bangladesh, Trading Corporation of Bangladesh (TCB), and previous studies on this field.

### **4. Analysis**

To achieve the aim of this study, this section systematically explores the food security and food self-sufficiency status of Bangladesh, the food stockpiling policy of Bangladesh, and the potential impact of public stockholding of rice for food security on domestic production, market prices, and international trade. The food security and food self-sufficiency status and the current food stockpiling policy would justify the need for public stockholding for food security in Bangladesh. In contrast, assessing the potential impact of such public stockholding would justify whether Bangladesh should capitalize on the interim solution offered for the G-33 proposal. The next section states the relevant discussion and policy implications based on the major findings of the study.

#### **4.1 Food Security, Food Self-sufficiency and Food Stockpiling Policy in Bangladesh**

The GFSI is a unique country-level measurement tool for food security for 113 countries worldwide. This index considers affordability, availability, quality and safety, natural resources and resilience across developed and developing countries. The availability category evaluates factors that influence

food supply and the ease of access. In contrast, affordability measures the capacity of people to pay for food and their ability to cope with food-related price shocks. In addition, the quality and safety category considers the assessment of poverty and issues of access and supply, explores the nutritional quality of average diets and the food safety environment in the country. Finally, the natural resources and resilience category, which was first introduced into the GFSI in 2017, measures the country's exposure to the impacts of a changing climate, its susceptibility to natural resource risks, and how the country is adapting to these risks, all of which impact the frequency of food insecurity in the country.

The GFSI ranks a country among all 113 countries as well as in regional context. According to the GFSI 2020, Bangladesh stands 84<sup>th</sup> among the 113 countries and 23<sup>rd</sup> in the Asia Pacific, with an overall score of 50 out of 100. This recent score shows 1.6 points and 1.9 points decrease from the previous two consecutive years, which was 51.6 in 2019 and 51.9 in 2018. In individual categories, Bangladesh has a better position only in availability (36<sup>th</sup> among the 113 countries), while in affordability stands at 84<sup>th</sup>, in quality and safety it stands at 104<sup>th</sup>, and in natural resources and resilience it stands at 107<sup>th</sup>. However, Bangladesh stands below the global average in each of these four categories. Further, scrutiny reveals that Bangladesh scored the lowest points of 35.8 in the natural resources and resilience category. The country earned only 48.3 points in food safety net programs, marginally below the global average. The GFSI also shows that 52.9 percent of Bangladeshi people live under the global poverty line.

Severe hunger level in the country also affects the country's food security and requires necessary corrective measures to reduce both hunger and food insecurity in the country. The GHI of 2018 states that though global hunger and undernutrition had decreased gradually over the last two decades from a GHI of 29.2 in 2000 to 20.9 in 2018, such progress has been unequal at the country level. Using four indicators- undernourishment, child wasting, child stunting, and child mortality, GHI ranks countries to raise consciousness and acknowledge the struggle for food security and against hunger. According to the 2020 GHI, worldwide hunger is moderate, with significant challenges in particular regions, countries, and communities. In the 2020 GHI, Bangladesh ranks 75<sup>th</sup> out of the 107 countries with a score of 20.4 out of 100, where a higher score indicates the severity of hunger. In the last two decades, Bangladesh has progressively reduced its hunger level from a GHI score of 34.1 in 2000 to 20.4 in 2020. However, Bangladesh remained within the 'serious' level of hunger categorized by GHI throughout this period.

This study further explores Bangladesh's current food stockpiling policy to justify public stockholding for food security in the country. Rice is the most important agricultural commodity in Asia based on its production, consumption, and trade. Consequently, food security in this region is often equated to rice security (Caballero-Anthony et al., 2016). Rice is also the primary staple food of Bangladesh, which supplies around 66% of the total calorie needs and 50% of the protein intake required for an average person in the country (BBS, 2018). Therefore, Bangladesh maintains public stockholdings of rice for food security, whereas other countries maintain public stockholdings for emergency or humanitarian, safety net, and international trade purposes (Caballero-Anthony et al., 2015, 2016). The USDA GAIN report states that according to the Ministry of Food (MOF), at the end of April 2021, Bangladesh has a rice stockpile of 0.4 million metric tons (MT), which is approximately 70 percent lower than the same time of last year, whereas it was 1.53 million MT at

the end of July 2019 (Hossain, 2021; Mahmud, 2019). The stockpile of rice to an expected level is essential to maintain the country's food security. Therefore, Bangladesh's stockpiling policy requires immediate actions to actively build public stocks of rice through domestic procurement and necessary imports (OECD, 2018).

#### **4.2 The Potential Impact of Public Stockholding of Rice on Production, Prices and Trade**

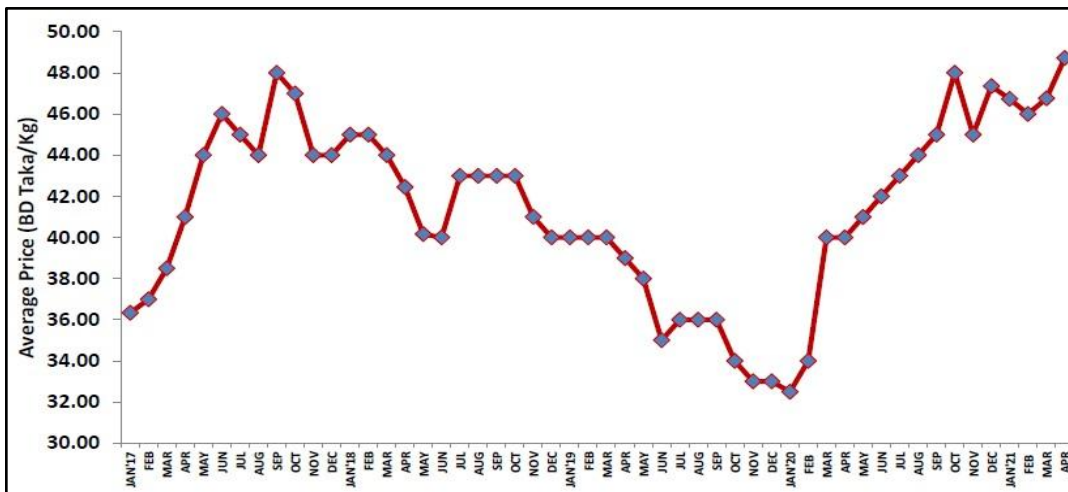
First, in terms of production, rice is cultivating all over Bangladesh as the essential staple crop and currently accounts for near to 90% of the domestic food grain production (Hossain, 2021). Rice production in Bangladesh has increased gradually since its independence with few exception years, starting from only 10 million MT in 1972-73 to nearly 35 million MT in 2014-2015 (BBS, 2018). Over this period, the gross arable land for rice production was relatively stable, around 10 million hectares (HA). Consequently, the average yearly yield rate goes up from nearly 1 MT per HA in 1972-73 to 3 MT per HA in 2014-15 (BBS, 2018). Moreover, Bangladesh also ranked fourth in the world for the highest annual average rice production during 2012-2017 (USDA, 2021) and became the third-highest rice producer globally in the most recent year of 2020 (FAO, 2021). Despite this positive growth, the ever-increasing population with limited arable land creates strong domestic demand, driving market prices upwards, and putting the country's food security in a challenge.

To increase rice production and ensure an expected level of stock for food security, the government encourages producers towards hybrid and high yield varieties (HYV) of rice production (Hossain, 2021). Adequate and timely irrigations, sufficient hybrids and HYV seeds and fertilizers, favorable weather conditions, and other government support programs also contribute to the government's effort towards greater production, price reduction, and public stockholding. However, Bangladesh often imports a significant amount of rice from the international market to supply an adequate level of staple food in the country. Liberal import policy encourages private suppliers to procure rice from the international market instead of procuring at an uncompetitive local price, which nowadays encouraging local farmers to shift production to other competing crops such as potato, corn, vegetables during the winter season, creating additional pressure on country's food security efforts (Mahmud, 2019). Therefore, despite the increasing production, Bangladesh neither could produce the required amount of rice nor stockpile the required quantity for its food security. Instead, food insecurity drives the country's rice production to an unfavorable situation.

Second, in terms of market prices, the public stockpiling policy of rice for food security in Bangladesh cannot offer a uniform direction towards price movement. While in a recent couple of years, the public stockpiling policy for food security has weakened the domestic price of rice in Bangladesh (Ahmad, 2019), it has been changed to the opposite once the COVID-19 pandemic took place. The COVID-19 and its accompanied lockdown measures and different speculations in the market related to this pandemic instigated individuals to stock rice at the personal level, which further drives domestic prices upward (Hossain, 2019). After one year of the COVID-19 first appearing in Bangladesh, the retail coarse rice prices reached TK. 48 per kilogram (KG), nearly 22% higher than the same month of 2020. Figure 1 shows that while the retail price of coarse rice decreased gradually in the past two years, it received a solid upward momentum at the beginning of COVID-19 in March 2020, which continued to an ever highest peak in 2021. Therefore, Bangladesh is still clearly unable to manage various crisis periods with its current rice production and



stockpiling policy. As a result, it cannot also offer an affordable price for staple foods to its consumers.



**Figure 1.** Monthly average retail prices of coarse rice in Bangladesh. Source: TCB, Adapted from Hossain (2019)

Additionally, the market price does not ensure the best rewards to individual producers at both lower and higher retail prices of rice. Consumers might be benefitted from lower retail prices as it increases affordability and accessibility, but producers suffer most. The government support in terms of payment mostly goes to the middleman, millers, and seasonal rice trades who collect crops from farmers below the government-specified rate (Ahmad, 2019). While some argued that the higher prices provide greater returns to producers, the producers are also facing increased costs of labor, seeds, fertilizers, and irrigation, which ultimately turned to limited profit for them. Therefore, current government efforts towards public stockholding of rice seem inadequate to provide fair price and production incentives to the producers, which further instigate food insecurity in the country.

Third, in terms of trade, Bangladesh mostly depends on the international market for rice imports rather than exports to cover its shortage in rice supply. The country still could not achieve a position of regularly exporting rice to the international market. While the neighboring country India with a similar climate and geographical features, stands the second-largest rice producer in the world and contributes more than 25% share of global rice export (USDA, 2021), Bangladesh being the third-largest rice producer in the world, frequently imports rice from the international market to stockpile the necessary amount. In Bangladesh, food self-sufficiency is not sustainable, and production is sometimes interrupted by natural catastrophes. Therefore, Bangladesh often adjusts its trade policy to support its stockholding policy for food security. In this connection, to combat the food security crisis in 2017 caused by devastating floods and incoming Rohingya refugees from Myanmar, Bangladesh adopted the most liberalized import policy ever to combat the food security crisis. Such a policy increased the bargaining power of private traders who find it profitable to procure rice at a lower international price instead of procuring those from local farmers. Then again, to solve this negative consequence, the government intervened in the free trade by imposing an import tariff of

55% and a regulatory duty of 25% in July 2019 (Ahmad, 2019), which have been relaxed to some extent in the most recent time to overcome the price hike due to COVID-19 pandemic.

## 5. Discussion

The GFSI and GHI collectively show that Bangladesh still ranks below the average level of food security globally with a 'serious' hunger in the country. Consequently, government food policies are directed towards improving food security and reducing hunger. As rice is the leading staple food in Bangladesh, public stockholding of rice is already channeled in its domestic policy for food security. Besides, since independence, Bangladesh also enacted self-sufficiency in rice for food security in its agricultural development policy. The gradual yearly increase in rice production, primarily facilitated by domestic government support, helped Bangladesh achieve rice self-sufficiency in 2012 (FAO, 2016). However, the sustainability of this self-sufficiency is often encountered with production losses due to natural disasters. Therefore, the country could not achieve sustainable food self-sufficiency yet. In various crisis moments, Bangladesh relies on the international market to supplement the required amount of rice, which justifies its need for public stockholding of rice for food security.

Besides, Bangladesh's consecutive deterioration of food security is caused by poor performance in ensuring dietary diversity, better use of natural resources, and implementing climate-smart agriculture (Ali, 2021). According to GFSI 2020, Bangladesh has a lower than the global average score in food quality and safety due to failure in ensuring micronutrient availability, Vitamin A, iron, zinc and quality proteins, and food safety mechanisms. In addition, the country's lowest score in the natural resources and resilience category is mainly due to its lack of political commitment to climate adaptation, land degradation, agricultural water quality, and exposure to climate change effects (Ali, 2021). Therefore, it requires an improvement in the operation of the food safety net programs, ease access of farmers to the markets, agricultural financial services, and diversified financial products to ensure food security for the large population base who are currently placed below the global poverty line. Furthermore, while Bangladesh scored highest in food availability, the country further requires ensuring an adequate supply of staple foods through infrastructure development, minimization of corruption, and improved political stability.

Because of different motivating factors, rice production in Bangladesh has steadily swelled since its independence and increased to nearly 350% until the most recent period. One of such enabling factors is domestic government support in guaranteed price and food subsidies, which must comply with the *de minimis* ceiling set under the AoA. Despite its ever-increasing rice production, Bangladesh could not achieve sustainable food self-sufficiency, and during various crises, it relies on the international market to supplement the required amount of rice. Such a situation justifies the nation's effort towards rice stockholding for food security. The trend in rice production, price, and trade in the last couple of decades show that traditional AMS does not benefit individual farmers at an expected level in Bangladesh. A revised government support program in rice production and stockpiling with necessary adjustments and priorities might change the situation in favor of actual producers and consumers. In such an effort, Bangladesh might think of exceeding the current *de minimis* ceiling set under the AoA if it helps the country achieve food security by increasing affordability and accessibility of consumers and by allowing expected monetary rewards of

producers. Therefore, this study accepts that food security is a genuine case for public stockholding of rice in Bangladesh, and the country should make the most of the G-33 proposal to ensure food security.

However, this study also contends that such a proposition is not without costs. If Bangladesh, similar to other countries of G-33, provides more supports to its agricultural productions and exceeds the current *de minimis* limit, it might distort the international trade of rice. The stockpiling decision of countries create a vicious cycle, starting with an immediate additional demand for that food in the international market and leading towards further price escalation, higher volatility, and posing a threat of not securing common stocks on time. Therefore, rather than pursuing trade-distorting domestic support for food stockholding, a free and fair trade environment with adequate supply at competitive prices may ensure food security for all countries. However, such a bold statement requires a trade environment with adequate production, often disrupted by various crises. Hence, until such a framework develops, despite the concern of other countries, as an interim solution, Bangladesh may join the G-33 proposal and build public stockholding for food security by exceeding the current *de minimis* limit.

## 6. Conclusion

Under the AMS clause of the AoA of the WTO, developing and LDCs are allowed to offer domestic support up to 10% of their agricultural GDP, known as *de minimis* limit. However, in the Bali Ministerial Conference 2013, a group of 33 countries led by India proposed an amendment to this clause. They demanded not to challenge public stockholding for food security in developing and LDCs even if they exceed the agreed *de minimis* limit. Although this amendment does not comply with WTO's core principles of free and fair trade among member countries, developing and LDCs were permitted to stockpile for food security by exceeding the current *de minimis* limit as an interim solution. As a LDC, Bangladesh is also eligible to take advantage of the G-33 proposal. Therefore, this study evaluates whether food security is a genuine case for public stockholding of rice in Bangladesh, a representative of LDCs categorized in WTO and whether Bangladesh should make the most of the G-33 proposal. Using a qualitative approach with descriptive statistics, this study analyses Bangladesh's food security, food self-sufficiency, existing public stockpiling policy, and the potential impact of public stockholding on production, market prices, and agricultural trade.

The GFSI and GHI collectively show Bangladesh is still positioned at a "serious" hunger level. Findings also suggest that the public stockpiling program affects production, prices, and trade to a varying degree, which might spill over to the international market and distorts international price and quantity. Despite its ever-increasing rice production, Bangladesh could not achieve sustainable food self-sufficiency because of frequent production losses due to natural disasters. Consequently, Bangladesh relies on the international market to supplement the required amount of rice for food security at various crisis moments. However, the allowance of rice import increases the bargaining power of private traders who find it profitable to procure rice at a lower international price instead of procuring those from local farmers, which further weakens the food security effort of the country. Besides, the government support in terms of payment to the domestic producers mostly goes to the middleman, millers, and seasonal rice trades who collect crops from farmers below the government-specified rate. Therefore, the traditional AMS does not benefit individual farmers at the expected

level in Bangladesh. Additionally, if adequate government support is not offered, food security would not be achieved as consumers struggle with food affordability and accessibility. Therefore, this study finds a legitimate ground for Bangladesh to exceed the current *de minimis* limit set under the AoA and supports the provisions of the G-33 proposal of public stockholding for food security.

This study creates important implications for both academics and policymakers. First, it extends the theoretical base of the G-33 proposal for the developing and LDCs, which are currently non-signatory of the G-33 proposal but requires more government support for food security in the country. Second, although LDCs like Bangladesh might adopt the provisions of the G-33 proposal as an interim solution, this study urges a permanent solution to the G-33 proposal to ensure a free and fair agricultural trade, where WTO and member states should step forward with appropriate policies. Further research should be initiated to find permanent solutions to the G-33 proposal. Third, this study validated the need to revise agricultural trade policy in LDCs like Bangladesh, which is not currently a signatory of the G-33 proposal. Such policy revisions should address redesigning government support programs in agriculture, stockpiling policies, and setting a new logical *de minimis* ceiling for the country's staple food. Finally, this study urges holistic policy reforms in which governments of different developing and LDCs, like Bangladesh, consider agriculture, trade, food security, and related issues to ensure smooth public stockpiling of the primary staple food of the country for food security.

Moreover, as this study is limited in quantifying the proposed *de minimis* limit if Bangladesh exceeds the current limit set under the AoA, further studies are required in this field. Future studies might also consider a sensitivity analysis of different proposed new *de minimis* ceiling and their potential impact on the country's agricultural production, consumption, and trade. In addition, such a study should also consider the government trade-off among different priorities of the above-stated issues. Finally, future studies might also be initiated to find permanent solutions to this G-33 proposal aligned with the core principles of WTO- free, fair, equitable, and predictable trade among member countries.

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