

India's G20 Presidency and Food Security

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Abstract

The paper tries to take an account of the scenario of food security around the world. It discusses in brief, various provisions taken by international entities to secure food security. The paper further discusses some measures taken by the Indian government in the area of food security, namely the National Food Security Act 2013 and the Pradhan Mantri Garib Kalyan Anna Yojana. Various aspects of the International Year of Millets 2023 have been discussed. The paper also takes note of the ongoing G20 proceedings in India and tries to point out the advancements in the meetings of the Agriculture Working Group. Finally, the paper also suggests how India can secure its domestic food security as well as encash upon its G20 presidency and cooperate with its allies to guarantee global food security.

Introduction

"Food is national security. Food is economy. It is employment, energy, history. Food is everything." - Jose Andres

Food has always been an integral part of human life. According to FAO, food security is ensuring that all people at all times have physical and economic access to the basic food that they need.¹ Insecurity around food has pushed mankind into the vicious circle of malnutrition, hunger, poverty and social inequality. Ensuring food supply to the increasing population of the world has been a continued challenge before the governments. International institutions like the UN, FAO, etc. have been extensively working in the area of food security.

The G20 has emerged as one of the world's highly influential organizations with a unique composition of developed, developing and underdeveloped nations. The G20 guides the world's 44% finances, controls around 85% of the world's GDP and 75% of the world's population. On December 1st, 2022 India took over the G20 presidency from Indonesia. The year-long presidency is extremely crucial for the emergence of a new world order. India's motto of 'One Earth, One Family and One Future' focuses on universal oneness and international collectivism. With this oneness and collectivism, India prioritizes working in the field of health, inclusive and resilient growth, food security, climate change, digital transformation, etc.

Global Food Crisis

Food, clothing and shelter are considered to be the basic necessities of a human being. Hunger remains to be a top humanitarian crisis in the world today. Climate change, COVID-19 pandemic

¹ [FAO](#)

and the Russia-Ukraine War have further amplified the issue. Around one-third of the total food produced in the world is lost or wasted, with approximately 14% at the post-harvest level and 17% at the consumer and retailer level.² According to the Global Hunger Index 2022, Belarus tops the list. Countries like Chad, the Democratic Republic of Congo, Madagascar and Yemen are listed at the bottom of the list with “alarming” or “serious” hunger levels.³ Around 702 to 828 million people were affected by hunger in 2021. It is estimated that nearly 670 million people (the world's 8% population) will still be undernourished.⁴ Conflicts and climate change have exhausted soil fertility across the world. The La Nina effect of 2021 has further affected rainfall patterns, hurricane activity and sea temperatures.⁵ Water intensive crops like sugarcane, depleting underground water tables, unseasonal rains, severe droughts, excessive use of fertilizers and desertification have further reduced soil fertility, leading to a decrease in crop production. The recent example of climate change can be seen in the state of Maharashtra, India where the unseasonal rains have badly hampered the rabi harvest.

The COVID-19 pandemic has affected the global food chain. Production, packaging, distribution and storage were negatively hampered during the pandemic. The Russia-Ukraine War has further severed the challenges to global food security. Russia and Ukraine are the 'global breadbaskets' that around one-third of the global wheat trade & 17% of the global maize trade. Around 30 countries rely on Russia and Ukraine for 30% of their wheat imports and more than 20 countries rely on these two countries for more than 50% of their wheat imports.⁶ This concentration of resources has led to energy as well as food insecurity around the world. The War has prevented farmer's access to the farms and disrupted the harvest season. Conscription and displacement of population has created a labor shortage. The exports from both nations remained limited or closed for a long period. Thus the nations (especially in Africa and West Asia) dependent on the Black Sea imports have been worst hit due to the food shortage. For example, Lebanon procures 80% of its wheat from imports from Ukraine. Thus, countries like Lebanon and Egypt, where essential items are heavily imported, have witnessed a rise in food insecurity and poverty due to the war. Export restrictions by other nations, rise in international market prices, stockpiling and panic buying have deepened the complications. During the times of COVID-19 and the Russia-Ukraine War, India announced an export ban on wheat and rice. Nevertheless, it continued humanitarian assistance to Afghanistan and commercial supplies to Yemen and Bangladesh.

² [UN Report- Agriculture Development, Food Security and Nutrition](#)

³ [Global Hunger Index](#)

⁴ [FAO](#)

⁵ [Global Humanitarian Overview](#)

⁶ [Russia Ukraine War](#)

Resolutions passed in international institutions

In 2015, the United Nations at the UN Sustainable Development Summit in New York, adopted the resolution on ‘2030 Agenda for Sustainable Development’. It included 17 Sustainable Development Goals (SDG) that covered a wide range of humanitarian issues like poverty, hunger, education, peace, justice etc. The SDG-2 aimed to “end hunger, achieve food security and improved nutrition and sustainable agriculture”. It emphasized on doubling agricultural productivity, ensuring a sustainable food production system, implementing resilient agricultural practices, increasing investment in rural infrastructure, agriculture research and technology development and correcting and preventing trade restrictions and distortions in the world agricultural market.⁷

The Paris Agreement signed in 2015, also recognised “the priority of safeguarding food security and ending hunger, and the particular vulnerabilities of the food production system to adverse impacts of climate change.”⁸

The UN General Secretary Ban Ki Moon launched the ‘Zero Hunger Challenge’ at the Rio Conference Sustainable Development in 2012. This Challenge calls for zero stunted children under the age of two, 100% access to adequate food all year around, all food systems are sustainable, 100% increase in smallholder productivity and income and zero loss or waste of food.⁹

The Matera Declaration on Nutrition, Food Security and Food Systems was signed in 2021. The Declaration focused on open and free international trade while strengthening local, regional and global value chains. It also promoted a science-based holistic ‘One Health Approach’. It also talked about adapting agriculture and food systems to changing climate. It also recognised that poverty alleviation, food security and sustainable food systems can reduce hunger and other socio-economic inequalities. “The Matera Declaration reflects the Indian concern for the welfare of small & medium farmers, promoting local food cultures and recognising agri-diversity.”¹⁰ said the External Affairs Minister of India Mr. S. Jaishankar.

Measures taken by India to ensure food security in recent years

The National Food Security Act (NFSA), 2013 was a crucial step towards consolidating food security measures in India. The Act aimed to provide “food and nutritional security” to all by

⁷ [2030 Agenda](#)

⁸ [Paris Agreement](#)

⁹ [Zero Hunger Challenge](#)

¹⁰ [S. Jaishankar](#)

ensuring access to “adequate quantity of quality food at affordable rates”. The Act makes the following provisions¹¹:

1. It covers around two-thirds of India's population (75% rural & 50% urban) under the Targeted Public Distribution System (TPDS)
2. Entitlement of 5kgs of foodgrains per person per month at subsidized prices of Rs. 3/2/1 per kg for rice/wheat/coarse grains.
3. Nutritional support to pregnant women, lactating mothers and children between 6 months to 14 years under the Integrated Child Development Services and Mid-Day Meal Schemes.

The Act includes the Antyodaya Anna Yojana (AAY)- which includes the poorest of the poor households entitled to 35kgs of food grains per family per month & Priority Households (PH) which include households entitled to 5kgs of foodgrain per person per month. It is the responsibility of the State governments and UTs to identify the households under AAY, as per the guidelines provided, and classify the remaining as Priority Households under the TPDS.

The Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) initiated during the COVID-19 pandemic, provided free food grains to around 80 crore households. This was over and above the benefits delivered under the NFSA. From March 2020, the PMGKAY was implemented for 28 months in seven phases with an approximate funding of ₹3.91 lakh crore for the sanctioned 1,118 lakh tons of food grains.¹² In December 2022, the central government announced to provide free food grains to all 81.35 crore beneficiaries of the NFSA for one year. This means that the NFSA beneficiaries would now receive the (earlier) subsidized food grains of ₹3/2/1 per kg free of cost. However, the additional foodgrains provided to NFSA beneficiaries during the COVID-19 pandemic would be stopped. Thus in Priority Households, where an individual would receive 10kgs foodgrains earlier (5 kgs under NFSA at subsidized rates & 5 kgs under PMGKAY for free) would now receive an entitlement half of the original. The removal of this pandemic-related allocation is expected to save ₹94,332 crore for the central government.¹³

The Pradhan Mantri Poshan Shakti Nirman (PM POSHAN), or the erstwhile National Programme of Nutritional Support to Primary Education (started in 1995), is yet another initiative by the central government to ensure food security. Popularly known as the Mid Day Meal Scheme, the initiative focuses on providing one hot cooked meal to students of Government and Government-aided schools. The revamped scheme that will continue till 2025-26 has a total budget of ₹130794.90 crore out of which ₹54061.73 crores will be spent by the central government and

¹¹ NFSA, 2013- Department of Food and Public Distribution

¹² [PMGKAY](#)

¹³ [PMGKAY](#)

₹31733.17 crore will be spent by the states & UTs.¹⁴ The program not only aims at increasing the enrollment of students in the schools but also provides food and nutritional security to students of disadvantaged backgrounds. PM-POSHAN has been allocated ₹11,600 crores in the budgetary provisions of 2023-24.¹⁵

International Year of Millets

In 2021, the United Nations General Assembly during its 75th session declared the year 2023 as the 'International Year of Millets'. Millets have been a part of the Indian diet for millennia together. Its importance and consumption values got greatly affected in the post-green revolution era when the focus largely lay on increasing the production yield of crops like wheat and rice. Millets have the ability to grow in dry, arid and infertile land more easily than other crops. Apart from that, their high nutritional values have kept them rooted in the traditional discourse of Asia and Africa. As a first step towards increasing the production and demand for millets, the Government of India renamed millets as 'Nutri Cereals' and declared 2018 as the 'National Year of Millets'.¹⁶ As a result of these measures, the production of millets increased from 164 lakh tons in 2017-18 to 176 lakh tons in 2020-21 along with a rise in the export of millets.¹⁷

The Government of India's proposal was supported by 72 other nations in the UN in 2021 when the International Year of Millets (IYM) was declared. Millets have the potential for maintaining food and nutritional security all over the world. The IYM is also perfectly in tune with Sustainable Development Goals proposed by the UN.¹⁸

1. SDG-2: The ability of Millets to grow in climate emergencies and limited resources can ensure food security
2. SDG-3: High nutritional value of the millets (a rich source of Iron, a high source of fiber, gluten-free, etc.)
3. SDG-8: Millets offer livelihood opportunities to small-scale farmers
4. SDG-12: Millets bring diversity in the global food market by providing a valuable alternative
5. SDG-13 & SDG-17: Millets are climate resilient

The Finance Minister of India refurbished millets as 'shree anna' during the Parliament's Budget session in February 2023 and gave the underutilized crop a significant status. The minister

¹⁴ [PM POSHAN](#)

¹⁵ [Budget 2023-24](#)

¹⁶ [International Year of Millets 2023- PIB](#)

¹⁷ [National Conference on Kharif Campaign, 2022- Ministry of Agriculture](#)

¹⁸ [Food and Agriculture Organization](#)

announced plans to transform the Hyderabad based Indian Institute for Millet Research (IIMR) into a center of excellence for promoting research and innovation in the field of millets.

In an effort to ally the IYM with the G20 meetings, India has served several millet centric delicacies to its delegates.

Recent advancements in G20 meetings

The first Agriculture Deputies Meeting (ADM) of Agriculture Working Group's (AWG) meeting, inaugurated by Madhya Pradesh's Chief Minister Mr. Shivraj Singh Chauhan, was held at Indore from 13th-15th February 2023. The Union Civil Aviation Minister Mr. Jyotiraditya Scindia emphasized on the 3S- Smart, Sustainable and Serving All- in the agriculture system. Key deliverables relating to agricultural issues like food security and nutrition, sustainable farming with a climate smart approach, inclusive agriculture value chain, digitalisation for agricultural transformation and other technical agendas were discussed at the meeting. The member nations shared their experiences relating to climate change in agriculture and discussed possibilities to incentivise farmers who harvest climate resilient crops.

The second Agriculture Deputies Meeting (ADM) of the Agriculture Working Group's (AWG) meeting was held in Chandigarh from 29th-31st March 2023. The first session focused on the Rapid Response Forum of the Agriculture Market Information System (AMIS)- an inter-agency platform to enhance food market transparency and policy response for food security. An action plan for Food Price Volatility and Agriculture was also launched at the event. The member nations also focused on drafting a Communique based on the agendas presented in the first ADM at Indore. The delegates expressed the need to develop coordinated policies and programs to recognise the linkage between food security, health, climate and conflict resolution.¹⁹

The G20 Meeting of Agriculture Chief Scientists (MACS) was held at Varanasi, India between 17th-19th April 2023. The MACS intended to "secure food security by strengthening efforts towards sustainable agriculture and food systems by leveraging science, innovation and technology". The Outcome of the MACS²⁰ largely focused on research and development in agriculture, public private-partnership in extending innovative farming technology. It also

¹⁹ [2nd AWG](#)

²⁰ G20 Meeting of Agricultural Chief Scientists (MACS) (Varanasi, India; 17-19 April, 2023) Chair's Summary & Outcome Document

highlighted the importance of locally adapted, climate-resilient, underutilized, indigenous crops for a sustainable food system and pushed for continued R&D efforts in this direction. The MACS also supported the Millets and Other Ancient Grains International Research Initiative (MAHARISHI) of India to facilitate research collaboration on climate-resilient and nutritious grains including Millets and other underutilized grains.

A third ADM and G20 Agriculture Ministers Meeting (AMM) is scheduled from 15th-17th June 2023 in Hyderabad.

Challenges and Way Forward

The journey of India from a foodgrain deficit country to a country which is self-sufficient in food grains production is an inspiration for many nations as India was one of the first third-world countries to have achieved this kind of self-sufficiency. Nevertheless, the issue of food insecurity plagues India even today. The FY 2023-24 budgetary allocation for food subsidy is ₹1,97,350 crore, a 31.28% decrease²¹ than the previous years revised estimates. The reason for this decrease in allocation has been attributed to the additional food grains given to the vulnerable households during the COVID-19 pandemic. Nobel initiatives like the NFSA too have loopholes. Within the NFSA, the government has been reluctant to update population records. The Department of Food and Public Distribution as of 2022, projects the beneficiaries of the NFSA as approximately 80 crore people, which holds true as per the 2011 census. However the population growth in India, as of 2022, can be approximated around 137.4 crore, out of which 92.3 crore are projected to be NFSA beneficiaries.²² Thus, around 12 crore beneficiaries are being currently left out of the NFSA. Improper implementation of schemes like PM POSHAN has pushed India into the deep trenches of malnutrition and food insecurity. The global food supply chain has to provide adequate food quantities to the growing population along with tackling several other challenges like climate change, lack of financing, etc. The rising temperature is expected to cut the crop yield by 25%. Greenhouse gasses are likely to increase the Earth's temperature. The world food system contributes to around 25-30% of the green-house emissions. Extreme weather events and unpredictability of climate can adversely affect soil quality, water availability, etc. Climate change not only affects the agricultural system but also has socio-economic consequences. Climate change may reduce income level at household level through decreased productivity and prices. At the national level, climate changes can trigger agriculture production systems and food availability which in turn can lead to market disruptions and increase in prices of agricultural commodities. This will have an indirect impact on the global market in the form of food price volatility and export ban from some

²¹ [Budget 2023](#)

²² [Budget 2023](#)

countries. Thus, it is an imperative of international organizations like the G20 to integrate climate change and food security as well as synergize funding towards them.

Following are some of the challenges and recommendations that India can follow to ensure food security at the domestic as well as the international level.

1. The IYM seems to come with a bright future, India will have to take lessons from the International Year of Quinoa (2013). Quinoa, like millets, is a highly nutritional and staple crop grown in South America. The International Year of Quinoa in 2013 grabbed the attention of the international consumer towards the staple. This was coupled with a sudden rise in demand as well as rise in the prices of Quinoa in the international market. This boom was followed by a sudden bust- a fall in prices and production.²³ India will have to tackle this boom and bust cycle by ensuring a sustained consumer demand and the beneficial qualities of millets will have to be broadened and maintained. Long term coordination between the government, research institutions, local organizations and farmers is necessary to avoid the boom and bust cycle.
2. Government policies must favor millet production throughout the country. Greater incentives in the form of procurement at higher Minimum Support Prices (MSP) or Fair and Remunerative Prices (FRP), greater than cash crops, should be extended to farmers who harvest different varieties of millet.
3. Millet products must be made available to consumers in novel forms. The inclusion of millets in Mid Day Meal Schemes or public distribution systems will not only increase the demand for millets but also its supply thereby ensuring food as well as nutritional security of India.
4. Not only millets, but pulses and edible oil needs to be added to the public distribution system to ensure the intake of proteins and fats. The government distributed more than 1.2 million tonnes of pulses under the PMGKAY during April to November 2020, with one kg of pulses per household, that costed around ₹ 11,800 crores approximately. Under the PMGKAY phase-I (April-June 2020), 573195.37 MT and for phase-II (July to November), 902026.91 MT were allocated. As per these estimates, the government will have to spend approximately ₹ 17,700 crores per annum to include pulses under the PDS. The current pulses procurement is capped at 25% by the NAFED. The distribution of edible oil through the PDS was stopped in 2001 due to low global prices. As per an Indian Express article, dated 23rd May, 2007, the then UPA government thought of bringing the edible oil and pulses back under the PDS. According to the Department of Consumer Affairs, edible oil

²³ [Quinoa's boom and bust cycle](#)

would be distributed at a subsidized rate of ₹10 per litre, costing the government ₹1,500 crores per annum.

5. Technological innovations like 'Annapurta' (automatic grain dispensation machines) should be expanded to ensure the efficient functioning of the public distribution system, devoid of corruption and malpractices.
6. Taking inspiration from the Wheat Initiative²⁴, the MAHARISHI by India can help in advancing research and innovation related to millets. India's G20 Presidency can help her mobilize greater resources for MAHARISHI. Even after the Presidency rotates, the Initiative would continue with its work and can prove to be crucial in areas like root and soil biology, genetic diversity, enhancing agronomy, etc. The Initiative will consist of the member nations of G20, international organizations and industry experts. Under MAHARISHI several international programmes related to millets can be undertaken.
7. Creation of a common platform for trade and exchange of foodgrains especially among the G20 countries for the continued export and import of food grains even in times of crisis.
8. The G20 can take steps toward creating a global food reserve. Three-quarters of the world's food stock²⁵ are in five countries- the US, the European Union, India, China and Brazil. All these five countries are member nations in the G20. A global food reserve of the G20 nations could change the understanding of the global food availability and avert panic behavior that leads to hoarding and stockpiling. The current ASIM system launched by the G20 in 2011 provides accurate and timely information about the global grain market, thereby ensuring market transparency. In the same manner, G20 nations can now undertake a treaty that obliges its signatories to provide its surplus during a crisis situation. The G20 can also work towards climate smart investments to enhance adaptation and mitigation efforts in agriculture. Greater international cooperation through G20 can be done in climate science, especially to build infrastructure to facilitate timely and accurate collection of climate smart agricultural and weather information.
9. Today, even after being a food surplus country, India is unable to feed her entire population. Food wastage and post-harvest losses are the biggest loopholes in the Indian agriculture system. The UN estimated around \$ 40 billion, that is 40% of the total farm output, to be wasted every year. In India, this food wastage is due to deficiencies in the supply chain and food transportation networks. The cold storage infrastructures in India are mostly limited to big cities, making perishable items difficult to survive. The Government of India has started the Agriculture Infrastructure Fund (AIF) from 2020-21 to 2032-33 for the creation of a post harvest infrastructure and community farm assets.

²⁴ [Wheat Initiative](#)

²⁵ [G20](#)

Under this, ₹ 1 lakh crore have been allocated. Since its inception, an amount of ₹ 13,681 crore has been sanctioned for the agriculture infrastructure in the country that includes warehouses, primary processing units, custom hiring centers, sorting in grading units, cold store projects, assaying units and other post harvest management projects. Apart from this, the post harvest technology, through PPP, will not only prevent losses but also lead to value addition of raw food commodities through preservation and processing thus taking the benefits of agro-processing to the rural areas.

10. G20 can work towards making the global agriculture value chain democratic and to be led by farmers. Such a farmer-led global value chain will enable local producers, especially from developing countries, to the international markets. A value chain typically consists of a network of actors namely input supply, production, processing, marketing and consumption. The G20 can encourage the farmer's collectives to participate at all three levels:
 - a. Firstly, they will directly deal with products by producing, processing or/and trading.
 - b. Secondly, through Farmer Producer Organization (FPO), Cooperatives, etc. they can indirectly deal with the product by adding value to it by means of innovation and technology.
 - c. Lastly, with global contacts, they can address the global consumer market.
11. The G20 brings together a diverse group of countries with agricultural sectors at different levels of digital development. This diversity offers unique opportunities for mutual learning and exchange. Joint research and development activities can help assess how precision farming tools from industrial farming systems could be adapted for small-scale production. At the same time, the applicability of lower technology solutions developed in lower income countries in higher income countries could be explored. The G20 is also an important part of international support for establishing technical standards for hardware and artificial intelligence/machine learning to make data and models sharable and interoperable.
12. Digital agriculture startups, business innovators and governments need to work with vulnerable groups, including small producers and businesses, to foster productive and inclusive innovation. While governments at the national level can create an enabling environment for digital agriculture, the G20 must encourage the private sector to advance the development and promotion of digital solutions for farmers and businesses. The 2023 G20 MACS meeting in India noted that private investment in research, design and marketing of digital solutions can complement national agendas and significantly determine the extent to which digitization supports equitable and sustainable agricultural outcomes. The G20 can support their efforts by providing a thriving environment for private sector

actors and providing digital solutions for resilient, sustainable and inclusive agriculture and food systems.

13. Biofuels are fuels extracted from plants to compensate for the environmental damage due to fossil fuels. Biofuels have now been extensively experimented in countries like the USA and Brazil. A resilient interaction between biofuels, food security and resource management can ensure a sustainable future. Biofuels or bioenergy can prove to be effective in the post harvest processes. Biofuels not only enable transport of the food grains but also facilitate agro-processing units, food processing, drying and storage of surplus production, etc. Secondly, biofuels are also expected to increase the income of farmers, especially in small households, which will in turn increase their access to food. Thus in these two ways, biofuels can ensure food security. The G20 will have to even-handedly deal with the dilemma of encouraging biofuels for food security. The traditional food v/s fuel debate has questioned the desirability of biofuels. Thus with respect to the above mentioned advantages of biofuels concerning food security, the G20 can enforce extensive use of biofuel in implementing post harvest technologies and other required agriculture infrastructure.

Conclusion

The year 2023 comes with a magnificent conjunction for India- the G20 presidency, the Azadi ka Amrit Mahotsav and the International Year of Millets. While India leads the Global South, the G20 presidency gives India the opportunity to become the Vishwaguru, the world leader. The Indian teaching of 'Vasudeva Kutumbakam' makes the G20 Presidency of India imperative to solve various humanitarian problems. A North-South, South-South and Triangular Cooperation is the need of the hour. Along with that, building upon the previous G20 commitments to food security and nutrition needs to be prioritized. The issue of food security is not novel but it has now further deepened due to several factors. Poverty, hunger, income equality, etc. hamper global food security. The celebration of the International Year of Millets has provided a further impetus to India to ensure food security from a new perspective. The above mentioned suggestions will be in vain unless coordinated efforts between the government, civil society, international institutions and industry experts at large. Lastly, not only food security but nutritional security also has to be ensured.

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