Shree Anna for a Hotter Planet: Millets as Climate-Resilient Superfoods

S Harshitha Nayak[1]*, Adrita Dam[1], Sunil Naik[1] and Rakesh N[2]

[1]*Ph.D Research Scholar, Division of Agricultural Economics, ICAR-IARI, New Delhi-110012*
[2]*Scientist, Agricultural Economics, ICAR-MGIFRI, Motihari Bihar, India.*

Corresponding Author
S Harshitha Nayak
Email: harshithanayak009@gmail.com

OPEN ACCESS

Keywords

Millets, Climate resilience, Sustainable crops, Agricultural policy

How to cite this article:

Nayak, S. H., Dam, A., Naik, S. and Rakesh, N. 2025. Shree Anna for a Hotter Planet: Millets as Climate-Resilient Superfoods. *Vigyan Varta* 6 (5): 42-45.

ABSTRACT

Climate change has intensified challenges in agriculture, particularly in rainfed and semi-arid regions. Millets, also known as "*Shree Anna – Super Food of India*", offer climate-resilient and sustainable solutions due to their low input requirements and high tolerance to drought and heat. Their revival not only enhances food and nutritional security but also supports farmer livelihoods through lower cultivation costs and growing market demand. Compared to water-intensive crops like rice and wheat, millets are better suited to rainfed ecosystems, making them ideal for climate adaptation strategies. India is now giving more attention to millets and leading efforts globally to promote them. This makes millets important for reaching the Sustainable Development Goals (SDGs) and supporting climate-friendly farming. Farmers' experiences and supportive government policies are helping the millet movement grow stronger.

INTRODUCTION

India's agricultural sector is under immense pressure due to increasing temperatures, erratic rainfall, groundwater depletion, and declining soil health. Crop failures are becoming more frequent, especially in rainfed regions. Historically, millets were neglected in mainstream agriculture due to the Green Revolution's emphasis on high-yielding varieties of rice and wheat, which attracted greater research, policy,

and procurement support. However, since 2010, there has been a growing recognition of the potential of millets, leading to concerted revival efforts through government schemes, research initiatives, and international collaborations (NITI Aayog 2020). In this context, millets are now being repositioned as climate-resilient crops that can play a critical role in ensuring food and nutritional security while contributing to India's climate goals and the United Nations Sustainable Development Goals (SDGs).

Nutri-cereals are sustainable crops that are good for consumers, farmers, and the planet. They offer a natural way to manage lifestyle diseases like diabetes and heart ailments. Their cultivation requires fewer resources, making them eco-friendly and farmer-friendly. Promoting millets means

promoting health, livelihoods, and environmental well-being (NABARD 2023**).**

Millets are hardy, C4 photosynthetic crops, requiring far less water and inputs than rice or wheat. They are tolerant to heat (up to 45°C for some varieties), require no standing water, and thrive in poor soils with minimal chemical use.

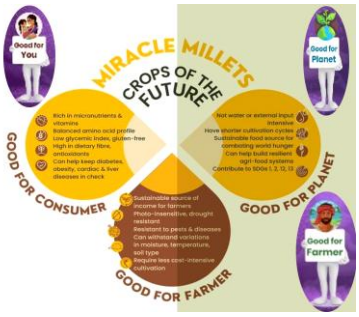

Table 1: Comparative Resource Requirements and Climate Resilience of Major Cereals

Crop	Water Requirement (mm)	Optimal Temp (°C)	Fertilizer Need	Resilience to Drought	Carbon Footprint
Rice	1100-1250	20–35	High	Low	High
Wheat	450–650	15–25	High	Medium	Medium
Millets	300-450	25–45	Low	High	Low

Key Policies and Programmes Supporting Millets in India

India supports millet development through key initiatives like the National Food Security Mission on Millets 2018, aimed at boosting productivity and strengthening value chains. State Millet Missions have been launched to promote procurement, value addition, and raise awareness about millets.

The **International Year of Millets (2023)** and India's **G20 Presidency** spotlighted millets as the "Shree Anna – Super Food of India," recognizing their role in nutrition, climate adaptation, and farmer welfare. Government initiatives like **PMKSY**, **PKVY**, and **PM Poshan** (Mid-Day Meal Scheme) further boost millet mainstreaming by integrating them into school nutrition programs. **Krishi Vigyan Kendras (KVKs)** and **millet startup innovations** under the **Atmanirbhar Bharat** initiative play vital roles in local outreach, awareness, and technology dissemination (APEDA and Yes Bank 2022).

Through these policies and initiatives, millets are being repositioned as climate-resilient crops, addressing food and nutritional security while contributing to India's climate goals and the global Sustainable Development Goals (SDGs).

The Millets Bottleneck

1. Production-side Constraints

The production of millets faces challenges such as low yields, inadequate farming practices, and pest attacks. Farmers are often hesitant to cultivate millets due to perceived

risks and uncertainties, leading to lower adoption rates.

2. Market-side Constraints

Millets struggle with low consumer demand, primarily due to a lack of awareness about their nutritional benefits. Additionally, their poor shelf life and inadequate storage infrastructure complicate marketing efforts, while other cereals are more price-competitive, limiting millets' market share.

3. Policy/Institutional Challenges

A significant challenge is the absence of Minimum Support Price (MSP) for certain millets like kodo and little millet, leaving armers vulnerable to price volatility. Furthermore, fragmented policies and limited institutional support hinder the development of a sustainable millet value chain, restricting its growth in the market.

Strategic Roadmap for Enhancing Millet Production, Productivity, and Market Potential

To increase millet production, **short-term efforts** must focus on **awareness creation**, **capacity building**, and promoting **climate-resilient practices** through farmer trainings and NGO involvement. Access to **quality seeds**, especially **region-specific HYVs**, should be enhanced via **community seed hubs** and agronomic support systems.

Improving **field productivity** requires timely inputs, **weed control**, a **small millets mission**, and regular monitoring through **Soil Health Cards** (Singh *et al.*, 2023)

In the **medium to long term**, institutional support is critical. Ensure **MSP and procurement** for neglected millets like **kodo** and **little millet**, and promote **buy-back arrangements** for income security. Strengthen **FPOs**, enable inclusive millet-friendly policies, and invest in **post-harvest infrastructure** like **farm-gate processing units** and **storage facilities**. Promote **integrated farming systems** for resilience and income diversification.

Market development strategies include:

- **Nutritional awareness campaigns** and **millet rebranding**
- Integrating millets into **government food schemes**
- Bridging the **MSP gap**, offering **fiscal incentives**, and **tax relief** on millet products
- Releasing **export-grade varieties**, promoting **cooperative farming**, and diversifying the **millet export basket** with strong **branding and packaging**

CONCLUSION

Millets are not just a dietary option; they are a strategic solution for climate-resilient agriculture. As India confronts the triple challenge of water scarcity, climate volatility, and nutritional deficiencies, millets offer a low-risk, high-resilience path forward. With the right policies, farmer support, and consumer awareness, millets can reclaim their place as a staple of the Indian plate and the farm economy.

"Millets are not just food - they are climate insurance for smallholders."

REFERENCES

APEDA and Yes Bank 2022. Indian Superfood Millets: A USD 2 Billion Export Opportunity, Agricultural and Processed Food Products Export Development Authority, *Ministry of Commerce & Industry, Government of India. https://ipga.co.in/wp-content/uploads/2023/08/Indian_Superfood_Millet_APEDA_Report.pdf*

NABARD. 2023. National Bank for Agriculture and Rural Development. Millets for health and wealth. https://www.nabard.org/pdf/2023/millets-for-health-and-wealth-eng.pdf

NITI Aayog, 2020. Demand and supply projections towards 2033. Crops, Livestock, Fisheries and agricultural inputs, Working Group Report. NITI Aayog, New Delhi.

https://www.niti.gov.in/sites/default/files/2023-02/Working-Group-Report-Demand-Supply-30-07-21.pdf

Singh, S., Yadav, R. N., Tripathi, A. K., Kumar, M., Kumar, M., Yadav, S., and Yadav, R. 2023. Current status and promotional strategies of millets: a review. *International Journal of Environment and Climate Change*, *13*(9), 3088-3095.