Millets: India's "Shree Anna" for Health, Profit and Climate Resilience

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Abstract

Millets, now rebranded as "Shree Anna" are emerging as future-smart crops capable of addressing India's growing challenges of malnutrition, climate change and farm profitability. Once sidelined during the Green Revolution, millets such as finger millet, pearl millet, sorghum and small millets are gaining renewed importance due to their exceptional nutritional value, climate resilience and low input requirements. Rich in micronutrients, dietary fibre and protein, millets help combat hidden hunger, anaemia, diabetes and lifestyle-related disorders, while being naturally gluten-free. Agronomically, millets require significantly less water, tolerate heat and drought, perform well in marginal soils and have a lower carbon footprint compared to rice and wheat. Economically, they reduce cultivation costs, provide yield stability under climate stress and offer premium market opportunities through value-added products. Government initiatives under the "Shree Anna" mission, including policy support, procurement, nutrition programmes and export promotion, have further strengthened their revival. With improved technologies, processing infrastructure and consumer awareness, millets can play a transformative role in ensuring sustainable agriculture, nutritional security and resilient livelihoods in India.

Keywords: Millets, Shree Anna, nutritional security, climate-resilient crops, sustainable agriculture, farm profitability

1. Introduction

For decades, India's food basket has been dominated by rice and wheat. During the Green Revolution, many traditional cereals- ragi (finger millet), jowar (sorghum), bajra (pearl millet), foxtail millet (kangni), barnyard millet (sanwa), kodo millet and little millet (samai) were gradually pushed out of farmers' fields and consumers' plates. Today, these once "underutilised" or "orphan crops" are making a strong comeback. The reasons are clear: climate uncertainty, rising malnutrition, increasing cost of cultivation and the urgent need for sustainable farming. Millets are now widely recognised as "future smart crops" good for people, good for farmers and good for the planet.

2. Why are millets becoming important again?

A. Millets strengthen nutritional security

Millets are not just carbohydrates- they are nutritional powerhouses.

Rich in micronutrients

- **Finger millet (Ragi)** has the highest calcium among cereals (about 344 mg/100 g), along with iron and essential amino acids.
- **Barnyard millet** is rich in fibre and protein and has a low glycaemic index, making it suitable for diabetics.

Fights "hidden hunger"

- Many rice/wheat-based diets are low in key micronutrients like iron, zinc and vitamins. Millets help bridge this gap.

Gluten-free and safe

- Millets are gluten-free, making them suitable for people with celiac disease (unlike wheat/barley).

Supports women and children

- **Ragi-based fortified foods** are used to reduce child undernutrition and stunting (e.g., fortified mixes used in nutrition programmes).
- **Iron-rich millets** help prevent anaemia; barnyard millet is reported around 18 mg iron/100 g.
- **Low GI millets** support management of obesity and diabetes.

B. Millets are "climate-smart crops"

Millets survive where many crops struggle. That is why they are called climate warriors.

Low water requirement

- Many millets can grow with about 300-500 mm rainfall (compared to 1,200-2,000 mm for rice in many situations).
- Little millet can grow even in 250-300 mm rainfall, making it ideal for drought-prone regions.

Drought and heat tolerance

- Millets can withstand high temperatures:
  - Many can perform in 35-40°C.

- Bajra (pearl millet) can survive even 45°C+ conditions.
- They have strong root systems:
  - Kodo millet can have roots going 2-3 metres deep, extracting moisture from deeper soil layers.

Low input dependency

- Millets can thrive in poor, marginal, saline and acidic soils.
- They generally need minimal fertilisers and pesticides.
- Many show natural resistance to pests and diseases (for example, millets are less affected by issues like blast compared to susceptible HYV rice systems).

Lower carbon footprint

- Millets do not require flooded conditions like rice.
- Because rice paddies emit more methane/greenhouse gases, millets are considered lower-emission crops (often stated as about 3× lower GHG than rice paddies in many comparisons).

C. Millets improve farm economics

Millets are not only healthy they can be highly practical and profitable.

- **Lower cost of cultivation**
  - Farmers can save about 30-40% input costs compared to rice/wheat, mainly due to less irrigation, fertiliser and pesticide requirement.
- **Short duration helps escape climate risks**
  - Barnyard millet matures fast about 60-70 days helping farmers avoid late-season droughts and fit an extra crop in the calendar.
- **Fallback crop during monsoon failure**
  - Even if rains fail, millets can still give a yield of around 1-1.5 t/ha, making them a reliable risk-reducing crop.
- **Premium market potential**
  - Value-added millet products like cookies, pasta and malt (e.g., ragi malt) can fetch 2-3 times higher prices than raw grain sales when markets and processing are available.

2. Shree Anna: The national push for millets: India has rebranded millets as "Shree Anna" (Nutri-Cereals / Supreme Food Grains), giving a strong policy and market signal. Key boosts include:

- **Inclusion in PDS and Mid-Day Meals / PM-POSHAN**
  - Example initiatives include millet-based foods promoted through state programmes (e.g., ragi-based meals).
- **Support under NFSM- Nutri Cereals**
  - Subsidies and support for millet cultivation, seed and processing units.
- **FCI procurement and institutional support**
  - Expanding procurement can build farmer confidence and stable markets.
- **Export opportunity**
  - Global demand is rising for gluten-free, organic and "superfood" grains.
  - Agencies like APEDA support export promotion.

3. Millets also protect soil and biodiversity

Millets contribute beyond grain yield.

- **Soil health improvement**
  - Millets add organic matter and help reduce erosion.
  - Crops like jowar (sorghum) contribute biomass that improves soil structure.
- **Biodiversity conservation**
  - Flowering millets attract bees and beneficial insects, supporting pollinators.

Millet-based diversification reduces monoculture risks and helps break pest cycles.

4. Challenges in millet revival

Even with big benefits, a few barriers remain:

a) **Low consumer awareness** (urban preference still leans towards rice/wheat)

b) **Limited processing infrastructure** (few millet mills, value-add units, R&D support in many areas)

c) **Supply chain gaps** (weak market linkages, inconsistent demand, price uncertainty for small farmers)

5. Way forward: how to scale up millets

To make millets a mainstream success, work is needed at multiple levels:

A. Policy support

- Strengthen subsidies and programme support under NFSM - Nutri Cereals

- Improve procurement and price assurance mechanisms

B. Technology interventions

- Promote high-yielding varieties (e.g., improved finger millet varieties such as DAFM 228)
- Expand access to mechanical harvesters suited for small millets

C. Market linkages and entrepreneurship

- Support millet startup accelerators (e.g., NABARD-backed initiatives)
- Encourage local processing, branding and marketing
- Promote exports through APEDA

Conclusion

Millets are nutritional powerhouses and climate-resilient crops that can strengthen India's food security, farmer livelihoods and ecological sustainability. With policy push under Shree Anna, improved technologies, better processing and strong consumer awareness, millets can truly transform from being labelled as "poor man's food" to becoming India's proud "future smart crops." Eat millets for health, grow millets for resilience and promote millets for a sustainable India.

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