

Shaping Global Agrifood Systems: Food Security, Nutrition and Livelihood Security under BRICS

Jaya Jumrani
Shiv Kumar
Purushottam Sharma
Subash Surendran-Padmaja
Jaiprakash Bisen
Aditya Korekallu Srinivasa
Kiran Kumara TM



Publication Committee

Shiv Kumar

Nalini Ranjan Kumar

Jai Prakash Bisen

Kiran Kumara TM

Purushottam Sharma

The ICAR-National Institute of Agricultural Economics and Policy Research (NIAP) was established by the Indian Council of Agricultural Research (ICAR) to strengthen agricultural economics and policy research in the National Agricultural Research System comprising a network of ICAR institutions and State Agricultural Universities. The mandate of the Institute is:

- Agricultural economics and policy research on markets, trade, and institutions
- Growth and development models for sustainable agriculture
- Technology policy, evaluation, and impact assessment

ICAR-NIAP has emerged as a think tank in the area of agricultural policy and it has contributed to increased participation of the ICAR in agricultural policy-making. Besides ICAR, the Institute regularly provides research based inputs to the NITI Aayog, Government Departments, States, and other stakeholders for policy decisions in diverse areas related to agriculture.

Working Paper IV

Shaping Global Agrifood Systems: Food Security, Nutrition and Livelihood Security under BRICS

**Jaya Jumrani
Shiv Kumar
Purushottam Sharma
Subash Surendran-Padmaja
Jaiprakash Bisen
Aditya Korekallu Srinivasa
Kiran Kumara TM**



ICAR – National Institute of Agricultural Economics and Policy Research
New Delhi

Citation: Jaya Jumrani, Shiv Kumar, Purushottam Sharma, Subash Surendran-Padma-ja, Jaiprakash Bisen, Aditya Korekallu Srinivasa and Kiran Kumara TM (2026). Shaping Global Agrifood Systems: Food Security, Nutrition and Livelihood Security under BRICS. Working Paper IV. ICAR-National Institute of Agricultural Economics and Policy Research (NIAP), New Delhi.

Published

June 2026

Published by

Dr Shiv Kumar

Director

ICAR–National Institute of Agricultural Economics and Policy Research

New Delhi – 110 012

© 2026, ICAR-National Institute of Agricultural Economics and Policy Research

Authors are associated with the ICAR-National Institute of Agricultural Economics and Policy Research (NIAP), New Delhi. The Working Paper Series of ICAR-NIAP contains preliminary material and research prepared as part of its role as a Knowledge Partner for BRICS 2026. These working papers are circulated to stimulate discussion and invite critical feedback. Any opinions expressed herein are those of the author(s) and are not necessarily representative of, or endorsed by, ICAR-NIAP or the Indian Council of Agricultural Research (ICAR). Any errors or omissions remain the responsibility of the author(s). Comments and suggestions may be emailed to jaya.jumrani@icar.org.in.

Printed at M/s Chandu Press, 469, Patparganj Industrial Estate, Delhi 110 092.

Acknowledgements

This working paper has been prepared as part of the BRICS Working Paper Series of the ICAR–National Institute of Agricultural Economics and Policy Research (NIAP), New Delhi. The author gratefully acknowledges the guidance and encouragement of Dr. Mangi Lal Jat, Secretary (DARE) & DG (ICAR), and the institutional support extended in undertaking this study. The author also thanks the Joint Secretary and the Director, International Cooperation, Ministry of Agriculture and Farmers Welfare, GoI, for the opportunity and guidance in bringing out this working paper. The analysis draws on publicly available official documents including BRICS Agriculture Ministers’ declarations, G20 outcome documents and allied strategy documents.

Contents

Sl No.	Content	Page
	<i>Acknowledgements</i>	<i>iii</i>
	<i>Abstract</i>	<i>v</i>
1.	Introduction	1
2.	Conceptual Framework and Definitions	1
3.	Evolution of Food Security in the BRICS Agricultural Track (2010-2025)	3
4.	Evolution of Food Security in the G20 Agricultural Track (2011-2024)	7
5.	The Nutrition Dimension	11
6.	The Livelihood Security Dimension	13
7.	Cross-forum Architecture	15
8.	Convergences, Divergences and Implications	17
9.	Conclusion	19
	<i>References</i>	21
	<i>Appendix A. Thematic Synthesis Matrix</i>	24
	<i>Appendix B. BRICS and G20 agricultural events between 2010 and 2025.</i>	26

Abstract

This narrative review examines the evolution of food security, nutrition and livelihood security across the BRICS and G20 agricultural tracks from 2010 to 2025, situating both within the larger multilateral food-governance system. Drawing on a structured thematic reading of ministerial declarations, strategy documents and action plans across BRICS Agriculture Ministers' declarations and G20 outcome documents, alongside their cross-references to other reports and instruments, the analysis traces the conceptual widening of these agendas from narrow production-centric goals to integrated and systemic agri-food frameworks between 2010 and 2025.

The expansion of BRICS has amplified the bloc's scale and Global South identity, transforming a homogeneous group of large producers into a diverse coalition of net importers and water-scarce economies. The right to adequate food, operationalised through the Committee on World Food Security Voluntary Guidelines, is the shared normative anchor; livelihood security has crystallised most sharply in the tri-ministerial 2025 Brasília Declaration; and the Global Alliance Against Hunger and Poverty, building on the Deccan Principles, offers a new bridging platform. While both tracks have developed a strong declaratory architecture, the review identifies significant gaps in outcome monitoring and conceptual scope. To translate high-level consensus into actionable harmonised outcomes, the expanded multilateral coalition must resolve trade frictions, broaden livelihood security to include the off-farm rural economy, and shift the nutrition agenda away from deficiency management and towards addressing the modern triple burden of malnutrition.

Keywords: BRICS; G20; food security; nutrition; livelihood security; family farming; food systems; Global South



1. Introduction

The expansion of BRICS, which now includes Brazil, Russia, India, China, South Africa, and new members Saudi Arabia, Egypt, Ethiopia, Iran, the UAE, and Indonesia, has been described by its architects as a rebalancing of the global order. The consortium primarily serves two purposes: (i) to strengthen global South-South cooperation and (ii) to reform global governance. Nonetheless, BRICS members represent nearly half of the world's population, a sizable portion of global agricultural output and a disproportionate burden of hunger. According to recent estimates, over 600 million people globally were undernourished in 2024 (SOFI 2025), with a vast majority of these residing across BRICS member countries. Food security, nutrition and livelihood security have moved from parallel policy concerns to interdependent objectives at the heart of contemporary multilateral agricultural cooperation.

This review synthesises the evolution of food security, nutrition and livelihood security in Brazil, Russia, India, China, South Africa (BRICS) and the Group of Twenty (G20) agricultural tracks from 2010 to 2025 and examines the cross-references these tracks make to the wider multilateral system. The review serves a dual purpose. Analytically, it traces the conceptual widening of these agendas and the convergences and divergences between the two tracks. It also assesses where the principal gaps in evidence, conceptualisation and policy coherence lie, and what this implies for future research agenda.

The working paper is organised as follows. Section 2 outlines the conceptual framework and definitions. Sections 3 and 4 trace the evolution of food security in the BRICS and G20 tracks, respectively. Section 5 examines the nutrition dimension and Section 6 the livelihood security dimension. Section 7 maps the cross-forum architecture, while Section 8 highlights the convergences, divergences and their implications.

2. Conceptual Framework and Definitions

The narrative review bases its analysis on a structured thematic synthesis of ministerial-level texts produced within the agricultural contexts of the BRICS and the G20, which, when read alongside the texts' cross-references, form a larger multilateral system. The primary corpus is made up of three layers of source material. The first fifteen official joint declarations of the BRICS Agriculture Ministers, spanning the Moscow meeting in March 2010 to the Brasilia meeting in April 2025, as well as the BRICS Strategy on Food Security Cooperation (2022) and four successive Agriculture Action Plans covering 2012–2016, 2017–2020, 2021–2024 and 2025–2028.

The second layer includes thirteen outcome documents from G20 Agriculture Ministers' meetings, ranging from the Paris Action Plan on Food Price Volatility and Agriculture in June 2011 to the Chapada dos Guimarães Declaration in September 2024. These include the 2022 Joint Finance and Agriculture Ministers' Chair's Summary from Washington

and the 2023 Meeting of Agriculture Chief Scientists (MACS) Chair’s Summary from Varanasi. The third layer is based on instruments and reports from the Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), World Food Programme (WFP), the Committee on World Food Security (CFS), the World Trade Organization (WTO), the United Nations Framework Convention on Climate Change (UNFCCC), the Organisation for Economic Co-operation and Development (OECD), and the World Bank, which are cross-referenced within the BRICS and G20 declarations rather than independently consulted primary texts. The operative paragraphs of each declaration were classified by sub-theme, and cross-references were recorded; the resulting synthesis is presented in narrative form in Sections 3–8 and in condensed matrix form in Appendix A.

A few caveats should be kept in mind when reading what follows. First, the Russian G20 presidency of 2013 and the Australian presidency of 2014 did not convene standalone Agriculture Ministerial meetings, leaving two gaps in the G20 sequence. The South African G20 presidency outcome for 2025 was not available at the time of writing. In addition, no BRICS Agriculture Ministerial Meeting was held during 2012 and 2014.

Second, references to external instruments — the CFS Voluntary Guidelines, the Second International Conference on Nutrition (ICN2) Rome Declaration on Nutrition, the WTO Agreement on Agriculture, FAO’s State of Food Security and Nutrition in the World (SOFI) reports and the UNFCCC joint work on agriculture — reflect how those instruments are invoked within BRICS and G20 texts rather than any independent reading of the instruments themselves. Third, the working definitions used throughout follow the vocabulary of the source texts: food security is understood in the four-dimensional CFS sense of availability, access, utilisation and stability, with the right to adequate food as its normative anchor and nutrition is treated in line with the Sustainable Development Goal (SDG) 2 as encompassing all forms of malnutrition. Nutrition is treated analytically as separate from, but closely related to, food security. Nutrition is no longer a concern about undernourishment alone. The challenge is now framed as a triple burden that includes undernutrition (stunting and wasting), micronutrient deficiency or hidden hunger, and overnutrition (overweight, obesity, and diet-related non-communicable diseases), with the latter increasing as economies transition to a nutrition transition. This framing is important for the current review because it serves as a benchmark for evaluating the bloc’s nutrition agenda.

The three concepts in the official texts are loosely defined, with livelihood security being the least specific. For the purposes of this review, it is used in the specific sense as first articulated in the BRICS 2020 Joint Declaration and defined as the security of the means through which rural households obtain food and income, including on-farm production, agricultural wage labour, fisheries and aquaculture, and the rural non-farm economy, as well as the social-protection instruments that support them. This formulation has also been carried further by the 2025 Brasilia declaration. This broader reading is used on purpose

to assess the extent to which the bloc's usage encompasses the entire livelihood system. Last, but not least, the review is mainly of documentary nature; it does not estimate the causal effect of BRICS cooperation on food security, nutrition or livelihood outcomes, and the absence of such an evaluation is itself one of the findings.

3. Evolution of Food Security in the BRICS Agricultural Track (2010-2025)

3.1. The Foundational Phase: Establishing the BRICS Agricultural Track

The foundational phase of the BRICS and the accompanying texts centred cooperation around production and availability of food. Following the global food, fuel and financial crises of 2007–2008, the majority of the initial BRICS meetings were reactionary in nature. During this period, the bloc's focus was largely quantitative, with a strong emphasis on ensuring stable and sufficient foodgrain production to safeguard the populations from extreme market volatility. On March 26, 2010, the Moscow Declaration of BRIC Ministers of Agriculture and Agrarian Development marked the beginning of the BRICS agricultural track. It documented the then-four members' agreement to address food security, with a particular focus on family farming. Four priority areas of cooperation were identified, including the establishment of a BRIC agricultural information base system, development of a general strategy for ensuring access to food for the most vulnerable populations, mitigation of the negative impact of climate change on food security and enhancement of agricultural technology cooperation and innovation (BRIC Agriculture Ministers, 2010, sections 1–4).

The Chengdu meeting, under the theme 'Making Joint Efforts for World Food Security', was held on October 30, 2011. The joint declaration statement text expressed concern about volatile international agricultural markets caused by natural disasters, biofuel use, speculation and price transmission, and urged the developed countries to eliminate trade-distorting subsidies and barriers. During this meeting, the Action Plan for Agricultural Cooperation 2012–2016 was also approved (BRICS Agriculture Ministers, 2011, paras. 7–8, 24). The BRICS bloc also voiced sympathy with the African countries affected by the Horn of Africa drought (para. 4).

3.2. Consolidative Phase (2013–2015): Deepening the Agricultural Agenda

The bloc's next phase (2013–2015) was marked by a consolidative phase, in which the period characterised the consolidation of BRICS agricultural cooperation as a substantive, normatively coherent multilateral forum, one that gradually deepened its policy agenda, aligned itself with established international food governance frameworks, and built an institutional memory capable of sustaining cumulative positions across successive

presidencies. This phase is distinguished by two distinct features: a large portion of the vocabulary in the texts was related to availability, access or assistance. There is a well-defined development strategy, with a focus on strong South-South cooperation. Nutrition is portrayed as the opposite of hunger, rather than as a distinct diet quality agenda. The Pretoria meeting of October 29, 2013, with the theme 'The Negative Effect of Climate Change on World Food Security', tied its agenda to the Millennium Development Goals. The meeting endorsed the multilateral process, expressing hope that the WTO 2013 Bali Ministerial would deliver consensus on the food security, export competition and key developmental concerns of the poorest WTO members (BRICS Agriculture Ministers, 2013, para. 16). The meeting also welcomed the UN designation of 2014 as the International Year of Family Farming (para. 25).

The two declarations from 2015 resulted in the consolidation of this phase. The fourth meeting held at Brasilia in March 2015 acknowledged that BRICS countries had made a significant contribution to global food security, with the vast majority of the 209 million women and men lifted out of food insecurity over the previous two decades residing in BRICS countries (BRICS Agriculture Ministers, 2015a, para. 3). It also recognised the role of public procurement programmes that purchase food from family farmers for food distribution, school feeding and other programmes as policy instruments for achieving food and nutrition security (para. 3), which serves as the textual foundation for public stockholding for food security purposes in multilateral discussions.

The fifth meeting, held later in Moscow in October 2015, made explicit reference to protecting the right to adequate food, particularly for the most vulnerable communities, by strengthening family farming (BRICS Agriculture Ministers, 2015b, para. 2), aligning BRICS with the CFS Voluntary Guidelines on the Right to Adequate Food. According to the text, 795 million people were undernourished, with 98% living in developing countries, and roughly three quarters of the world's poor living in rural areas (para. 14).

3.3. Institutionalisation and the Pandemic Tipping Point (2016–2021)

From 2016 onwards, the BRICS agenda acquired a stable institutional architecture. The sixth meeting in New Delhi (September 2016) welcomed the development of a virtual BRICS Agricultural Research Platform (BARP) to promote food security, sustainable development and poverty alleviation, and emphasised the conservation of plant genetic resources for food and agriculture and raising farmers' incomes as central to addressing inequality and price volatility (BRICS Agriculture Ministers, 2016, paras. 3 and 18). The same declaration also introduced the distinction between transient and persistent food insecurity (para. 4). Besides, it welcomed the International Year of Pulses (para. 16), drawing a clear link between a specific crop and dietary nutrition. The seventh meeting in Nanjing (June 2017) reaffirmed that sustainable food security must include social, economic and environmental dimensions (BRICS Agriculture Ministers, 2017,

para. 8). In 2018, a seminar on climate smart approaches was held during the eighth BRICS Agriculture Ministers Meeting at Mpumalanga, South Africa. The BRICS members agreed to deepen cooperation on food security and nutrition, agricultural innovation, and agricultural trade and investment, among others, to help achieve the UN Sustainable Development Goals.

The coronavirus (COVID-19) pandemic triggered a tipping point between 2019 and 2022. The Bonito Declaration of September 26, 2019, emphasised innovation and new solutions for food production systems, as well as articulated a comprehensive and integrated approach towards innovation aimed at fighting poverty and hunger, improving nutrition and promoting sustainable agriculture under the 2030 Agenda (BRICS Agriculture Ministers, 2019, para. 5).

The tenth meeting, held virtually on September 23, 2020, under the Russian presidency, was the first BRICS agriculture ministerial held in the aftermath of the pandemic. It was noted that more than 820 million people were still hungry globally, with about 2.5 billion experiencing moderate or severe food insecurity or micronutrient deficiency (BRICS Agriculture Ministers, 2020, para. 6). In terms of trade, the meeting endorsed a targeted, proportionate, transparent, temporary and WTO-consistent approach to implementing urgent COVID-19 response measures and an explicit call to roll back trade- and production-distorting agricultural measures (para. 7). Crucially for the livelihood-security narrative, the text introduced the formulation “food and livelihood security of our vulnerable populations” and observed that the agrarian sectors of BRICS countries are primarily comprised of small and marginal farmers who rely on agriculture for both food and livelihoods (paras. 33–34).

The eleventh meeting in August 2021, hosted virtually by India under the theme ‘BRICS Partnership for Strengthening Agro Biodiversity for Food Security and Nutrition’, endorsed the Action Plan 2021–2024, committed to plant variety protection and sustainable farming systems, and recognised that fisheries and aquaculture are a major source of livelihood and food security for millions of people in BRICS countries (BRICS Agriculture Ministers, 2021, paras. 6, 7 and 12).

3.4. Transforming Food Systems: The 2022 Strategy on Food Security

The next phase was distinguished by a shift in the goal from increasing production to transforming food systems, as well as an explicit acknowledgement of stalled progress on hunger. The BRICS Strategy on Food Security Cooperation (BRICS Agriculture Ministers, 2022, para. 21), the first BRICS-wide strategy document in this area, was approved during China’s twelfth virtual meeting in 2022.

The agenda for the thirteenth meeting, held in Limpopo, South Africa, in August 2023, revolved around four priorities, the first of which was to promote effective solutions and a

systemic approach for food security and nutrition (BRICS Agriculture Ministers, 2023, para. 1a). The text took a strong stance on the legitimacy of public stockholding for food security purposes, recognising that such programmes should be established in accordance with multilateral trade rules and encouraging BRICS countries to share best practices (para. 11). The meeting noted a decline in food security and an increase in malnutrition, particularly among low-income groups, and emphasised food and nutrition security programs, including food safety nets, for the most vulnerable (para. 6). It also welcomed UN designation of 2023 as the International Year of Millets (para. 8), an Indian initiative.

3.5. Consolidating the Expanded Bloc: Identity and Instruments

This particular phase was characterised by two shifts: the consolidation of Global South identity and a renewed emphasis on social protection and family farming, as evidenced by the Global Alliance's endorsement and expanded ministerial mandate. The second is a shift towards concrete, albeit nascent, instruments for reserves, grain trade and import financing, reflecting the coalition's addition of net food importers. The fourteenth BRICS Agriculture Ministers' meeting, held in Moscow on June 28, 2024, was the first since Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates joined the bloc. The Declaration records that BRICS countries account for more than 45% of the world's population and more than 30% of the world's agricultural land, making them the foundation of global food security, nutrition and sustainable agriculture (BRICS Agriculture Ministers, 2024, page 1). It urges countries to refrain from imposing unilateral coercive measures and trade restrictions that violate WTO and other multilateral trade rules (page 1). Further, it adopts the strongest formulation of special and differential treatment (S&DT) in BRICS texts to date: a rules-based, inclusive, equitable and non-discriminatory multilateral trading system centred on the WTO, with S&DT for developing countries (page 2). It reaffirmed the SDGs for zero hunger and improved nutrition, promoted indigenous, nutrient-rich and climate-resilient crops, including ancient and orphan crops, and proposed a BRICS Grain Exchange to strengthen trade among members (pages 2–3).

The fifteenth meeting, held in Brasilia on April 17, 2025, is the first to be co-chaired by three Brazilian ministries: Agriculture and Livestock, Agrarian Development and Family Farming, and Fisheries and Aquaculture, and represents the most substantial development. The Declaration anchors food security cooperation in the BRICS Strategy on Food Security Cooperation (BRICS Agriculture Ministers, 2022, para. 21) and explicitly recognises the Global Alliance Against Hunger and Poverty, building on the Deccan High-Level Principles on Food Security and Nutrition (BRICS Agriculture Ministers, 2025, para. 4). The accompanying Action Plan 2025–2028 sets out specific concrete actions, including a Global Alliance technical workshop, a possible BRICS Contingency Grains Reserve Arrangement, a Dialogue on Family Farming in conjunction with the UN Decade of Family Farming, and a Dialogue on Sustainable Fisheries and Aquaculture (BRICS Action Plan 2025–2028, sections 1.1–1.4).

4. Evolution of Food Security in the G20 Agricultural Track (2011-2024)

4.1. The Inauguration of the G20 Agricultural Track: The 2011 Paris Meeting

The G20 agricultural track was inaugurated at Paris on June 22–23, 2011. The Ministerial Declaration and Action Plan on Food Price Volatility and Agriculture are mainly focused on five objectives: increasing agricultural production and productivity, improving market information and transparency, strengthening international policy coordination, improving risk-management tools and improving the functioning of agricultural commodities derivatives markets (G20 Agriculture Ministers, 2011, para. 11). The Declaration reaffirmed everyone’s right to access safe, sufficient and nutritious food, in line with the progressive realisation of the right to adequate food in the context of national food security (para. 4), and it endorsed the Five Rome Principles for Sustainable Global Food Security that were adopted at the 2009 World Summit on Food Security.

The Paris Action Plan launched four enduring G20 instruments that continue to shape the agenda: the Agricultural Market Information System (AMIS), the Rapid Response Forum, the International Research Initiative for Wheat Improvement (IRIWI) and the GEO Global Agricultural Monitoring Initiative (GEOGLAM) (G20 Agriculture Ministers, 2011, paras. 26–32 and Annexes 1–4). The Plan also stated that G20 members would not impose food export restrictions on humanitarian food purchases by the WFP (para. 40), a commitment that was later reaffirmed in subsequent WTO Ministerial Decisions.

4.2. Expanding the Agenda (2015–2018): Frameworks, Innovation and Sustainability

The 2015 Istanbul meeting marked the implementation of the G20 Food Security and Nutrition Framework, which was adopted in 2014 (G20 Agriculture Ministers, 2015, para. 2). It also reaffirmed the Rome Declaration on Nutrition that was adopted by the Second International Conference on Nutrition (para. 4). During the 2016 Xi’an meeting, members agreed to promote innovation in institutions, policies, science and technology through the Food Security and Nutrition (FSN) Framework and the G20 Action Plan on Food Security and Sustainable Food Systems (G20 Agriculture Ministers, 2016, para. 2).

The 2017 Berlin meeting, held under the theme ‘Towards Food and Water Security: Fostering Sustainability, Advancing Innovation’, reaffirmed the responsibility of G20 economies as major actors in the global food system (60% of agricultural land, 80% of world trade in agricultural products) and committed to supporting the implementation of the 2030 Agenda and the Paris Agreement (G20 Agriculture Ministers, 2017, paras. 1 and 3). It was the first G20 agriculture text to put antimicrobial resistance (AMR) under the

One Health approach (paras. 20–21) and to commit to the CFS Voluntary Guidelines on Tenure (VGGT), the CFS Responsible Investment in Agriculture and Food Systems (RAI) Principles, and the OECD-FAO Guidance for Responsible Agricultural Supply Chains (para. 22).

The 2018 Buenos Aires meeting reported an alarming statistic — global hunger had increased to 815 million in 2016 and about 2 billion people were suffering from micronutrient deficiencies (G20 Agriculture Ministers, 2018, para. 3). It identified family farmers, smallholders, women and young people in rural areas as key players in the fight against food insecurity and malnutrition in all its forms and committed members to a set of nine targeted measures, including diversification, market integration, food safety, regenerative natural-resource management, climate resilience, infrastructure, education, finance and technology access (para. 5).

4.3. Navigating Crisis and Transformation (2019–2021)

The 2019 Niigata meeting was hosted by Japan and focused on innovation and the role of digital technologies and information and communication technologies in enhancing the productivity and sustainability of agriculture and food value chains (G20 Agriculture Ministers, 2019, paras. 1, 4 and 8). The 2020 Riyadh meeting, the first joint G20 Agriculture and Water Ministers' meeting and the first held during the COVID-19 emergency, endorsed the G20 Riyadh Statement to Enhance Implementation of Responsible Investment in Agriculture and Food Systems (G20 Agriculture and Water Ministers, 2020, para. 10). It confirmed the commitment to refrain from imposing export restrictions on agricultural products and to avoid unnecessary food stockpiling consistent with national requirements (para. 4), and issued the strongest G20 statement to date on the United Nations Decade of Family Farming (para. 11).

The 2021 Florence meeting, hosted by Italy, occurred against the backdrop of the United Nations Food Systems Summit later that month. Its central textual achievement was the G20 Matera Declaration on Food Security and Nutrition, welcomed as the platform for inter-G20 action on building forward better (G20 Agriculture Ministers, 2021, para. 19). The Florence communiqué also welcomed the recently endorsed CFS Voluntary Guidelines on Food Systems and Nutrition (para. 3) and articulated the inclusive rural transformation case by referring to the 75% of the world's poor who live in rural areas, requiring easier access to education, capital, technologies and markets (para. 7).

4.4. The Global South Presidencies (2022–2024): From the Deccan Principles to the Global Alliance

The Indonesian presidency convened a Joint Finance and Agriculture Ministers' Meeting in Washington on October 11, 2022, to document the 2022 cycle. The Chair's Summary documents the members' concern about increasing food insecurity among vulnerable

groups, the erosion of progress on SDG attainment, and the call for the FAO and the World Bank Group to map systemic responses to food insecurity (G20 Joint Finance and Agriculture Ministers, 2022, paras. 3, 5 and 7). It reiterates its support for open, transparent, inclusive, predictable and non-discriminatory rules-based multilateral trading systems (para. 8).

The most substantively important G20 outcome document for India's positions on food security and nutrition is the 2023 Hyderabad meeting, which was held during the Indian presidency. It resulted in two innovations: the Deccan High-Level Principles on Food Security and Nutrition 2023 and the 12th G20 MACS international initiative for research on millets and other ancient grains (G20 Agriculture Ministers, 2023, paras. 8 and 24; G20 MACS 2023, para. 10). The Deccan Principles consist of seven principles: facilitating humanitarian assistance; improving availability and access to nutritious food and strengthening food safety nets; strengthening policies and collaborative actions for climate-resilient and sustainable agriculture and food systems; strengthening resilience and inclusivity in agriculture and food value chains; promoting the One Health approach; accelerating innovation and the use of digital technology; and scaling up responsible public and private investments in agriculture. Principle 2 specifically endorses the progressive realisation of the right to adequate food within the context of national food security and encourages support for Net Food-Importing Developing Countries (NFIDCs). Principle 4 directs the members to facilitate open, fair, predictable, and rules-based agriculture and food trade, avoid export restrictions and reduce market distortions in accordance with the relevant WTO rules.

In 2024, the Brazilian presidency hosted the first G20 agricultural ministerial (the 2024 Chapada dos Guimarães meeting) to be jointly led by three ministries (Agriculture and Livestock, Agrarian Development and Family Farming; and Fisheries and Aquaculture). It proposed establishing the Global Alliance Against Hunger and Poverty at the November 2024 Rio Leaders' Summit to support eradication of hunger and poverty (SDGs 1 and 2) while reducing inequalities (SDG 10) through global partnerships for sustainable development (SDG 17) (G20 Agriculture Ministers, 2024, para. 4). Its commitments are divided into four key priority areas: sustainability of agriculture and food systems, international trade's contribution to food security, family farmers, smallholders, Indigenous Peoples and local communities, and integration of sustainable fisheries and aquaculture into value chains. Priority III notes that small-scale family farms (less than 2 hectares) account for more than 84% of all farms and produce approximately 36% of global food production (para. 28).

Food security, nutrition and livelihood security are conceptually distinct but empirically inseparable. A thematic representation of evolution and convergence of the agricultural agendas of BRICS and G20 is depicted in Figure 1. A clear timeline depicting the evolution of both the BRICS and G20 meetings relating to the agricultural sector is presented in Appendix B.

Different starting points, shared destination: building inclusive, resilient and sustainable agrifood systems

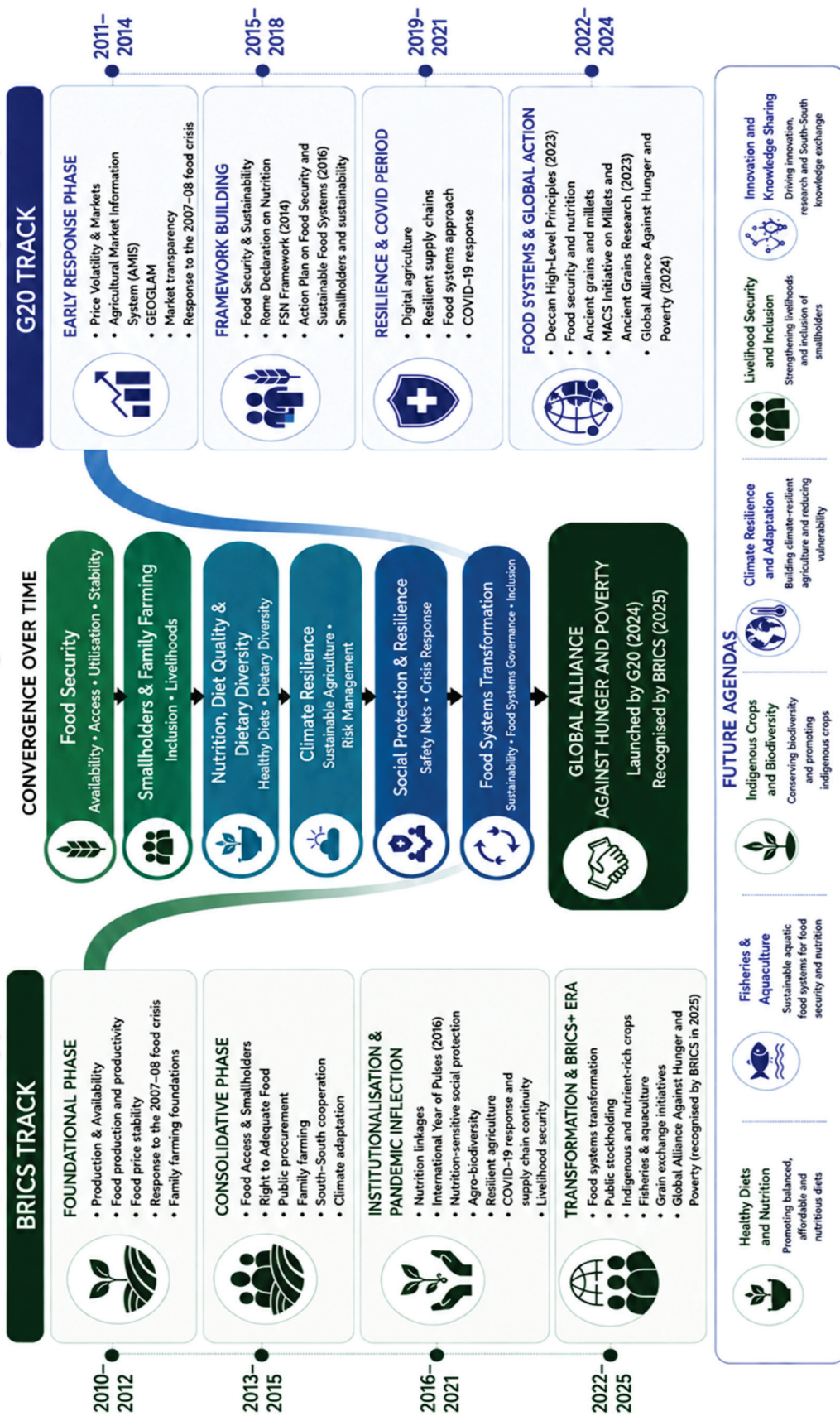


Figure 1: Feeding the multipolar world: BRICS and G20 agricultural evolution (2010–2025)

5. The Nutrition Dimension

5.1. From Calorie Adequacy to Dietary Diversity: The Evolution of Nutrition in G20 and BRICS

Both the BRICS and G20 forums originally treated nutrition as the second word in the conjoint phrase ‘food security and nutrition’ without providing any substantive details. Substantive engagement with nutrition emerged in the G20 in 2015 with the reaffirmation of the Rome Declaration on Nutrition adopted by the Second International Conference on Nutrition (G20 Agriculture Ministers, 2015, para. 4). The 2016 G20 Xi’an meeting reaffirmed that despite tremendous efforts, 795 million people globally still suffer from chronic hunger and 2 billion from malnutrition (G20 Agriculture Ministers, 2016, para. 2) and operationalised the G20 FSN Framework and the Action Plan on Food Security and Sustainable Food Systems. The 2018 Buenos Aires text documented further deterioration in the situation, with global hunger touching 815 million and about 2 billion suffering from micronutrient deficiencies (G20 Agriculture Ministers, 2018, para. 3).

The BRICS engagement with nutrition follows a similar trajectory. The nutrition agenda has evolved from a near-exclusive concern with undernourishment to an interest in dietary diversity and nutrient-rich crops. The 2016 New Delhi text linked pulses to dietary nutrition (BRICS Agriculture Ministers, 2016, para. 16), and the 2020 declaration explicitly acknowledged that more than 820 million people were globally hungry and about 2.5 billion experienced micronutrient deficiency (BRICS Agriculture Ministers, 2020, para. 6). The 2024 Moscow declaration links nutrition to the promotion of indigenous, nutrient-rich, and climate-resilient crops, such as ancient and orphan crops (BRICS Agriculture Ministers, 2024, page 2). All of these together signal a recognition that diet quality and diversity, rather than calorie adequacy, are important for nutrition. The Global Forum on Nutrition-Sensitive Social Protection Programmes: Towards Partnership for Development was held in Moscow in 2015, and it articulated the importance of promoting the establishment of more comprehensive nutrition-sensitive social protection programmes (BRICS Agriculture Ministers, 2015b, para. 16). The 2025 Brasilia declaration reaffirms commitment to implementing the BRICS Strategy on Food Security Cooperation, which is based in part on the Deccan High-Level Principles (BRICS Agriculture Ministers, 2025, para. 4).

5.2. Integrating Nutrition and Social Protection Instruments

A distinctively BRICS contribution to the nutrition discussion has been the linkage between nutrition outcomes and social protection instruments, in particular public food distribution, school feeding programmes, and procurement from smallholders. The 2015 Brasilia meeting (BRICS Agriculture Ministers, 2015a, para. 3) identifies public procurement programmes that purchase food from family farmers for food distribution,

school feeding, and other programmes as policy instruments for achieving food security and improved nutrition. The 2020 declaration (BRICS Agriculture Ministers, 2020, para. 35) recognises the role of school feeding programmes as one of the most effective tools among social protection policies and emphasises their contribution to achieving the SDGs.

In the G20 track, nutrition-sensitive social protection appears in the 2018 Buenos Aires text on safety nets, in the 2020 Riyadh summit estimate of the additional 265 billion US dollars per year required during 2016–2030 to end hunger (G20 Agriculture and Water Ministers, 2020, para. 7), and most prominently in the Deccan Principle 2 on enhancing availability and access to nutritious food and strengthening food safety nets (G20 Agriculture Ministers, 2023, Principle 2). Principle 2 explicitly encourages food- and cash-based safety net programmes and the sharing of best practices and experiences — language supportive of Indian programmes such as the Public Distribution System (PDS), the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) and the Integrated Child Development Services/Mid-Day Meal arrangements.

5.3. Beyond Deficiency Management: The Missing Dimensions of Nutrition

Both the BRICS and G20 are increasingly acknowledging the role of biofortified, indigenous and traditional crops in addressing nutrient inadequacy. The 2016 BRICS New Delhi text welcomed the International Year of Pulses and attempted to promote the value of pulses throughout the food system, recognising their beneficial effect on soil fertility and in ameliorating malnutrition (BRICS Agriculture Ministers, 2016, para. 16). The 2023 G20 Hyderabad text takes note that biofortification can be an effective way to improve nutrition and commits to building the evidence base on biofortified crop varieties (G20 Agriculture Ministers, 2023, para. 9); it also welcomes the 12th MACS initiative for research on millets and other ancient grains (para. 8). The 2024 BRICS Moscow text refers to indigenous, nutrient-rich and climate-resilient crops, such as ancient and orphan crops, as critical to achieving SDG 2 (BRICS Agriculture Ministers, 2024, page 2).

Nonetheless, the BRICS nutrition agenda has a limited impact on the nutrition transition. According to recent research (Masters et.al., 2022; Jumrani 2023), as low- and middle-income economies grow, undernutrition decreases while overweight, obesity and diet-related noncommunicable diseases rise, resulting in a double or triple burden of malnutrition that no emerging economy has yet avoided. According to the most recent SOFI estimates, approximately 2.6 billion people were unable to afford a healthy diet in 2024, and the cost of healthy diets is increasing, with affordability being a key determinant of nutritional outcomes (SOFI 2025). These dimensions — namely overnutrition, ultra-processed foods, food environments and the affordability of healthy diets — are largely absent from the texts, which continue to treat nutrition as primarily a deficiency

management issue. Given that several members are already in the process of transitioning to a healthier diet, this is a significant gap rather than a point of emphasis.

6. The Livelihood Security Dimension

6.1. The Strongest Convergence: Prioritising Smallholders and Family Farmers

The treatment of smallholders and family farmers represents the strongest area of convergence between the BRICS and G20 tracks. The G20 has anchored its smallholder language in successive instruments: the Paris 2011 commitment to give special attention to smallholders, especially women and young farmers, in developing countries (G20 Agriculture Ministers, 2011, para. 13); the 2015 Istanbul reference to the FSN Framework Implementation Plan; the 2018 Buenos Aires nine-point set of targeted measures for family farmers (para. 5); the 2020 Riyadh recognition of the UN Decade of Family Farming (para. 11); the 2021 Florence statement that at least 75% of the world's poor live in rural areas (para. 7); and the 2024 Chapada dos Guimarães priority on family farmers (para. 28).

BRICS engagement with smallholders is similarly cumulative. The 2010 Moscow text already speaks of the development of family farming as a contribution to global food security. The 2014 International Year of Family Farming was welcomed in the 2013 Pretoria Declaration (BRICS Agriculture Ministers, 2013, para. 25), and the 2015 Brasilia text recognised the importance of public procurement programmes that purchase food from family farmers (para. 3). The 2016 New Delhi text addressed the viability challenges that smallholdings face (BRICS Agriculture Ministers, 2016, para. 6), and the 2021 Delhi text under India's presidency dedicated a sub-section to 'Small and family farmers, empowerment through cooperation' (paras. 9 and 10), including the recognition of the UN Decade of Family Farming 2019–2028. The term livelihood security enters the BRICS lexicon explicitly only in 2020, when the tenth meeting commits members to social protection programmes as a tool to reduce rural poverty and to ensure the food and livelihood security of vulnerable populations whose agrarian sectors are composed primarily of small and marginal farmers (BRICS Agriculture Ministers, 2020, para 33).

The 2025 Brasilia Declaration goes furthest in its paragraph 10 on the Dialogue on Public Policies to Strengthen Family Farming. In collaboration with FAO and IFAD, and in coordination with the UN Decade on Family Farming, it recognises that family farmers –including smallholders, pastoralists, artisanal and small-scale fishers, Indigenous Peoples, local communities, women, and youth – are essential components of national agricultural and food systems.

6.2. The Blue Transformation: Integrating Fisheries and Aquaculture

Fisheries and aquaculture as a source of livelihood were included in the BRICS texts during India's presidency in 2021. Paragraph 12 of the 2021 declaration recognises

fisheries and aquaculture as a major source of livelihood and food security for millions of people in the BRICS countries and commits the bloc to strengthen cooperation in this field, with a focus on traditional fisher communities. The 2022 declaration acknowledges the enormous contribution of fisheries and aquaculture to food security and nutrition in the BRICS countries and pledges closer economic cooperation to ensure people's livelihoods (BRICS Agriculture Ministers, 2022, para. 11). The 2025 Brasilia declaration is the pinnacle: paragraph 12 acknowledges that sustainable fisheries and aquaculture play a pivotal role in improving food security and nutrition while generating income, livelihood and employment opportunities for millions of people in the Global South and constitutes the BRICS Dialogue on Sustainable Fisheries and Aquaculture Management for intersessional work. The Action Plan 2025–2028, section 1.4, operationalises this dialogue.

In the G20, fisheries enter through the 2024 Chapada dos Guimarães Priority IV on promoting the integration of sustainable fisheries and aquaculture into local and global value chains (G20 Agriculture Ministers, 2024, paras. 32–37). The 2024 text urges WTO members to submit their instruments of acceptance for the 2022 WTO Agreement on Fisheries Subsidies (para. 34) and refers to the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and the FAO Guidelines on Sustainable Aquaculture (para. 35). Paragraph 37 endorses the FAO's proposed Blue Transformation Roadmap.

6.3. Evolving Frameworks for Rural Revitalisation and Family Farming

Beginning in 2019, the language of rural revitalisation appears prominently in the BRICS texts. The Bonito Declaration discusses the potential for rural revitalisation to safeguard and expand common interests (BRICS Agriculture Ministers, 2019, para. 3), while the 2022 Beijing Declaration commits to comprehensive rural revitalisation and to delivering more development gains to farmers (BRICS Agriculture Ministers, 2022, para. 19). The 2025 declaration emphasises rural revitalisation in connection with the BRICS Dialogue on Family Farming and identifies rural job creation, empowerment of rural and fishing communities, and inclusive policies for family and smallholder farmers as central concerns (BRICS Agriculture Ministers, 2025, para. 1).

The G20 equivalent narrative is built on the 2017 Initiative for Rural Youth Employment, the 2018 Buenos Aires recognition of women and young people, the 2020 Riyadh statement on rural communities and value chains, the 2021 Florence emphasis on inclusive rural transformation, decent work, and equitable access to healthy diets (G20 Agriculture Ministers, 2021, para. 7), and the 2024 Chapada dos Guimarães priority on family farmers (paras. 26–31). The 2024 text invokes the targeted policies that promote the sustainability and resilience of family farms and highlights the importance of access to land, financial services, technical assistance, rural extension, insurance and public procurement of food from family farmers (para. 27).

6.4. Financing Resilience: Credit, Insurance and Institutional Investment

The financial inclusion strand is less developed than the production strand, but it is well established. BRICS texts emphasise the importance of accessible institutional credit and insurance for risk management and resilience, particularly for smallholders and family farmers transitioning from subsistence farming to market production, ensuring sustainable livelihoods (BRICS Agriculture Ministers, 2021, para. 14). The 2024 declaration refers to the BRICS Grain Exchange initiative and the role of the New Development Bank (NDB) in agricultural financing, and the Action Plan 2025–2028 sections 1.1 and 1.4 envisage NDB engagement on food security, family farming and fisheries. In the G20 track, the 2011 Paris Action Plan Annex 5 on the Agriculture and Food Security Risk Management Tool-Box, the 2018 Buenos Aires reference to risk-management instruments for the most vulnerable, the 2020 Riyadh Statement on Responsible Investment in Agriculture and Food Systems (RIAFS), and the 2023 Deccan Principle 7 on scaling up responsible public and private investments in agriculture all contribute to building a more sophisticated financing architecture.

In general, the discussion around livelihood security in the texts is conceptually thin: it is treated primarily as a function of farm productivity and transfers, with little emphasis on agricultural wage labour, the rural non-farm economy, or the structural transformation that is reshaping rural employment across the BRICS.

7. Cross-forum Architecture

7.1. The Committee on World Food Security and the Governance of the Right to Adequate Food

The CFS is the most frequently mentioned external institution in the BRICS and G20 agricultural documents. Its 2004 Voluntary Guidelines on the Right to Adequate Food are referenced explicitly in G20 Paris 2011 (para. 4), BRICS Agriculture Ministers, 2015b (para. 2), BRICS Agriculture Ministers, 2020 (para. 36), and the 2023 Deccan Principle 2. The CFS 2012 VGGT are recognised in G20 Berlin 2017 (para. 22), G20 Riyadh 2020 (para. 8), and BRICS Agriculture Ministers, 2015b (para. 17). The CFS-RAI Principles (2014) are frequently cited as the operative reference for responsible investment in G20 Berlin 2017 (para. 22), G20 Florence 2021 (para. 7), G20 Riyadh 2020 (paras. 8–10), and BRICS Agriculture Ministers, 2015b (para. 11). The G20 Florence meeting welcomed the 2021 CFS Voluntary Guidelines on Food Systems and Nutrition (para. 3). The CFS instruments, taken together, constitute a shared external normative framework that both the forums acknowledge. This is significant for India, as the right to adequate food serves as the legal foundation on which the constitutional right to food, the National Food Security Act 2013 and the operation of the public food distribution system depend.

7.2. The WTO Architecture: Balancing Trade Facilitation and Food Security

Both the BRICS and G20 declarations consistently reaffirm a rules-based multilateral trading system with the WTO at its core. The key difference between the two formulations is the relative importance of S&DT versus export restrictions and trade-distorting domestic support. Since 2013, the BRICS texts have repeatedly stressed the Doha Round's development dimension (BRICS Agriculture Ministers, 2013, para. 16; 2015a, para. 4), the elimination of agricultural export subsidies (2015a, para. 13; 2016, para. 12), and a permanent solution to public stockholding for food security purposes (2015a, para. 13; 2023, para. 11). The 2024 Moscow declaration introduces the strongest formulation: S&DT is explicitly included in the description of the desired multilateral trading system (BRICS Agriculture Ministers, 2024, page 2). The 2025 Brasilia text and Action Plan 2025–2028 carry forward this position in the context of grain trade settlement infrastructure and the Principles on Agricultural Trade Facilitation adopted by the Russian presidency in 2024.

The G20 texts emphasise non-discrimination, market predictability, and disciplines on export restrictions and trade-distorting support. The Paris 2011 commitment not to impose food export restrictions on humanitarian purchases by the WFP (G20 Agriculture Ministers, 2011, para. 40) was reaffirmed at subsequent WTO Ministerial Conferences. The 2020 Riyadh Declaration's paragraph 4 commitment to refrain from introducing export restrictions on agricultural products during COVID-19 was the most effective G20 trade commitment during the pandemic. The 2023 Deccan Principle 4 directs members to facilitate open, fair, predictable, and rules-based agriculture and food trade, avoid export restrictions, and reduce market distortions, in accordance with relevant WTO rules. The G20 2024 Chapada dos Guimarães declaration (para. 21) calls for engagement on the long-standing WTO reform process on agriculture at the Ministerial Conference (MC) 14.

7.3. UN Frameworks for Family Farming and Agricultural Heritage

The UN Decade of Family Farming 2019–2028 (UNDF) is a cross-cutting reference welcomed in BRICS 2020 (BRICS Agriculture Ministers, para. 27) and 2021 (para. 9) and in G20 2020 Riyadh (para. 11) and G20 2024 Chapada dos Guimarães (paras. 27 and 30). The FAO Hand-in-Hand Initiative is recognised in BRICS 2020 (BRICS Agriculture Ministers, 2020, para. 36); the Globally Important Agricultural Heritage Systems (GIAHS) initiative in BRICS 2020 (para. 31), 2024 (page 5) and 2025 (para. 31); and the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and the FAO Guidelines on Sustainable Aquaculture in G20 2024 (G20 Agriculture Ministers, 2024, para. 35).

7.4. The Climate-Agriculture Nexus in Multilateral Climate Frameworks

Both the tracks serve as anchors for climate engagement in the UNFCCC and the Paris Agreement. BRICS 2020 (para. 28), 2023 (para. 3) and 2024 (page 5) make reference to the Koronivia Joint Work on Agriculture and its successor, the Sharm El-Sheikh Joint Work on Implementation of Climate Action in Agriculture and Food Security, which was agreed upon at COP 27. The COP28 Emirates Declaration and the FAST Partnership launched at COP27 are recognised in BRICS 2024 (page 5). G20 references include the 2017 Berlin support for the Paris Agreement, the 2023 Hyderabad welcome of the Sharm El-Sheikh Joint Work (page 5), and the 2024 Chapada dos Guimarães reference to the Emirates Declaration (G20 Agriculture Ministers, 2024, para. 10).

7.5. The 2021 UN Food Systems Summit and the Shift in Terminology

The 2021 UN Food Systems Summit (UNFSS) coincides with the consolidation of the food-systems framework in both the BRICS and G20 documents. The G20 Florence 2021 declaration acknowledges that G20 actions are mutually reinforcing with the Summit's efforts (G20 Agriculture Ministers, 2021, para. 20), and BRICS texts beginning in 2021 use agri-food-systems terminology consistently. The 2024 SOFI estimates referenced in G20 2024 (para. 3) inform the 2025 BRICS Brasilia diagnostic.

7.6. Bridging BRICS and G20: The Global Alliance Against Hunger and Poverty and Deccan Principles

The Global Alliance Against Hunger and Poverty, which was launched at the G20 Rio Leaders' Summit in November 2024, is the most significant new institutional architecture during the period under review. BRICS 2025 (BRICS Agriculture Ministers, 2025, paras. 3–4) explicitly recognises the Alliance and identifies it as building on the Deccan High-Level Principles on Food Security and Nutrition, which were adopted under the Indian G20 in 2023. The BRICS Action Plan 2025–2028 (section 1.1) commits the BRICS to contributing to the Global Alliance based on capacity, coordinating with its support mechanism and engaging with the NDB on financing instruments. This is one of the most concrete operational consequences of the Indian 2023 G20 deliverables, providing a textual platform for the country to shape its implementation in 2026.

8. Convergences, Divergences and Implications

The institutional synergy between BRICS and the G20 is increasingly defined by a shared, substantive agenda for global agricultural governance and hunger alleviation. A critical analysis of their policy outputs reveals five core dimensions of convergence in which both the forums effectively align their normative frameworks and operational priorities.

8.1. Consolidating Norms for Small-Scale Producers

At the foundational level, both forums share a distinct paradigm that positions food security and nutrition not merely as economic challenges but as central pillars of global development. This architecture is anchored by a mutual commitment to the right to adequate food as a guiding normative benchmark, with the CFS Voluntary Guidelines as their primary operational instruments.

This rights-based framework directly influences their shared focus on family farmers and smallholders, who form the structural foundation of global agriculture. Both BRICS and the G20 have explicitly endorsed the UN Decade of Family Farming (2019–2028), recognising that sustainable global food systems depend on empowering localised, small-scale producers.

8.2. Domestic Safety Nets and Climate-Resilient Agriculture

Beyond high-level endorsements, this institutional alignment translates into concrete, state-led interventions designed to stabilise domestic food security. Both forums place significant emphasis on the deployment of institutional mechanisms, particularly public procurement programmes and food safety nets, to safeguard the vulnerable populations from market volatility and chronic undernutrition (BRICS Agriculture Ministers, 2023, Deccan Principle 2).

In tandem with these socio-economic safety nets, there is a prominent and shared shift towards promoting agronomic diversity and resilience. Recognising the dual simultaneous risks of climate change and widespread nutrient deficiencies, both blocs have advocated for the incorporation of climate-resilient, indigenous and highly nutritious crops. This includes a coordinated effort to promote the cultivation and consumption of millets, pulses and ancient grains as scalable solutions to global nutrient inadequacy.

8.3. Mitigating Volatility through Market Intelligence Synergy

Finally, the convergence extends to the digital and informational architecture of global markets. To mitigate the risks of systemic shocks and price spikes, both BRICS and the G20 heavily rely on international market-information instruments to foster transparency and coordinate crisis responses. These mainly include the AMIS and GEOGLAM. By integrating these platforms into their frameworks, both forums demonstrate their shared opinion that data-driven transparency and real-time monitoring are indispensable tools for addressing global agricultural volatility.

While BRICS and the G20 display significant alignment on the normative objectives of food security, their consensus breaks down across several structural, regulatory and geopolitical dimensions. An examination of the recent summit declarations highlights three key material areas of divergence that reflect the differing systemic priorities and geopolitical composition of the two forums.

8.4. Fractured Visions for International Trade Rules

The first critical point of friction revolves around the rules governing international agricultural trade. Within the BRICS declarations, agricultural trade is consistently viewed through a developmental lens. These texts place significant weight on S&DT, the preservation of public stockholding for food security purposes and the unfulfilled development mandate of the WTO's Doha Round.

Conversely, the G20 texts reflect a market liberalisation paradigm favoured by advanced economies, emphasising the enforcement of strict disciplines against export restrictions and the reduction of trade-distorting domestic support. Despite these divergent orientations, a fragile diplomatic compromise has emerged in the form of Deccan Principle 4, which serves as a textual bridge endorsed by both the groupings to reconcile food security priorities with multilateral trade obligations.

8.5. Divergent Regimes for Ag-Tech and Innovation Governance

A second divergence appears within the regulatory perimeter defining biotechnology, digital agriculture and intellectual property. The G20 framework, as evidenced by declarations from Niigata (2019), Hyderabad (2023), and Chapada dos Guimarães (2024), places heavy emphasis on robust intellectual property rights (IPR) protection aligned with the World Intellectual Property Organization (WIPO) frameworks. This approach prioritises commercialisation incentives and investor security.

In contrast, the BRICS declarations shift the regulatory focus towards equity and inclusivity. The BRICS narrative prioritises voluntary technology transfer on mutually agreed terms (MAT), the protection of traditional knowledge and ensuring that digital and biotechnological innovations remain affordable and accessible to smallholders rather than restricted by rigid patent regimes.

8.6. Institutional Cohesion and the Impact of Geopolitical Crises

Finally, the most acute divergence is found in the way both the forums navigate the broader geopolitical landscape, specifically regarding the war in Ukraine. From 2022 onwards, the G20 communiqués have laid bare deep internal fractures, relying on fragmented language that records the conflict as the position of most members alongside explicit footnotes detailing Russian and Chinese dissociation. BRICS texts, by design, avoid this characterisation entirely to preserve intra-bloc cohesion among its expanded membership.

9. Conclusion

This narrative review has evaluated the progress of food security and nutrition besides livelihood security across the BRICS and G20 agricultural tracks from 2010 to 2025,

situating the two within a larger multilateral architecture. A few key patterns are noteworthy. The trajectory of the agricultural agenda has been one of progressive widening: from the narrow framing of food production, price volatility and adaptation to climate change that dominated the early BRICS Moscow (2010), BRICS Chengdu (2011) and G20 Paris (2011) declarations towards an integrated agenda spanning resilient food systems, family farming, fisheries and aquaculture, rural revitalisation, land restoration, agrobiodiversity, and nascent market institutions for reserves, grain trade etc.

The expansion of BRICS has amplified the bloc's scale and reoriented it towards an explicit Global South identity. The composition of the membership has evolved from a relatively homogeneous group of large producers to a more diverse coalition that now includes significant net food importers and water-scarce economies. The expanded bloc's agenda has now tentatively begun to be addressed through new innovative instruments for reserves, grain trade and import financing.

The right to adequate food has emerged as the shared normative anchor, with the CFS Voluntary Guidelines serving as the operative instruments across both tracks. The livelihood-security strand has crystallised most sharply in BRICS, culminating in the 2025 Brasilia declaration's tri-ministerial structure and its explicit attention to family farmers, smallholders, pastoralists, artisanal fishers, Indigenous Peoples, and local communities. The launch of the Global Alliance Against Hunger and Poverty at the Rio G20 Leaders' Summit (2024), which builds on the Deccan High-Level Principles (G20 Hyderabad 2023), establishes a new institutional platform that BRICS 2025 has supported. Reconciliation of the BRICS and G20 trade formulations around shared concept such as NFIDCs, S&DT and the right to food remains the principal drafting challenge, for which Deccan Principle 4 can serve as a useful bridge.

This review also assists in identifying some research gaps in evidence, conceptualisation and policy coherence. In particular, while the BRICS coalition articulates a comprehensive vision for agricultural cooperation, a persistent gap remains between declaratory ambitions and actionable policy. To transition from a platform of high-level consensus to an engine for measurable food-security and livelihood outcomes, future policy and academic research must address several critical empirical and conceptual deficits across three primary domains. First, the bloc lacks outcome-level monitoring. Establishing a harmonized framework with verified statistical baselines is critical for correcting data conflation, tracking progress and ensuring institutional transparency.

Second, recent expansion has turned the bloc into a complex network of major exporters and net importers. This necessitates reassessing intra-bloc trade complementarities and reconciling divergent positions on WTO public-stockholding rules and trade-distorting support. Third, BRICS should broaden its conceptual paradigms. The nutrition agenda must pivot from deficiency management to addressing the double burden of malnutrition and dietary affordability. Concomitantly, livelihood security must expand beyond

smallholder productivity to encompass off-farm rural economies, while firmly integrating climate finance into agricultural adaptation strategies. Ultimately, for the expanded BRICS to leverage its collective agricultural weight, the coalition must shift away from broad declarations and towards targeted, verifiable interventions based on robust, harmonised empirical data.

References

- BRIC Agriculture Ministers (2010) Moscow Declaration of BRIC Ministers of Agriculture and Agrarian Development. First Meeting, Moscow, 26 March 2010.
- BRICS (2022) BRICS Strategy on Food Security Cooperation. Adopted under the Chinese Presidency, 2022.
- BRICS Agriculture Action Plan (2021-2024) Action Plan 2021–2024 for Agricultural Cooperation of BRICS Countries. Adopted at the Eleventh Meeting of BRICS Agriculture Ministers.
- BRICS Agriculture Action Plan (2025–2028) Action Plan 2025–2028 for Agricultural Cooperation of BRICS Countries. Adopted at the Fifteenth Meeting of BRICS Agriculture Ministers, Brasilia, 17 April 2025.
- BRICS Agriculture Ministers (2011) Joint Declaration of the Second Meeting of BRICS Ministers of Agriculture and Agrarian Development. Chengdu, China, 30 October 2011.
- BRICS Agriculture Ministers (2013) Joint Declaration of the Third Meeting of BRICS Ministers of Agriculture and Agrarian Development. Pretoria, South Africa, 29 October 2013.
- BRICS Agriculture Ministers (2015a) Joint Declaration of the Fourth Meeting of BRICS Ministers of Agriculture and Agrarian Development. Brasilia, Brazil, 13 March 2015.
- BRICS Agriculture Ministers (2015b) Joint Declaration of the Fifth Meeting of BRICS Ministers of Agriculture and Agrarian Development. Moscow, Russian Federation, 9 October 2015.
- BRICS Agriculture Ministers (2016) Joint Declaration of the Sixth Meeting of BRICS Ministers of Agriculture. New Delhi, India, 23 September 2016.
- BRICS Agriculture Ministers (2017) Joint Declaration of the Seventh Meeting of BRICS Ministers of Agriculture. Nanjing, China, 16 June 2017.
- BRICS Agriculture Ministers (2019) Bonito Declaration of the Ninth Meeting of BRICS Ministers of Agriculture. Bonito, Brazil, 26 September 2019.
- BRICS Agriculture Ministers (2020) Joint Declaration of the Tenth Meeting of the BRICS Ministers of Agriculture and Agrarian Development. Virtual Meeting (Russian Federation Presidency), 23 September 2020.
- BRICS Agriculture Ministers (2021) Joint Declaration of the Eleventh Meeting of BRICS Ministers of Agriculture. Virtual Meeting (Indian Presidency), 27 August 2021.
- BRICS Agriculture Ministers (2022) Joint Declaration of the Twelfth Meeting of BRICS Ministers of Agriculture. Virtual Meeting (Chinese Presidency), 8 June 2022.
- BRICS Agriculture Ministers (2023) Joint Declaration of the Thirteenth Meeting of BRICS Ministers of Agriculture. Limpopo Province, South Africa, 12 August 2023.

- BRICS Agriculture Ministers (2024) Joint Declaration of the Fourteenth Meeting of BRICS Ministers of Agriculture. Moscow, Russian Federation, 28 June 2024.
- BRICS Agriculture Ministers (2025) Joint Declaration of the Fifteenth Meeting of BRICS Ministers of Agriculture. Brasilia, Federal District, Brazil, 17 April 2025.
- Committee on World Food Security (2004) Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security. FAO, Rome.
- Committee on World Food Security (2012) Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT). FAO, Rome.
- Committee on World Food Security (2014) Principles for Responsible Investment in Agriculture and Food Systems (CFS-RAI). FAO, Rome.
- Committee on World Food Security (2021) CFS Voluntary Guidelines on Food Systems and Nutrition. FAO, Rome.
- FAO, IFAD, UNICEF, WFP and WHO (2024) *The State of Food Security and Nutrition in the World 2024: Financing to end hunger, food insecurity and malnutrition in all its forms* (SOFI 2024). FAO, Rome.
- Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development (IFAD), United Nations Children’s Fund (UNICEF), World Food Programme (WFP), & World Health Organization (WHO). (2025). *The State of Food Security and Nutrition in The World 2025: Addressing high food price inflation for food security and nutrition* (SOFI 2025). FAO.
- G20 (2014) G20 Food Security and Nutrition Framework. Adopted under the Australian Presidency.
- G20 (2016) G20 Action Plan on Food Security and Sustainable Food Systems. Adopted under the Chinese Presidency.
- G20 (2021) G20 Matera Declaration on Food Security, Nutrition and Food Systems. Italian Presidency, 29 June 2021.
- G20 (2024) Global Alliance Against Hunger and Poverty. Launched at the G20 Leaders’ Summit, Rio de Janeiro, Brazil, 18–19 November 2024.
- G20 Agriculture and Water Ministers (2020) Communiqué. Virtual Meeting (Saudi Presidency), 12 September 2020.
- G20 Agriculture Ministers (2011) Ministerial Declaration. Action Plan on Food Price Volatility and Agriculture. Paris, France, 22–23 June 2011.
- G20 Agriculture Ministers (2015) Final Communiqué. Istanbul, Turkey, 7–8 May 2015.
- G20 Agriculture Ministers (2016) Communiqué. Xi’an, China, 3 June 2016.
- G20 Agriculture Ministers (2017) G20 Agriculture Ministers’ Declaration 2017: Towards food and water security: Fostering sustainability, advancing innovation. Berlin, Germany, 22 January 2017.
- G20 Agriculture Ministers (2018) Declaration of the G20 Meeting of Agriculture Ministers. Buenos Aires, Argentina, 27–28 July 2018.

- G20 Agriculture Ministers (2019) G20 Agriculture Ministers' Declaration. Niigata, Japan, 11–12 May 2019.
- G20 Agriculture Ministers (2021) G20 Agriculture Ministers' Meeting Communiqué. Florence, Italy, 17–18 September 2021.
- G20 Agriculture Ministers (2023) Outcome Document and Chair's Summary, with Annex: Decan High-Level Principles on Food Security and Nutrition 2023. Hyderabad, India, 16–17 June 2023.
- G20 Agriculture Ministers (2024) G20 Agriculture Ministers Declaration. Chapada dos Guimarães, Mato Grosso, Brazil, 12–13 September 2024.
- G20 Joint Finance and Agriculture Ministers (2022) Chair's Summary of the G20 Joint Finance and Agriculture Ministers' Meeting. Washington DC, USA (Indonesian Presidency), 11 October 2022.
- G20 Meeting of Agricultural Chief Scientists (MACS) (2023) Chair's Summary and Outcome Document. Varanasi, India, 17–19 April 2023.
- Jumrani, J. (2023). How responsive are nutrients in India? Some recent evidence. *Food Policy*, 114, 102379.
- Masters, W. A., Finaret, A. B., & Block, S. A. (2022). The economics of malnutrition: Dietary transition and food system transformation. *Handbook of Agricultural Economics*, 6, 4997–5083.
- Second International Conference on Nutrition (ICN2) (2014) Rome Declaration on Nutrition and Framework for Action. FAO/WHO, Rome, 19–21 November 2014.
- UN General Assembly (2017) Resolution 72/239 proclaiming the United Nations Decade of Family Farming 2019–2028.
- UNFCCC (2022) Sharm El-Sheikh Joint Work on Implementation of Climate Action on Agriculture and Food Security. Decision 3/CP.27.
- UNFCCC (2023) Emirates Declaration on Sustainable Agriculture, Resilient Food Systems and Climate Action. COP28, United Arab Emirates.
- United Nations (2015) Transforming our world: the 2030 Agenda for Sustainable Development. UN General Assembly Resolution A/RES/70/1.
- WTO (2013) Ministerial Decision on Public Stockholding for Food Security Purposes. WT/MIN(13)/38, Bali.
- WTO (2022) Agreement on Fisheries Subsidies. WT/MIN(22)/33.
- WTO (2022) Ministerial Declaration on the Emergency Response to Food Insecurity. WT/MIN(22)/28, Geneva.

AI Declaration: The authors used artificial intelligence (AI) tools to edit, proofread, and refine the text of this document for clarity and language consistency. Following this process, the authors reviewed and edited the content as necessary and take full responsibility for the final text and any errors or inaccuracies contained within the document.

Appendix A. Thematic Synthesis Matrix

The matrix below maps issues under food security, nutrition and livelihood security to their occurrence in BRICS and G20 declarations and allied strategy documents.

Issue	BRICS Agriculture Declarations (year, paragraph)	G20 Agriculture Declarations (year, paragraph)
A. FOOD SECURITY		
Right to adequate food (progressive realisation)	2015b para. 2; 2020 para. 36;	2011 para. 4; 2017 para. 3; 2018 para. 4; 2023 Principle 2; 2024 para. 12
Hunger and undernourishment (numerical baselines)	2015b para. 14 (795m); 2020 para. 6 (820m + 2.5bn); 2024 page 2	2015 paras. 2–4; 2016 para. 2 (795m + 2bn); 2018 para. 3 (815m + 2bn); 2024 para. 3 , 4 (733m + 2.8bn)
Public stockholding for food security purposes	2015a paras.13; 2023 para. 11; Action Plan 2025–28 sec. 1.2, 2015a para.3	Cross-reference to WTO MC9 Bali Decision and ongoing negotiations
Net Food-Importing Developing Countries (NFIDCs)	--	2023 para. 6; 2023 Principle 2; 2024 para. 24
Food safety nets and social protection	2015a para. 3 (school feeding); 2015b para. 16; 2020 para. 35; 2023 para. 6	2018 para. 5; 2020 para. 11; 2023 Principle 2; 2024 par25
AMIS and GEOGLAM (market information)	2013 para. 6; 2020 para. 14	2011 paras. 26–32; 2015 para. 3; 2020 para. 6; 2021 para. 16; 2023 para. 11; 2024 para. 22
Food loss and waste	2017 para. 7; 2019 para. 22; 2021 para. 11; 2022 para. 13; 2023 para. 7; 2024 page 2	2015 para. 1; 2016 para. 5; 2017 para. 28; 2018 paras. 1922; 2020 paras. 12–15-17; 2023 para. 17; 2024 para. 10, 11, and 23
Public food procurement from family farmers	2015a para. 3; 2025 para. 9 BRICS 2020 (para. 35);	2023 Principle 2; 2024 para. 27
Food reserves and contingency arrangements	2025 Action Plan section 1.2 (BRICS Contingency Grains Reserve Arrangement)	2011 Annex 6 (Emergency Humanitarian Food Reserves)
Global Alliance Against Hunger and Poverty	2025 paras. 3–4; Action Plan section 1.1 -1.4	2024 para. 4; Rio Leaders' Summit launch November 2024
Deccan High-Level Principles on Food Security and Nutrition	2025 para. 4 (built upon)	2023 paras. 8 and 3–24 and annex
B. NUTRITION		
Malnutrition in all its forms; micronutrient deficiency	2020 para. 6; 2024 page 2; 2025 para. 3, 2023, para. 6	2016 para. 2; 2018 para. 3 and 5; 2024 para. 3
Nutrition-sensitive social protection	2015b para. 16; 2020 paras. 34–35	2018 para. 5; 2020 para. 7; 2023 Principle 2
School feeding programmes	2015a para. 3; 2020 para. 35	--

Issue	BRICS Agriculture Declarations (year, paragraph)	G20 Agriculture Declarations (year, paragraph)
Bio-fortification and indigenous nutrient-rich crops	2016 para. 16 (only about pulses); 2023 para. 8 ; 2024 page 2 (orphan crops)	2023 paras. 8–9
Dietary diversity and healthy diets	2022 para. 13; 2024 page 2, 2016 para. 16	2021 para. 7; 2023 Principle 2; 2024 paras. 11–12
Cost of healthy diets	2025 para. 3	2024 para. 3 (2.8 billion cannot afford healthy diets)
C. LIVELIHOOD SECURITY		
Smallholders and family farmers (overall)	2010 section 1; 2015b para. 15; 2016 para. 6; 2021 paras. 9–10, 14; 2024 page 1; 2025 paras. 1–2, 10 2013 para. 25, 2015 para. 3	2011 para. 13; 2015 paras. 4–5(5 only); 2018 para. 5; 2020 para. 11; 2021 para. 7; 2024 paras. 26–31 28
Food and livelihood security (combined formulation)	2020 paras. 33–34; 2016, paras. 3 and 18); 2020, para 33).	Conceptually present in 2024 para. 26
Fisheries and aquaculture livelihoods	2021 para. 12; 2022 para. 11; 2025 para. 12; Action Plan 2025–28 sec. 1.4	2024 paras. 32–37 (Priority IV)
Rural revitalisation and rural employment	2019 para. 3; 2022 para. 19; 2024 page 5; 2025 paras. 1, 31	2020 para. 11; 2021 para. 7; 2024 para. 29
Women and youth in agriculture	2019 para. 25; 2021 para. 11; 2024 page 1; 2025 paras. 1, 32	2011 para. 13; 2018 para. 5; 2020 paras. 7, 11, 21; 2024 paras. 26, 29
Indigenous Peoples and local communities	2023 para. 4; 2024 page 1; 2025 paras. 10, 30	; 2024 paras. 23, 26 2025 para. 10
Financial inclusion, credit, insurance, NDB role	2021 para. 14; Action Plan 2025–28 sec. 1.1.B (NDB), 1.4.A	; 2018 para. 7; 2020 paras. 8–10 (RIAFS);
Traditional knowledge, GIAHS, agro ecology	2020 para. 31 (GIAHS); 2021 para. 7-8; 2024 page 5; 2025 paras. 25, 31	2023 paras. 8; 2024 para. 14
D. CROSS CUTTING ARCHITECTURE		
Multilateral trading system / WTO at core	2010 (Doha) page 1; 2011 para. 7; 2015a paras. 4, 12–13; 2017 para. 4; 2020 para. 13; 2023 paras. 10–11; 2024 page 2, 1	2011 paras. 37–39;3; 2017 paras. 22–24; 2020 para. 4; 2023 paras. 16–17; 2024 paras. 20–21 2022 para. 8
Special and differential treatment (S&DT)	2013 para. 16; 2023 para. 10; 2024 page 2	2024 para. 24 (NFIDCs)
SPS measures and standards	2015a para. 16; 2015b para. 13; 2017 para. 10; 2021 para. 13; 2024 page 4; 2025 para 55	2011 paras., 37; 2018 para. 25; 2023 para. 16
UN 2030 Agenda and SDGs	2015b para. 4; 2016 para. 8; 2017 para. 12; 2019 para. ,5; 2020 para. 26; 2021 paras. 2, 6; 2024 page 2; 2025 para. 28; 2024, (paras. 2-3)	2015 onwards as standard reference; 2017 para. 1-2 4; 2023 para. 10; 2024 paras. 1, 11

Issue	BRICS Agriculture Declarations (year, paragraph)	G20 Agriculture Declarations (year, paragraph)
UNFCCC, Paris Agreement, Sharm El-Sheikh Joint Work	2020 para. 28; 2023 para. 3; 2024 page 5; 2025 paras. 27–28	2017 paras. 5–6; 2018 para. 2; 2023 para. 15; 2024 paras. 5, 10
Convention on Biological Diversity and KMGBF	2021 paras. 7–8; 2024 page 5; 2025 para. 27	2021 para. 11; 2023 para. 14; 2024 para. 5
UN Decade of Family Farming 2019–2028	2020 para. 27; 2021 para. 9; 2025 para. 10; Action Plan 2025–28 sec. 1.3, 1.1-1.4	2020 paras. 11; 2024 paras. 27, 30, 31
FAO Hand-in-Hand and GIAHS Initiatives	2020 paras. 31, 36; 2024 page 5; 2025 para. 31	--
Antimicrobial resistance (AMR) and One Health	2021 para. 13 ; Action Plan 2021–24 sec. v	2017 paras. 20–21; 2018 para. 31; 2020 paras. 5, 16–17; 2021 para. 10; 2023 para. 13; 2024 paras. 17–18
Responsible investment (CFS-RAI Principles)	2015b para. 11; 2020 para. 15; 2021 para. 11; Action Plan 2025–28 sec. 1.7	2011 para. 22 (PRAI); 2017 para. 22; 2018 para. 26; 2020 paras.10 (RIAFS); 2021 para. 7; 2023 Principle 7

Appendix B. BRICS and G20 agricultural events between 2010 and 2025

BRICS AGRICULTURAL TRACK



G20 AGRICULTURAL TRACK

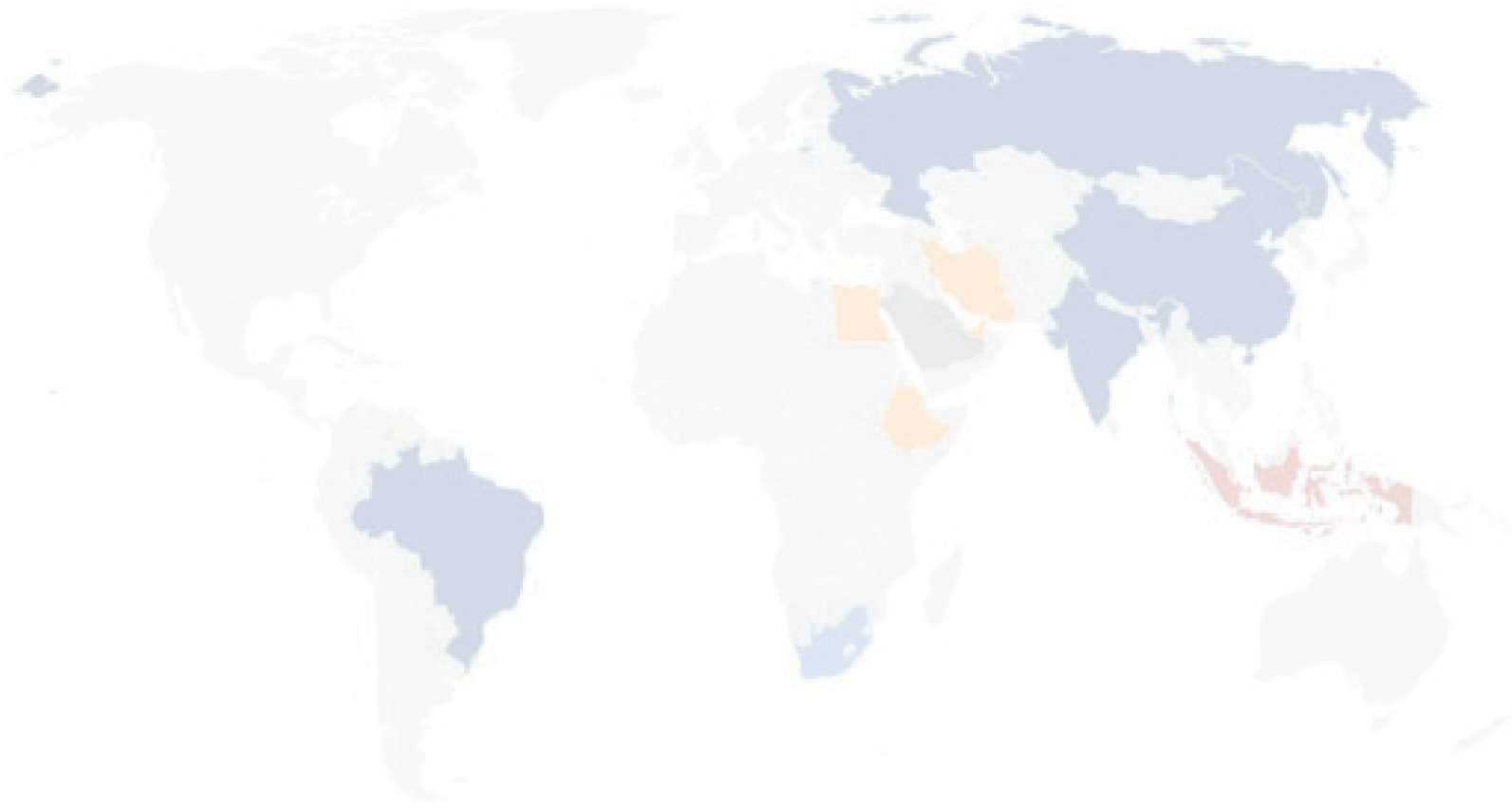


Policy Papers

44. Kandpal, A., P.S. BIRTHAL and S. Mishra. 2024. *From Research to Impact: Payoffs to Investment in Agricultural Research and Extension in India.*
45. Sharma, P., M. Yeasin, R. K. Paul, D.C. Meena and M. E. Anwer. 2024. *Food Price Volatility in India.*
46. Srivastava, S.K., P. Kishore, P.S. BIRTHAL and P.B. Shirsath. 2024. *Harnessing the Potential of Solar-Powered Micro-Irrigation for Sustainable Intensification of Agriculture.*
47. Saxena, R., P. S. BIRTHAL, R. C. Agrawal, P. Sharma, S. J. Balaji, D. K. Pant, and N. Joshi. 2024. *From Local to Global: Opportunities to Accelerate Agriculture Exports from India.*
48. Kishore, P., P. S. BIRTHAL, and S. K. Srivastava. 2025. *The Dilemma of Agricultural Price Policy Reforms: Balancing Food Security, Farmers' Interests, and Sustainability of Natural Resources.*
49. Kumar S., P. S. BIRTHAL, S. Kumar, and R. K. Yadav. 2025. *Economic Impact of Subsurface Drainage Technology: Institutional and Policy Imperatives for Upscaling.*
50. BIRTHAL, P.S., S.K. Srivastava, R. Saxena, S. Godara, P. Chand, P. Kishore, J. Jumrani, A. Kandpal, P. Sharma and D.K. Pant. 2025. *Indian Agriculture to 2047: Reshaping Policies for Sustainable Development.*
51. Balaji, S.J., P.S. BIRTHAL, B.D. Pal, J. Thurlow, E. Gotor, P. Sharma, S.K. Srivastava, I.T. Kingsly, and N. Naresha 2025. *The Future of Food in India: A 2050 Perspective.*
52. Shekhawat, R.S., P. Chand, K.T.M. Kumara, P.C. Moharana, V.S. Rathore, N.R. Panwar, and D. Kumar 2025. *Valuation of Ecosystem Services from Sand Dune Stabilization in Indian Thar Desert.*
53. Choudhary, B.B., P. Sharma, A. K. Roy, V. K. Yadav, S. R. Swami, A. Ghosh, G. Gupta, A. Kandpal, and R. Jain. 2025. *Economic Impact of Forage Varieties.*
54. Bisen, J.P., Kandpal, A., Jain, R., Mondal, B., Kumar, G.A.K, and Nayak, A.K. 2025. *Economic Evaluation of Climate-Resilient Rice Varieties.*
55. Murali, P., Singh, N. P., Jain, R., Jagadeshwaran, P., and Govindaraj, P. 2025. *India's Sugarcane Revolution: Role of Breeding Innovations.*
56. Shaheen, F. A., K. T. M. Kumara, S. A. Wani, P. Chand, A. Sultan, P. Singh and U. Majeed. 2025. *Competitive and Comparative Advantage of Major Temperate Fruit Crops of India.*
57. Bardhan, D., Das, A.K., Kumar, S., Dixit, A.K., Banik, S., Kumar, V., Gurjar, L.R., Jain, R., and Kandpal, A. 2025. *Economic Impact of Improved Livestock and Poultry Germplasm in India.*

Policy Briefs

62. Kumar, A. and P. S. BIRTHAL. 2025. *Leveraging Potential of Dung for Energy Security and Sustainable Agriculture.*
63. Srivastava, S.K., P. Kishore, P. S. BIRTHAL, J. Singh and R. R. Sethi. 2025. *Tiered Electricity Pricing for Sustainable Groundwater Use for Irrigation.*
64. Kumar, S., A.K. Sharma, R. Jain, R.K. Yogi, A. Kandpal and P.K. Rai. 2025. *Economic Impact of Improved Mustard Varieties: A Case of Giriraj.*
65. Jain, R., A. Ashok, Nisha and V. Kumar. 2025. *Harvesting Benefits of Drone Technology in Agriculture.*
66. Nikam, V., T.M. Kiran Kumara, S. Godara and P.S. BIRTHAL. 2025. *Enhancing Financial Viability of Farmer Producer Organizations.*
67. Jumrani, J. 2025. *Intra-household double burden of malnutritions in India: Prevalence, Variations and Implications.*
68. Balaji, S.J., M.L. Nithyashree and P.S. BIRTHAL. 2025. *Farm-Nonfarm Linkages in India: Multiplier Effects and Policy Implications.*
69. Chand, K., T.K. Bhattacharya, A. Bhardwaj, Y. Pal, S.C. Mehta and A. Singh. 2025. *From Beast of Burden to Dairy Animal: Transforming Donkey Husbandry for Human Nutrition and Health.*
70. Kumar, B., K.T.M. Kumara, S.L. Jat, and H.S. Jat. 2025. *Economic Impacts of Maize Hybrids.*
71. Sharma, P., D.C. Meena, N.P. Singh, and N. Joshi. 2025. *From Regulation to Liberalization: Impact of Deregulating Horticultural Markets.*
72. Kumar, S., S. K. Sanwal, A. Kandpal, A. Kumar, N. Kulshreshtha, and R. K. Yadav. 2025. *Economic Impact of Salt-tolerant Wheat Varieties.*
73. Singh, N. P., B. Ahuja, S. K. Srivastava, K. V. Rao, S. K. Bal, and N. R. Kumar. 2025. *Climate Resilience of Indian Agriculture across Agro-Climatic Zones.*
74. Ravi, S.C., Kiran Kumara T.M., Kumar, S., Damodaran, T., Mishra, M., Gupta, A.K. and Singh, A. 2026. *Digital Soil Health Services for Long-term Sustainability of Agriculture*
75. Jain, R., BIRTHAL, P.S., Ashok, A., Tewari, N. 2026. *Economic Impacts of Good Agricultural Practices and Implications for their Scaling-up*



भाकृअनुप-राष्ट्रीय कृषि आर्थिकी एवम् नीति अनुसंधान संस्थान
ICAR - NATIONAL INSTITUTE OF AGRICULTURAL ECONOMICS AND POLICY RESEARCH
(Indian Council of Agricultural Research)

Dev Prakash Shastri Marg, Pusa, New Delhi - 110 012, INDIA
Ph: +91(11) 2584 7628, 2584 8731 Fax: +91 (11) 2594 2684
Email : director-niap@icar.org.in, Website : <https://www.niap.res.in>