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## Millets as Bridges Beyond Borders: Crafting New Global Partnerships

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### ABSTRACT

Ancient grains, particularly millets, are emerging as potent instruments of global influence in contemporary international relations. Against the backdrop of rising concerns over food security, environmental sustainability, and cultural preservation, these resilient crops are reclaiming a central place in global discourse. Millets offer sustainable solutions to pressing global challenges such as climate change, nutritional insecurity, and public health disparities, positioning them as catalysts for international cooperation and development. This paper explores how millets can foster international cooperation and sustainable development. It asks two research questions: (1) Can millets serve as instruments for building global partnerships that promote sustainability, food security, and cultural exchange? (2) How does India's cultural and regional influence shape global perceptions and adoption of millet-based cuisine? The study introduces "Millet Diplomacy"—using millets as tools for international collaboration and global influence. It highlights India's leadership through policy advocacy, development programs, and cultural diplomacy, aligned with the United Nations Sustainable Development Goals (SDGs). Two hypothesis guide the research: a) Millet-based initiatives can create new diplomatic partnerships focused on food security and climate resilience, b) India's global promotion of millets, including the International Year of Millets (2023), can strengthen South–South cooperation and influence global food systems. By examining production trends, policies, international initiatives, and culinary practices, the paper identifies challenges and suggests strategies to use millets as bridges between nations.

**KEYWORDS:** Cultural, Diplomacy, Food, Grain, Environment, Millet, Nutrition,

### INTRODUCTION

Millets, commonly known as "ancient grains," have been a staple in the diets of various cultures for centuries. These grains are celebrated for their rich cultural heritage and have garnered significant global attention in recent years. Among them, millets stand out as a versatile and sustainable crop with profound historical roots in human agriculture. Renowned for their adaptability to harsh climatic conditions and exceptional nutritional value, millets offer significant potential in addressing contemporary agricultural and health challenges. Leveraging the global appeal of sustainable and healthy food systems, millets can emerge as a compelling symbol of diplomacy and international collaboration.

## THE SIGNIFICANCE OF MILLETS

### Historical context

The cultivation of millets indeed dates back to ancient times, with archaeological evidence indicating millet farming in the Korean Peninsula during the Middle Jeulmun Pottery Period (approximately 3,500–2,000 BC). In India, millets find mention in some of the oldest Yajurveda texts, identifying varieties like foxtail millet (*priyangava*), Barnyard millet (*aanava*), and black finger millet (*shyaamaka*), highlighting their prevalence well before the Indian Bronze Age (around 4,500 BC). Interestingly, just half a century ago, millets were the primary grain cultivated in India<sup>i</sup>. They served as staple foods deeply ingrained in local culinary traditions. However, with the passage of time, urban consumers have tended to view millets as "coarse grains,"<sup>iii</sup> a departure from the more "refined" diets of their village ancestors. Unfortunately, this shift towards refined diets has led to a deficiency in essential nutrients, emphasizing the importance of consuming locally sourced and wholesome foods.

Millets, a group of small-seeded cereal grains, have been integral to human civilisation for millennia. These humble grains, often overlooked in the modern world dominated by rice, wheat, and maize, possess a rich historical significance<sup>iii</sup>.

Millets constitute a diverse group of grains that display remarkable variation across species, varieties, cultivation environments, and uses. They encompass a diverse range of types, each with distinct characteristics. Among the most commonly cultivated are pearl millet (*Bajra*), finger millet (*Ragi*), little millet (*Kutki*), foxtail millet (*Kakun*), proso millet (*Cheena*), and sorghum (*Jowar*)<sup>iv</sup>. These grains have adapted to a range of climatic conditions and have supported human populations for centuries<sup>v</sup>. Millets are predominantly grown in arid and low-fertility regions across several Asian and African countries, with India standing as the world's leading producer<sup>vi</sup>. Despite their numerous benefits, millets remain underutilised in contemporary diets and agricultural policies<sup>vii</sup>.

**Despite these benefits, they remain underrepresented in policies and diets (NITI Aayog, 2022).**

### MILLETS IN INDIAN FARMS

Millets are widely cultivated across India, with approximately 21 states involved in their production. Certain regions hold prominence for their significant contribution to millet

Millets Producing States in India (2014-2024)			
Rank	State	(in lakh tonnes)	Major Millet Crops
1	Rajasthan	464.6	Bajra, Pearl millet
2	Maharashtra	235.6	Jowar, Sorghum
3	Karnataka	224.3	Ragi, Finger millet
4	Uttar Pradesh	215.3	Pearl millet, Bajra
5	Madhya Pradesh	113.3	Kodo millet, Jowar
6	Gujarat	104.7	Bajra, Pearl millet
7	Haryana	99.4	Barnyard millet, Foxtail millet
8	Tamil Nadu	84.3	Jowar, Little millet
9	Andhra Pradesh	42.5	Jowar, Pearl millet
10	Uttarakhand	20.1	Bajra, Pearl millet
Source: <a href="https://dataful.in/insights/millets-production-in-india-2014-2024/">https://dataful.in/insights/millets-production-in-india-2014-2024/</a>			

farming. The major millet-producing states in India. Rajasthan is the largest producer, contributing 464.6 lakh tonnes, followed by Maharashtra with 235.6 lakh tonnes and Uttar Pradesh at 215.3 lakh tonnes. Other significant millet-producing states include Gujarat, Karnataka, Tamil Nadu,

Madhya Pradesh, Andhra Pradesh, and Haryana. The total millet production in India during this period is 1,634 lakh tonnes, with crops such as Ragi, Jowar, Bajra, and Small Millets being the primary varieties grown.

Over the past decade, millet cultivation in India has shown fluctuating trends in area, production, and yield. From 2014-2015 to 2024-2025, key patterns have emerged. These trends reflect the dynamic agricultural practices and the impact of climatic conditions on this staple crop. The area under millet cultivation has remained relatively stable, fluctuating between a

<b>India Millet Area, Yield and Production</b>			
<b>Market Year</b>	<b>Area (1000 Ha)</b>	<b>Production (1000 Tons)</b>	<b>Yield (T/Ha)</b>
2014-2015	9,116	11,630	1.28
2015-2016	8,917	10,280	1.15
2016-2017	9,094	11,560	1.27
2017-2018	9,221	11,640	1.26
2018-2019	8,450	10,236	1.21
2019-2020	9,006	12,489	1.39
2020-2021	9,256	13,208	1.43
2021-2022	8,488	11,849	1.40
2022-2023	9,163	13,506	1.47
2023-2024	9,070	12,840	1.42
2024-2025	9,500	13,500	1.42
<b>Source:</b> <a href="https://ipad.fas.usda.gov/countrysummary/Default.aspx?id=IN&amp;crop=Millet">https://ipad.fas.usda.gov/countrysummary/Default.aspx?id=IN&amp;crop=Millet</a>			

low of 8.45 million hectares in 2018-2019 and a high of 9.5 million hectares projected for 2024-2025. Production, on the other hand, reached its lowest at 10.24 million tons in 2018-2019 but peaked at 13.51 million tons in 2022-2023. Similarly, the yield started at 1.28 tons per hectare in 2014-2015, declined to 1.15 tons per hectare in 2015-2016, and steadily improved, reaching a peak of 1.47 tons per hectare in 2022-2023.

## INDIA DRIVING THE REVIVAL OF ANCIENT GRAINS

India has demonstrated a strong commitment to promoting nutritious grains such as millets at both national and global levels. The government has undertaken several policy-driven initiatives aimed at enhancing millet cultivation, improving nutritional security, and advancing sustainable agriculture. In April 2018, millets were officially rebranded as “Nutri Cereals,”<sup>viii</sup> and the same year was declared the National Year of Millets to encourage their production, consumption, and market demand. By linking traditional culinary heritage with modern concerns of nutrition and sustainability, these initiatives positioned millets as both culturally significant and nutritionally valuable. They also helped enhance the global recognition and appeal of millet-based cuisine. To further raise awareness, the government launched campaigns such as “Millet Month” and organised events, including the National Millet Conference (2018) and several millet fairs across the country.

These campaigns have encouraged both domestic and international adoption of millet-based foods. Initiatives such as those led by the Karnataka State Seed Corporation (KSSC) and the Millet Seed Villages under the Odisha Millet Mission<sup>ix</sup> provide farmers with access to high-quality seeds. Community-managed seed banks, such as those operated by the M.S. Swaminathan Research Foundation (MSSRF), play a crucial role in conserving traditional millet varieties. Additionally, targeted funding has supported research on improved millet strains and advanced cultivation techniques. This encompasses the development of drought- and pest-resistant varieties and the promotion of sustainable practices such as intercropping and organic cultivation. Collectively, these efforts aim to enhance production, improve yields, and strengthen climate-resilient agriculture.

#### **From Fields to Forks**

Launched in 2017, the Odisha Millet Mission's 'fork to farm' approach is a holistic initiative aimed at promoting the complete millet value chain, from cultivation to consumption. As part of the program, Millet Shakti Cafés have been established to offer millet-based meals, enhancing local nutrition while creating sustainable livelihood opportunities. This multi-stakeholder initiative aims to enhance farmers' incomes, promote food security, and mainstream millets within government programs and schemes.

Additionally, millets were integrated into the Public Distribution System (PDS) and midday meal schemes to increase their accessibility to broader populations. For instance, the Pradhan Mantri Poshan Shakti Nirman (PM-POSHAN)<sup>x</sup> scheme, formerly known as the Mid-Day Meal Scheme, was launched to improve the nutritional status of schoolchildren. Under this initiative, millets such as bajra and jowar, along with other "Nutri Cereals," were introduced into mid-day meals. This initiative began particularly in 2018, with the aim of improving nutrition among children. The programme also sought to promote the consumption of these highly nutritious grains. This initiative offers a model for global adoption. This demonstrates the versatility of millets in addressing both malnutrition and health challenges. These initiatives integrate policy, research, and community action, emphasising the health benefits and cultural importance of millets. India's policy efforts have also promoted the adoption of millet-based foods at both national and international levels.

Globally, the millet market is expected to grow at a compound annual growth rate (CAGR) of 4.5% from 2021 to 2026, reflecting rising awareness of its nutritional and environmental value<sup>xi</sup>. India's advocacy led to the United Nations declaring 2023 as the International Year of Millets (IYM), supported by over 70 nations and adopted by consensus during the 75th session of the UN General Assembly in 2021. The initiative recognised the nutritional and environmental benefits of millets and fostered global dialogue on sustainable agriculture, aligning with the United Nations' Sustainable Development Goals (SDGs). The resolution was sponsored by India along with Bangladesh, Kenya, Nepal, Nigeria, Russia, and Senegal, and was adopted unanimously by the 193-member UN General Assembly. These efforts would not only address food security and climate resilience domestically but also position India as a global leader in sustainable agriculture.

India has hosted international conferences and summits to raise awareness about the importance of millets. For instance, the "Global Millets (Shree Anna) Conference" held in 2021 brought together stakeholders, researchers, and policymakers from around the world to discuss the role of millets in food security and sustainable development<sup>xii</sup>.

Additionally, millet research and development projects have been actively supported, including the establishment of millet seed banks. Notable examples include the National Bureau of Plant Genetic Resources (NBPGR) in New Delhi, which preserves a diverse range of millet varieties, and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, which houses over 128,000 seed accessions, including millets. India's collaboration with African nations was further strengthened through the India-Africa International Millet Conference held in Kenya on 30–31 August 2023, organised with the support of ICRISAT. The conference facilitated the exchange of millet cultivation techniques, research findings, and best practices in millet cultivation. This partnership exemplifies South–South cooperation, enhancing agricultural capacity and promoting food security in both regions<sup>xiii</sup>.

Similarly, India has collaborated with the Food and Agriculture Organisation (FAO) to promote millets as a key solution to global food security challenges. Joint events and initiatives have been organised to raise awareness about millet consumption. The FAO of the United Nations hosted the opening ceremony for the IYM–2023 in Rome, Italy, which was attended by a delegation of senior government officials from India. Prior to the year-long celebration of the IYM 2023, the Department of Agriculture & Farmers Welfare organised a special 'Millet Luncheon' for Members of Parliament at the Parliament House.

India has also leveraged cultural and culinary diplomacy to promote millet-based cuisines through various festivals and events. For instance, the "ASEAN-India Millet Festival 2023" showcased a diverse range of millet-based dishes, attracting chefs and food influencers from around the world to explore and popularise these recipes in their own countries. Millet-based culinary festivals organised by Indian embassies around the world help revive traditional diets while building goodwill, further solidifying India's leadership in promoting these nutritious grains as the "Millet Hub of the World."

Similarly, India leverages its cultural and regional culinary heritage to shape global perceptions of millet-based foods. Traditional dishes, such as *Ragi Mudde* from Karnataka, *Bajra Roti* from Rajasthan, and *Kodo Millet Idli* from Tamil Nadu, introduce international audiences to the diversity and nutritional value of India's millet cuisine. These dishes are showcased at international food festivals, cultural exhibitions, and diplomatic events, fostering interest in millet consumption worldwide. Initiatives like the G20 Millet Experience Zone (2023) and the Millet Food Festival at Dubai Expo 2020 highlighted millet innovations to global audiences. Such platforms fostered cross-cultural exchanges and showcased India's culinary heritage within the framework of sustainable nutrition. The initiatives reignited global interest in millets, integrating them into mainstream diets and increasing awareness of their nutritional and environmental benefits. These efforts also underscored the vital role of millets in combating malnutrition and enhancing food security, particularly in regions vulnerable to climate change. Millets have emerged as effective instruments for fostering global partnerships by uniting nations around shared goals of sustainability, food security, and cultural exchange. Through various initiatives, India has advanced 'Millet Diplomacy'—positioning millets as climate-resilient and nutrient-rich crops that connect traditional agricultural wisdom with global priorities such as environmental sustainability and the Sustainable Development Goals (SDGs). By promoting millets as symbols of sustainable growth and cooperation, India strengthens its global engagement and builds enduring partnerships that bridge cultures and advance shared development objectives.

## **HARNESSING MILLETS FOR GLOBAL INFLUENCE**

India can harness millet as a strategic instrument of global engagement by drawing on their deep agricultural roots and cultural relevance. This approach aligns with the growing international emphasis on sustainability, food security, and inclusive development. As crops cultivated in India for millennia, millets offer a unique platform for the country to project leadership in tackling global issues such as hunger, malnutrition, and climate change. Promoting millets through diplomatic, trade, and cultural initiatives can strengthen India's international presence and build meaningful global partnerships. Such efforts also reaffirm India's image as a proactive and responsible contributor to global well-being.

### **Cultural Diplomacy and Culinary Exchange**

India's diverse millet-based cuisine offers a powerful tool for cultural diplomacy. India can promote the nutritional and cultural significance of millets to the world by hosting millet food festivals and cooking workshops in major global cities. India could showcase its millet-based dishes at international cultural events, such as the UN Food Systems Summit. This would link cultural exchange with global conversations on food security. These initiatives enable India to share its sustainable food practices with the world while exhibiting its rich food diversity.

### **Advocating for Sustainability and Climate Resilience**

Millets are highly nutritious and resilient to climate change. They require less water and fewer chemical inputs compared to resource-intensive crops, such as rice and wheat. According to the FAO, millets use up to 70% less water and are well-suited for arid regions, positioning nations promoting millets as leaders in sustainable agriculture<sup>xiv</sup>. Countries like Kenya and Ethiopia have incorporated millets into their agricultural policies to address food security challenges brought on by climate change. Likewise, India can use this aspect of millets to strengthen its position as a leader in climate preparedness. India can advocate for millets at international forums, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the World Economic Forum (WEF). This allows India to position millets as a sustainable solution to global agricultural challenges. India's successful initiative to have 2023 designated as the International Year of Millets by the United Nations demonstrated the crop's potential to address climate change and enhance global food security. Through such advocacy, India can increase global awareness about the environmental benefits of millets, positioning itself as a proactive player in global sustainability efforts.

### **Strengthening Millet Supply Chains and Market Access**

Developing robust supply chains is essential to ensure that millets reach both domestic and international markets efficiently. Strengthening the ecosystem through modern processing units, cold storage facilities, and improved logistics networks can significantly reduce post-harvest losses and enhance product quality. Additionally, encouraging the production of millet-based value-added items—such as ready-to-eat snacks, breakfast cereals, and flour blends—can boost consumer interest and market demand. Startups like “Soulfull” and “EatMillets” illustrate this trend, as they have successfully captured attention by offering innovative millet products, indicating a rising consumer appetite for such alternatives.

## Building International Partnerships and Trade

With an output of 12.84 million tons, India stands as the world's largest producer of millet, surpassing countries like Nigeria, Niger, China, and Mali. This positions millets as a valuable avenue for India to strengthen its diplomatic and trade relations globally. India can share its expertise in millet cultivation, processing, and product innovation with African countries such as Ethiopia and Kenya due to their similar agro-climatic conditions and the growing interest in millets. As well, both continents have similar cultural relevance for millet consumption. They face common food security challenges. This

Millet Producing Countries in the World 2024		
Market	% of Global Production	Total Production (Metric Tons)
India	42%	12.84 million
Niger	10%	3.16 million
China	9%	2.7 million
Mali	6%	1.94 million
Nigeria	5%	1.56 million
Senegal	4%	1.35 million
Ethiopia	4%	1.1 million
Burkina Faso	3%	861,000
Sudan	2%	684,000
Chad	2%	634,000
Source: <a href="https://www.fas.usda.gov/data/production/commodity/0459100">https://www.fas.usda.gov/data/production/commodity/0459100</a>		

makes millet an ideal crop to enhance sustainability and stability in their agricultural systems. These collaborations can help to improve agricultural yields and develop new markets for millet-based products. This creates benefits for both India and its partners. India can also facilitate

**India-UAE Food Security Partnership**  
On 18 February 2022, the UAE signed a food security corridor as part of the Comprehensive Economic Partnership Agreement (CEPA), strengthening India's position in the global food value chain.

bilateral trade agreements and joint agricultural ventures to boost millet exports. For example, partnering with the Middle East to export millet-based products like flour, snacks, and ready-to-eat meals can address the region's growing demand for sustainable and nutritious foods. Such initiatives would not only create new economic ties but also expand India's influence in global markets. Economically, millets hold immense potential to enhance trade and foster international partnerships in the future. India is well-positioned to capitalise on growing global demand for nutritious and sustainable food products by expanding its millet exports to key markets such as the U.S., Saudi Arabia, and Europe. This anticipated growth could significantly boost international trade while creating opportunities for rural employment. Initiatives like the India-UAE Food Corridor are expected to play a pivotal role in facilitating millet trade, strengthening bilateral relations, and driving economic development in rural areas.

By strategically leveraging these prospects, India can cement its position as a leading global supplier of millet-based products. This will contribute to economic growth and foster international cooperation.

## Nutritional Powerhouse for Global Health

Millets are rich in essential nutrients, making them an excellent source of protein, fiber, vitamins, and minerals. These qualities position millets as a powerful tool in the fight against



global malnutrition. They are highly effective in managing lifestyle diseases such as diabetes and obesity. A study published in *Frontiers in Nutrition*<sup>xv</sup>, based on research from 11 countries, highlighted the benefits of millet consumption for individuals with diabetes. The study found that incorporating millet into daily diets resulted in reductions in both fasting and postprandial blood glucose levels, ranging from 12% to 15%. Moreover, some individuals transitioned from diabetic to pre-diabetic glucose levels. For pre-diabetic individuals, HbA1c levels decreased by approximately 17%, with many progressing to normal glucose levels. These findings feature the potential of millet consumption to enhance glycaemic control.

India can strengthen its global position by promoting the inclusion of millets in international food aid and nutrition initiatives, using them as tools of sustainable and cultural outreach. For instance, collaborations with organisations such as the United Nations Children's Fund (UNICEF) or the World Food Programme (WFP) could help introduce millets into school feeding programs in regions like sub-Saharan Africa and South Asia, where malnutrition rates are particularly high. Additionally, India could use its membership in international organisations, such as the Food and Agriculture Organisation (FAO), to promote millets as a key element in global food security discussions. India could contribute to the fight against hunger and nutritional deficiencies by championing millets in these forums. It could also strengthen its reputation as a global leader in addressing the nutrition crisis.

### **Promoting Rural Development and Farmers' Welfare**

Millets are primarily cultivated by smallholder farmers in rural India. Promoting millet farming can support the country's broader development goals. Boosting domestic millet production can improve the livelihoods of farmers in India.

#### **The Ragi Revolution: Redefining Rural Development in Gumla, Jharkhand**

In less than two years, IAS officer Sushant Gaurav transformed Gumla district in Jharkhand into India's new hub for ragi cultivation. The drought-prone, paddy-dependent region shifted to climate-resilient finger millet farming. Over 30,000 farmers, mostly women, adopted ragi, expanding cultivation to 30,000 acres and boosting output by 270%.

A key role was played by the Sakhi Mandal Samuh, the women's self-help groups operating under the Jharkhand State Livelihood Promotion Society (JSLPS). These groups were instrumental in mobilising women farmers, spreading awareness about the benefits of ragi, and coordinating training sessions. The Sakhi Mandals helped build trust between the administration and local communities, encouraging women to take leadership in farming, marketing, and decision-making. Their collective efforts turned the millet mission into a community-driven movement.

Gaurav also formed the Baghima-Palkot Farmer Producer Organisation, a women-led company that set up a solar-powered processing unit. They produced and sold ragi-based foods, such as laddoos, cookies, and flour, earning a steady income. These products were supplied to ICDS and Anganwadi centres to combat malnutrition and anaemia.

The initiative revived traditional crops, improved health, and empowered women economically. It created a sustainable local economy rooted in nutrition and self-reliance. The project earned the Prime Minister's Award for Excellence in Public Administration (2023) and was featured at Harvard Business School as the successful "Gumla Model" of grassroots transformation.



This is especially beneficial in dryland regions like Rajasthan and Madhya Pradesh, where millets thrive in harsh climatic conditions. In turn, India can use this as a diplomatic tool to promote inclusive development in other countries. For instance, India could collaborate with countries like Nepal or Sri Lanka to share agricultural technologies that improve millet yields and market access. This approach aligns with India's foreign policy priorities of promoting rural development, agricultural innovation, and the welfare of small-scale farmers. Sharing knowledge and technology with other developing nations would further establish India as a leader in inclusive and sustainable agricultural development.

### **Strengthening India's Global Image as a Sustainable Power**

India's promotion of millets supports its foreign policy goals. It aims to enhance leadership in sustainable development. India is a key participant in global dialogues on climate change, food security, and sustainable agriculture. Millet initiatives help India project itself as a forward-thinking and responsible global actor. Integrating millets into forums like the G20 reinforces its international influence. Promoting millets as a sustainable and nutritious food source supports SDG 2 (Zero Hunger), SDG 12 (Sustainable Consumption and Production), and SDG 13 (Climate Action). Thus, millet-based culinary promotion integrates cultural heritage with global development priorities. It enhances both awareness and adoption of millet-based diets globally.

### **BARRIERS TO GLOBAL MILLET PARTNERSHIPS**

Despite growing global recognition of millets as nutritious and climate-resilient crops, several structural, technological, and policy-related challenges persist, hindering the development of robust international millet partnerships. These obstacles limit both domestic growth and opportunities for global collaboration.

A major constraint stems from production-related issues. Millet yields remain comparatively low when measured against staple cereals like wheat, rice, and maize. This is largely because millets are predominantly cultivated on marginal, rainfed lands, where farmers often have limited access to improved cultivars and modern farming practices—factors that widen the yield gap. While millets are celebrated for their hardiness, certain varieties such as sorghum, pearl millet, and finger millet are still susceptible to pest attacks and diseases. The lack of high-yielding, pest-resistant varieties further discourages their broader cultivation.

To support sustainable production expansion, it is crucial to bring non-traditional and fallow lands under millet cultivation, develop crop-specific improved varieties, and establish reliable seed hubs. Strengthening these foundational elements is key to enabling the millet sector to grow domestically and integrate more effectively into global value chains.

Processing limitations present another major challenge. Millet grains vary greatly in size, shape, and texture, making standardised processing technologies difficult to develop. Manual or semi-automated traditional methods often result in low efficiency and nutrient loss, affecting both the quality and marketability of millet-based products. A lack of modern dehulling and milling equipment restricts the ability to meet domestic and international quality standards, weakening global competitiveness.

A major barrier to developing global millet partnerships is the limited awareness and policy prioritisation surrounding millets. Consumers and policymakers alike continue to favour staple crops like rice and wheat, which benefit from heavy subsidies and established procurement under the Public Distribution System (PDS). As a result, millets remain marginalised in both diets and policy agendas. This neglect stems from decades of government focus on Green

Revolution crops, which overshadowed traditional, climate-resilient grains such as millets, thereby restricting their integration into global food and sustainability initiatives.

Market-related challenges also pose significant obstacles to building global millet partnerships. The lack of adequate infrastructure for processing, storage, and distribution limits farmers' ability to compete in domestic and international markets. Unlike rice and wheat, which benefit from established procurement and storage systems, millets often suffer post-harvest losses due to poor storage conditions. The shortage of modern milling and value-addition technologies further leads to inconsistent quality and reduced consumer appeal. These inefficiencies weaken the global competitiveness of millet-based products and hinder their integration into international food value chains, despite ongoing national initiatives aimed at promoting the consumption of millet. Policy and institutional gaps continue to weaken India's ability to promote millets internationally. Although initiatives like the International Year of Millets (2023) have created momentum, implementation at the grassroots level remains uneven. Millet farmers receive comparatively lower Minimum Support Prices (MSPs), and research funding for yield improvement and value addition remains limited. Without stronger policy incentives and institutional backing, partnerships for global millet trade and innovation remain difficult to sustain.

Cultural resistance adds another layer of complexity. In many parts of India, particularly urban areas, millets are perceived as a "poor man's food" or an outdated rural staple. This stigma makes them less appealing to middle-class and urban consumers, who often favor polished rice or processed wheat products. Even in regions where millets were once a dietary mainstay, changing consumption patterns have marginalised their role in the Indian diet. This shift has been driven by factors such as globalisation and urbanisation. For example, finger millet (ragi), traditionally consumed in southern India, has seen a decline in consumption due to a shift toward more westernised food preferences.

Lastly, regulatory challenges pose significant hurdles for millet-based products. Therefore, the Food Safety and Standards Authority of India (FSSAI) needs to establish specific standards for these innovative products. The absence of clear quality standards and certifications poses a significant challenge, especially for exporters. Adding millet-based product claims to FSSAI's approved list could greatly enhance marketing efforts. Furthermore, limited knowledge of export policies and unfamiliarity with international markets restrict businesses from accessing global opportunities for millet-based products.

In conclusion, the barriers to global millet partnerships stem from interconnected issues at various levels, including production, policy, market, and perception. Addressing these challenges through coordinated reforms—spanning research, policy support, technology development, and cultural rebranding—can transform millets into a cornerstone of sustainable food systems and a foundation for stronger global cooperation.

## **CONCLUSION**

Millets embody a powerful opportunity to connect nations through shared goals of sustainability, nutrition, and climate resilience. By promoting collaboration in research, trade, and innovation, millets can serve as bridges that strengthen global partnerships and mutual understanding. India's efforts during the International Year of Millets 2023 demonstrated how agricultural heritage can inspire new avenues of diplomacy and cooperation. To fully realise this potential, however, persistent barriers in production, policy, and market integration must be addressed. Building on collective strengths and shared commitments, millets can truly become instruments of global partnership and inclusive progress beyond borders.

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- <sup>iii</sup> <https://www.fao.org/millets-2023/en>
- <sup>iv</sup> <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1878548>
- <sup>v</sup> <https://www.icrisat.org/wp-content/uploads/2020/08/Annual-Report-2019.pdf>
- <sup>vi</sup> <https://www.niti.gov.in/sites/default/files/2024-01/Millet-Compendium.pdf>
- <sup>vii</sup> [https://www.niti.gov.in/sites/default/files/2022-06/25th\\_June\\_Final\\_Report\\_27062022.pdf](https://www.niti.gov.in/sites/default/files/2022-06/25th_June_Final_Report_27062022.pdf)
- <sup>viii</sup> [https://sansad.in/getFile/annex/265/AU846\\_WDH2UA.pdf?source=pqars](https://sansad.in/getFile/annex/265/AU846_WDH2UA.pdf?source=pqars)
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- <sup>xii</sup> <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1908120>
- <sup>xiii</sup> [https://www.niti.gov.in/sites/default/files/2024-07/Report-on-Promoting-Best-practices-on-Millet-26\\_4\\_23.pdf](https://www.niti.gov.in/sites/default/files/2024-07/Report-on-Promoting-Best-practices-on-Millet-26_4_23.pdf)
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- <sup>xv</sup> <https://www.frontiersin.org/journals/nutrition/articles/10.3389/fnut.2021.687428/full>