Millet Production and Consumption in India

Setu Ratnam

Department of Agriculture, Integral Institute of Agricultural Science and Technology, Integral University, Lucknow-226 026, Uttar Pradesh, India

Email: seturatnam@iul.ac.in

India is the world's largest producer of millets, significantly contributing to global millet production. In 2020, Pearl Millet (Bajra) and Sorghum (Jowar) collectively accounted for approximately 19% of the world's millet output, with Pearl Millet contributing 40.51% and Sorghum 8.09%. The major millet-producing states—Rajasthan, Karnataka, Maharashtra, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Tamil Nadu, Andhra Pradesh, and Uttarakhand—together constituted around 98% of India's millet production in 2020-21. Notably, Rajasthan alone contributed 28.61% of the total output. India cultivates a diverse range of millets, including Pearl Millet, Sorghum, Finger Millet, Foxtail Millet, Kodo Millet, Barnyard Millet, Proso Millet, Little Millet, and pseudo-millets such as Buckwheat and Amaranths. While millets have traditionally been a staple in India, their cultivation and consumption have declined over the years, except for Bajra. However, growing awareness of their nutritional benefits and environmental sustainability is driving renewed interest in these crops.

Introduction

Millets, often referred to as "Nutri-cereals," have been an integral part of Indian agriculture and dietary habits for centuries. India is the largest producer of millets globally, contributing significantly to the world's total millet output. These nutrient-rich grains are increasingly recognized for their potential in addressing food and nutritional security, particularly in the face of climate change and diminishing arable land. The Government of India, under various initiatives, has been promoting millet production and consumption to enhance food diversity and nutritional outcomes.

Production trends and major millet-producing states

India's millet production is dominated by Pearl Millet (Bajra), Sorghum (Jowar), and Finger Millet (Ragi), along with other small millets such as Foxtail Millet, Kodo Millet, Barnyard Millet, Proso Millet, and Little Millet. According to 2020 statistics, India contributed approximately 19% of global millet production, with Pearl Millet (40.51%) and Sorghum (8.09%) as the major contributors. The top ten millet-producing states—Rajasthan, Karnataka, Maharashtra, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Tamil Nadu, Andhra Pradesh, and Uttarakhand—account for 98% of total millet production in the country. Rajasthan leads the production, contributing 28.61% of the total millet output.

Millets are primarily grown in semi-arid regions, where they thrive with minimal water requirements. This makes them a crucial crop for sustainable agriculture, especially in drought-prone areas. Government schemes such as the National Food Security Mission (NFSM)-Nutri Cereals, the Millets Mission under the POSHAN Abhiyaan, and the Millet-based public distribution system (PDS) aim to increase millet production and consumption. Additionally, research institutions and agricultural universities are actively involved in developing high-yield and climate-resilient millet varieties to boost productivity.

Consumption and market trends

Despite their traditional significance, millet consumption in India has seen a decline over the decades due to changing dietary patterns and the increased preference for rice and

wheat. However, in recent years, awareness regarding the health benefits of millets has led to a resurgence in their demand.

Key factors driving millet consumption include:

- ***Nutritional benefits***: Rich in fibre, protein, vitamins, and minerals, millets help in diabetes management, weight loss, and cardiovascular health.
- ***Gluten-free alternative***: Preferred by individuals with gluten intolerance or celiac disease.
- ***Sustainability and climate resilience***: Millets require less water and are resistant to pests, making them ideal for sustainable farming.
- ***Government promotions***: Declaring 2023 as the International Year of Millets (IYoM) by the United Nations, along with initiatives like Millet-based PDS distribution and Millet Startups, has boosted domestic and export markets.
- ***Increased demand in urban markets***: With the growing demand for healthy alternatives, millets are being incorporated into ready-to-eat snacks, breakfast cereals, bakery products, and health drinks.

Additionally, the revival of traditional recipes and the introduction of millet-based fusion foods have attracted urban consumers. Food processing industries are playing a crucial role in increasing millet accessibility through value-added products such as millet noodles, cookies, flakes, and energy bars.

Supply-demand analysis and future prospects

The demand for millets is expected to rise due to increasing consumer awareness and policy support. However, the production trends indicate a potential surplus of Pearl Millet (Bajra) and small millets, while Sorghum (Jowar) and Finger Millet (Ragi) may face supply deficits in the coming years. This imbalance needs to be addressed through:

- ***Increasing productivity***: Instead of expanding cultivation areas, improving millet yields through advanced farming practices, new high-yield varieties, and enhanced seed distribution is crucial.
- ***Market linkages and processing infrastructure***: Strengthening millet value chains, promoting millet processing units, and encouraging farmer-producer organizations (FPOs) to facilitate fair pricing and better distribution.
- ***Incorporating millets in mid-day meal programs and PDS***: Expanding their inclusion in government food programs to enhance accessibility and affordability.
- ***Promoting millet-based entrepreneurship***: Encouraging startups and MSMEs to create innovative millet-based products can increase both production and consumption.
- ***Export potential***: India has a strong opportunity to position itself as a major exporter of millets to global markets where the demand for organic and healthy grains is increasing. Efforts to meet international standards, improve processing and packaging, and establish strong trade networks can boost millet exports.
- ***Farmers' incentives and support mechanisms***: Ensuring fair price realization for millet farmers through Minimum Support Price (MSP) policies, direct procurement, and financial incentives for adopting sustainable millet farming practices.

Challenges and way forward

Despite the positive outlook, several challenges hinder millet production and consumption:

- **Low *awareness and limited processing facilities***: Many consumers are unaware of millet benefits, and there are limited large-scale processing units.

- ***Higher market prices***: Due to less extensive cultivation compared to rice and wheat, millet prices remain relatively high.
- ***Perishability and storage issues***: Millets have a shorter shelf life, requiring better storage and transportation infrastructure.
- ***Policy implementation gaps***: Though policies exist, their execution at the grassroots level needs enhancement.

To address these challenges, a multi-stakeholder approach involving government bodies, research institutions, private players, and farmers' cooperatives is required. Additionally, mass awareness campaigns, millet festivals, and collaborations with the food industry can further popularize millets.

Conclusion

Millets hold immense potential in ensuring food security, nutritional well-being, and environmental sustainability in India. While production remains robust, strategic interventions are necessary to balance supply and demand, enhance market accessibility, and sustain consumer interest. With continued government support, scientific innovations, and consumer awareness, millets can play a transformative role in India's agricultural and dietary landscape. Strengthening research and development, incentivizing farmers, and expanding millet-based food products will help elevate the status of millets in mainstream agriculture and consumer markets, making them a staple once again in Indian households and global markets.