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Challenges and initiatives in promotion of millets (Shree Anna) in India

A. C. Singh
Associate Professor, Department of Agronomy, Kulbhaskar Ashram P. G. College, Prayagraj
Email: dracsingh@rediffmail.com

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Abstract

Millets - 'Shree Anna' refers a food grain of divine grace. Promoting millets in India faces many challenges including low public awareness about their nutritional benefits, multiple processing requirements, limited shelf life of millet products, poor supply chains, and a lack of high-yielding varieties, peoples mind ser as preference for rice and wheat, perceived taste and texture, low productivity are responsible in decline millet cultivation. Bharat Sarkar has taken several initiatives to promote the production and consumption of millets a Shree Anna in the country. They also focus on making them a more accessible and nutritious food option for the general population. Some of these initiatives include as: sub mission on millets under NFSM, price support scheme, promotion of millets in the Public Distribution System. The government is also mobilizing start-ups for export promotion of value-added products in the Ready-to-eat (RTE) and ready-to-serve (RTS) products. The government has also started formulating a five-year strategic plan for the promotion of millets and value-added millet products in the International market in association with the Indian Council of Agricultural Research (ICAR)–IIMR, Hyderabad, the Indian Council of Medical Research (ICMR)–National Institute of Nutrition, Hyderabad, the Council of Scientific and Industrial Research (CSIR)–Central Food Technological Research Institute (CFTRI), Mysore, and FPOs. The government has set up Millet Parks in various states to promote the production and processing of millets and National Millet Museum in Hyderabad to promote awareness and understanding of millets. The Ministry of Women and Child Development has been establishing Nutri-gardens, promoting research on the connections between crop diversity and dietary diversity, and running a behavior change campaign to increase consumer demand for Nutri-cereals. The government of India (GOI) is leaving no stone unturned and has roped in Indian missions abroad for branding and publicity of Indian millets by facilitating participation through the International trade expos, direct tie-ups with International chefs and other potential buyers, organizing millet promotional activities abroad in collaboration with the Agricultural and Processed Food Products Export Development Authority (APEDA), and also increasing the sale of millets and their value-added products. The promotion of millets is crucial for improving food security, promoting sustainable agriculture, and improving health outcomes. The government and relevant stakeholders need to work together to ensure that millets are widely available, and their consumption is promoted. This will help in increasing the importance of millets in the Indian food system, contributing to the health and well-being of people and the environment. This paper discusses about some of the policies adopted by the Government for the promotion of millet, its impact, and future directions.

Key Words: Challenges, Government initiatives, Promotion of Millets , India

Introduction

Millets are often referred to as “yesterday’s coarse grains and today’s “ nutri- cereals” and are considered to be the “future crops” as they are resistant to most of insect pest and diseases and adopt well to harse conditions of semi arid and arid regions (Rao et.al.2011) The GOI, has highlighted the plus points of millets in 2018 and declared it as the National Year of Millets . Millets recognized as Nutri- cereals in the same year and included under the Poshan Abhiyan and National Nutrition Mission. To create domestic and global demand and to provide nutritional food to the people.

India had prosed to the UN for declaring 2023 as International Year of Millets (IYoM -2023) . This proposal has been supported by 72 Nations and UNGA (United Nations General Assembly) declared 2023 as IYoM on March 5th 2021. India is the largest producer of millets in the world, accounting for 20% of global and 80% of Asia’s production (Amadou,et.al.2013, Saleh, et.al.2013 and Shivran,2016)

The world is currently experiencing an agrarian crisis, nutritional crisis, and climate change catastrophe, leading to need for sustainable crop substitutes that require less water and have significant nutritional values. Millets are considered “climate savvy” and “Nutri-Cereals” due to their ability to adapt to dynamic climatic conditions and numerous health advantages respectively. Millets are referred as “Miracle grains” because they can thrive in dry conditions and require less irrigation than other crops. More than 90 million people in Africa and Asia depend on millets for their nutrition, according to the International Crop Research Institute for the Semi-Arid Tropics (ICRISAT**).**[(1)] Over the past 50 years, more widely used crops such as maize, wheat, and rice have essentially replaced these ancient grains. Agricultural lands with irrigation facilities have been exploited to the maximum, and hence there is a need to focus on utilization of drylands. Millets are a viable option as a sustainable crops substitute owing to its sustainability and nutritional benefits. The Government is promoting millets, also known as Shree Anna, both domestically and Internationally in keeping with the recognition of 2018 as the International Year of Millets-2023 [(2 & 3)] **.** All millets have a shorter life span of 2–4 months. They are suitable for a variety of farming practices and are able to adapt to changing climatic circumstances, particularly during monsoon season. For these reasons, millets are sometimes referred as **climate-savvy crops**. According to a study, climate change has boosted drought-tolerant crops like millets while decreasing worldwide rice and wheat yields by 0.3% and 0.9%, respectively, on average each year(Jadhav, Narayan Londhe, Deepak, 2023).

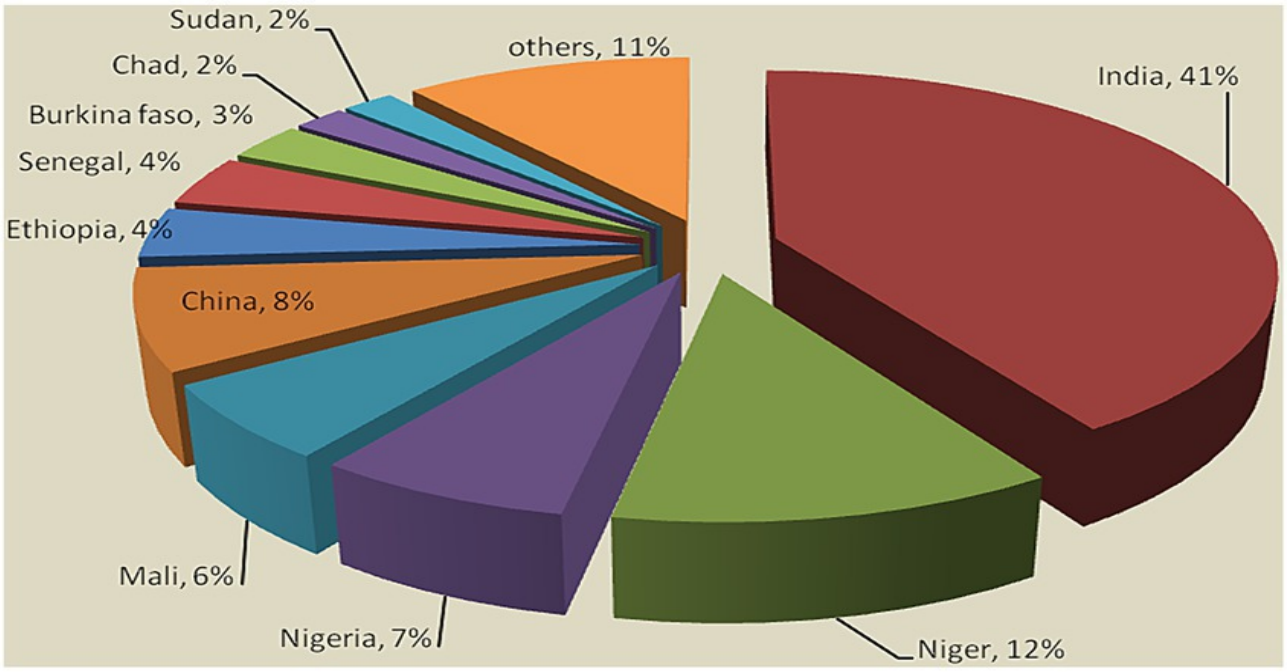

Fig 1. Country-wise production share of different millets (FAOSTAT, 2022)

Challenges in mainstreaming millets

Problems of Millet Production: Millets have many benefits for sustainable agriculture, but before they can be a practical choice, a number of issues must be resolved. According to Yadav et al. (2012) , millets typically demand more labour and specific agricultural practices than other crops. Millets are also not as accessible as other crops, so farmers might not have access to the resources and supplies needed to cultivate them. It is also challenging for farmers to turn a profit because millets have a poor market value (Patra et al., 2023). The problems and prospects are enlisted briefly as below:

1. **Lack of technical knowledge:** Many people are unaware of the nutritional advantages of millets, leading to limited adoption of millet-based products.
2. **Preference for rice and wheat :** Millets are not as widely consumed as rice and wheat, even in India, due to ingrained culinary habits.
3. **Perceived taste and texture:** Some find the taste and coarse texture of millets less appealing compared to refined grains.
4. **Inconsistent supply:** Millet supply chains often suffer from inconsistent supply and demand, hindering commercial viability.
5. **Limited shelf life:** Millets have a shorter shelf life than rice and wheat, making storage and transportation more challenging.
6. **Lack of suitable processing machines:** Many millet processors lack the necessary equipment to optimize grain recovery and processing.
7. **High margins demanded by retailers:** In the absence of well-established supply chains, retailers often demand high margins, impacting profitability.

Agricultural challenges

1. **Low productivity:** The productivity of millet crops can be low compared to rice and wheat, partly due to a lack of access to high-yielding varieties (HYV) seeds.
2. **Decline in millet cultivation:** The area under millet cultivation has declined in recent years, partly due to the focus on rice and wheat production.
3. **Climate change:** Millets are generally more resilient to climate change than rice and wheat, but climate variability can still impact production.
4. **Decreasing cultivable land:** The availability of land for millet cultivation is also decreasing due to urbanization and other factors.
5. **Lack of extension services:** Farmers may lack access to the necessary training and support to improve millet cultivation practices.

Other challenges:

1. **High cost:** The cost of millet products can be higher than rice and wheat products, making them less accessible to low-income consumers.
2. **Competition from rice and wheat:** The dominance of rice and wheat in the Public Distribution System (PDS) has led to reduced consumption of millets.
3. **Nutrient absorption:** Some compounds in millets can hinder the absorption of certain nutrients like calcium, iron, and zinc.
4. **Lack of awareness among farmers:** Farmers may lack knowledge about the benefits of growing and processing millets.

Initiative for the promotion of millets in the country

1. **Shree Anna Scheme:** Launched in 2023, the scheme aimed at popularising millets and raising their consumption in the country. Under the scheme, **Indian Millets Research Center Hyderabad** would be promoted as a Center of excellence.
2. **Production Linked Incentive Scheme** for Food Processing Industry for Millet-based products during 2022-27 by the **Ministry of Food Processing Industries.**
3. **Millets re branded as Nutri-Cereals and year 2018 was declared as National year of the Millets.**
4. **Millets included in POSHAN Mission Abhiyaan** by the Ministry of Women and Child Development
5. **Sub Mission on Millets** launched under the **National Food Security Mission** in 2018.
6. **National Food Security Mission (NFSM):** The NFSM aims to increase the production and productivity of millets in India, with a focus on rain-fed areas.
7. **Price Support Scheme:** The government provides a minimum support price (MSP) for millets to encourage farmers to grow and sell these crops.

8. **Promotion of Millets in the Public Distribution System (PDS):** The government has included millets in the PDS to make them more accessible to the general public and to ensure a steady market for produce.
9. **National Initiative on Millets:** The government has launched a national initiative to promote millets and increase their consumption. This includes providing information on their nutritional benefits and conducting demonstrations on the preparation of millet-based foods.
10. **Setting up of Millet Parks:** The government has set up millet parks in various states to promote the production and processing of millets.
11. **Setting up of the National Millet Museum:** The government has set up the National Millet Museum in Hyderabad to promote awareness and understanding of millets.
12. **Making seed kits:** The government has made seed kits and other inputs available to farmers, which is helping in building value chains through Farmer Producer Organizations (FPOs) and has made millets more marketable.
13. **Setting up Nutri-Gardens:** The Ministry of Women and Child Development has been establishing Nutri-gardens, promoting research on the connections between crop diversity and dietary diversity, and running a behavior change campaign to increase consumer demand for Nutri-cereals. Due to high nutritious value of millets, the Government designated them as nutri-cereals in April 2018. From the 2018 to 2019, the Department of Agriculture and Farmers Welfare (DA&FW) carried out a Sub-Mission on Nutri-Cereals (Millets) under the National Food Security Mission (NFSM) to increase the area, production, and productivity of millets. These millets include Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi/Mandua), Minor Millets i.e., Foxtail Millet (Kangani/Kakun), Proso Millet (Cheena), Kodo Millet (Kodo), Barnyard Millet (Sawa/Sanwa/ Jhangora), Little Millet (Kutki) and two Pseudo Millets Buck-wheat (Kuttu) and Amaranthus (Chaulai) **(5)**
14. **Ready-to-eat (RTE) and ready-to-serve (RTS) products:** The government is also mobilizing start-ups for export promotion of value-added products in the RTE and RTS category, such as noodles, pasta, breakfast cereal mix, biscuits, cookies, snacks, and sweets.
15. The government has also started formulating a five-year strategic plan for the promotion of millets and value-added millet products in the international market in association with the Indian Council of Agricultural Research (ICAR)–IIMR, Hyderabad, the Indian Council of Medical Research (ICMR)–National Institute of Nutrition, Hyderabad, the Council of Scientific and Industrial Research (CSIR)–Central Food Technological Research Institute (CFTRI), Mysore, and FPOs.
16. The center has created the Nutri-Cereals Export Promotion Forum to give impetus to the export of potential products, including millets, and to remove the bottlenecks in the supply chain of Nutri-cereals.
17. **Indian missions abroad:** The government of India (GOI) is leaving no stone unturned and has roped in Indian missions abroad for branding and publicity of Indian millets by facilitating participation through the international trade expos, direct tie-ups with international chefs and other potential buyers, organizing millet promotional activities abroad in collaboration with the Agricultural and Processed Food Products Export Development Authority (APEDA), and also increasing the sale of millets and their value-added products.

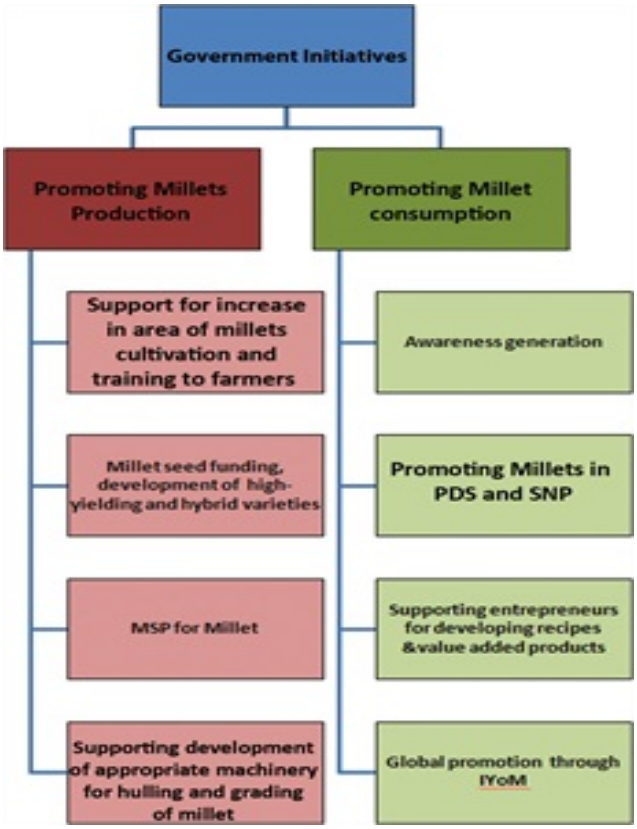

Fig 2. Government initiatives for increasing millet production and consumption :

Source: Jadhav, Narayan, Londhe, Deepak, 2023. *Journal of Drug Research in Ayurvedic Sciences 8 (Suppl 1) pp. 148-151*

Other provisions/support

i. The National Year of Millets was obsessed in 2018,

ii. The "International Year of Millets" resolution, sponsored by India, was approved by the UN General Assembly. The Government is promoting millets, also known as Shree Anna, both domestically and internationally in keeping with the recognition of 2018 as the International Year of Millets.

iii. From 2018 to the present, eight bio-fortified Bajra varieties/hybrids have been made available for cultivation.

iv. States are also encouraging millet under the Rashtriya Krishi Vigyan Yojana (RKVY), Paramparagat Krishi Vigyan Yojana (PKVY), and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER).

v. To enhance the production and consumption of organic millets, the Government is supporting organic farming of millets.

vi. The "Mapping and Exchange of Good Practices" program for mainstreaming millets in Asia and Africa has been launched by the World Food Programme (WFP), India, and NITI Aayog. They have compiled a list of effective methods for increasing millet's production and consumption both in India and overseas.

Research activities

i. The Government has allocated funding for designating the Indian Institute of Millet Research (IIMR), Hyderabad, as a Center of Excellence (CoE), for exchanging best practices, technologies, and research pertaining to millets. The mission of the IIMR is to "Transform millets cultivation from subsistence farming to globally competitive through cost-effective Agricultural Crop Rotation (ACR) and environmentally friendly production processing and value addition technologies and supply chain networks."

ii. The Nutri-hub incubator of the Indian Institute of Millets Research provides seed funding to nutricereal entrepreneurs at the idea and prototype stages and provides training.

iii. The Indian Council of Agricultural Research (ICAR) supports 45 collaborating Centers located in various State Agricultural Universities (SAUs) and ICAR Institutes for the development of new varieties of millets as part of the All India Coordinated Research Project (AICRP) on Small millets, Sorghum, and Pearl millet.

iv. A number of national agricultural research organizations are working to create hybrid and high-yielding millets as well as the right equipment for hulling, grading, and processing

them into high-value goods that may be used in new urban consumption patterns and perhaps even exported.

Conclusion

The usage of millet has enormous potential seeking it we have to made significant efforts to improve the popularity, affordability, supply chains and R&D of millet and millet-based products. Government has started various initiatives and providing assistance for increasing millet production and its consumption for nutritional and health benefits to our growing population and for economical benefits to all the stakeholders including farmers . The Union Ministry of Agriculture has created a “Seven Sutra” campaign to promote millets that emphasizes improving production, nutrition and health, value addition and recipe development, entrepreneurship, awareness building, policy formulation, and global exposure. Thus millets can play role in “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”; “Ensure healthy lives and promote well-being for all at all ages”; “Ensure sustainable consumption and production patterns”; “Achieve food security, improve nutrition, and promote sustainable agriculture”; **(4)**.

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