

MILLETS- HEALTH BENEFITS, CHALLENGES AND INITIATIVES REQUIRED FOR PROMOTION

Dr. Sasikumar S

Assistant Professor in Commerce
Adithya College of Arts & Science

Introduction

Millets are a group of highly variable small-seeded grasses, widely grown around the world as cereal crops or grains for human food and as fodder providing food security to millions of households and contributing to the economic efficiency of farming.

Millets are considered to be the next super food or nutri-cereals of the world because of their high nutritional content. They are gluten free, non- allergenic and good sources of proteins, carbohydrates, dietary fibre and essential amino acids.

Traditionally, India has had a high rate of millet consumption and cultivation. Resilient to climate change, Millets are hardy crops that have a low carbon and water footprint. They can grow on poor soils with little or no external inputs and can withstand high temperatures, making them ideal for the diverse physiographic divisions of India.

History of Millets in India

Millet has been cultivated in India for more than 5000 years and was a staple food of many ancient civilizations. In fact, it is believed that millet was the first grain to be cultivated in India before wheat and rice. Millets were highly prized for their nutritional value and were used in a variety of dishes from porridge to bread. Over time, as modern agricultural practices were introduced, the practice of millet declined in India. Farmers began to focus on high-yielding crops such as wheat and rice, which were easy to cultivate and had wide market appeal. Millet was associated with poverty and was often seen as a "poor man's food".

Types of millets grown in India

Finger Millet (Ragi): Finger millet is one of the most widely grown millets in India, a popular millet in southern India, ragi is a good source of calcium, phosphorus and thiamine. It is used to make dosa, idli, porridge and malted drinks.

Pearl Millet (Bajra): Millet is a hardy crop that can be grown in dry and arid regions. A staple food in Rajasthan, Gujarat and Haryana, millet is rich in protein, fiber and iron. It is used in making rotis, bhakri, khichdi and namkeen.

Sorghum (Jowar): Sorghum is a drought-resistant crop grown in many parts of India. It is high in protein, fiber and antioxidants, and is used to make rotis, porridge and snacks like bhakri and papad.

Foxtail Millet (Kangni): Foxtail millet is a short grain millet grown in many parts of India. It is rich in protein, fiber and minerals like iron and calcium and is used to make porridge, upma and dosa.

Importance of Millets

Millet is a genus of small seeded grasses belonging to the Poaceae family. They are drought-tolerant, flexible and adaptable to a variety of soil and climate conditions, which makes them ideal for growing in India, where rainfall patterns and soil quality vary widely. Millets can be cultivated year-round, from the kharif to the rabi season, and can provide multiple harvests in a year, making them a sustainable and cost-effective crop for smallholder farmers and marginal communities. Millets are also rich in micronutrients like iron, zinc and calcium and have a low glycemic index, which means they release glucose slowly into the bloodstream and help control blood sugar levels. Millets are also gluten-free, which makes them suitable for people with celiac disease or gluten sensitivity.

Benefits of Indian Millets

Indian millets are loaded with numerous health benefits which makes them an ideal food for a healthy diet. Here are some of the benefits of eating Indian millet:

- **Rich in Nutrients:** Indian millet is a rich source of protein, fiber, vitamins and minerals. They are also low in fat and gluten-free, making them an ideal food for people with celiac disease or gluten intolerance.
- **Promotes Heart Health:** Millets are known to reduce the risk of heart disease by lowering cholesterol levels and controlling blood pressure. They are also a rich source of antioxidants, which help reduce the risk of heart disease.
- **Helps in Weight Loss:** Millets are low in calories and high in fiber, which makes them an ideal food for weight loss. They keep you full for longer and prevent overeating.

- **Aids Digestion:** Millets are rich in fiber, which promotes healthy digestion and prevents constipation.

Health benefits of Millets

• Millets are a **powerhouse of nutrition** because of their **high nutritional value** compared to rice & wheat. Being **alkaline in nature**, they are easily digestible for infants.

• They are **rich in protein (muscle growth)**, essential fatty acids, **dietary fibre (prevents constipation)**, B-Vitamins, **antioxidants**, and minerals such as calcium, iron, zinc, potassium, magnesium, etc.

Understanding the need to promote the diversity and nutritional and ecological benefit of millets, after the proposition by the Government of India, United Nations has declared the year 2023 as International Year of Millets (IYOM).

In its pursuit to create an innovation driven India and celebrate the International Year of Millets, Atal Innovation Mission, NITI Aayog has launched 4 challenges of national importance and societal relevance. The solutions to these challenges will help bridge the gaps in the millet supply chain – promoting sustainable production, enhanced nutrition, wider acceptance, and increased consumption.

Some of the Millets Producing States

States	Millet Crop Grown
Rajasthan	Bajra, Jowar
Karnataka	Jowar, Ragi
Madya Pradesh	Bajra, Jowar
Maharashtra	Ragi, Jowar
Uttar Pradesh	Bajra

Challenge 1- Promoting Efficiency

Processing converts the inedible grain into edible form and thereby enhancing its quality. Processing of millets plays significant role during its utilization as food. Longer shelf life, aesthetics of food and flavour and ease of cooking is what necessitates processing.

However some millets require multiple processing for optimization of grain recovery and optimization of polishing to retain their nutrition value

Challenge 2- Decentralized Processing

Processing of millets face several hurdles owing to variation in size of various millet types and low shelf life of the processed millets. The grains vary in terms of shape, nature of grain surface, hardness, husk-grain bonding etc. Furthermore, there are variations within the same small millet crop due to variation in varieties, cultivation practices, and microclimate across production regions

Challenge 3- Shelf life Augmentation

Millets are extremely nutritious and are proven to have health benefits. However, millets have poor shelf life once processed due to its intrinsic enzyme activity (lipase activity, lipid oxidation etc.) that causes rapid development of rancidity and bitterness. Millet products are also prone to moisture and water activity. Quality assurance thus greatly depends on different pre-treatments and / or storage conditions.

Challenge 4- Marketing and market linkages

Millet supply chain suffers from inconsistent supply and demand that prevents its commercial viability. While the lack of access to HYV seeds has led to low crop productivity, the lack of public awareness about nutritional benefits of millets has led to limited adoption of millets as a ready to cook cereal. In addition, limited distribution and lack of market knowledge have resulted in sub-optimal reach, lower price realization and wastage.

Millets are mostly rain-dependent crops grown mainly during the Kharif season. Replacing rice (a Kharif crop) with millets will not be easy as agriculture is intimately linked with socio-economic factors and market forces (subsidies, MSP, free power), which affect crop choice.

Lack of public awareness about nutritional benefit of millets has led to limited adoption of millet-based products. Limited distribution and lack of market knowledge has led to sub-optimal reach, lower price realization and wastage.

Initiatives to Promote Millets

• In 2018, the Union Agriculture Ministry declared millets as **Nutri-Cereals** and the **powerhouses of nutrition**, considering their high nutritive value & also **anti-diabetic properties**.

• 2018 was observed as the “National year of Millets”. The UN General Assembly adopted an India-sponsored resolution to mark 2023 as the “International Year of Millets”

• Scientists from the ICAR-Indian Agricultural Research Institute (IARI) have developed a technology for extracting gluten from wheat dough & its regeneration in bajra & maize flour.

Initiatives required

- Better recipes need to be invented to get millets mainstream & make them part of everyday diet.
 - Multigrain breakfast mixes should be promoted as alternatives to early morning energy drinks like boost.
 - Millets should also be included in the PDS along with wheat & rice.
 - All millets should be brought under MSP (at present only jowar, bajra and ragi receive MSP support)
- Millets should be introduced under the PM POSHAN Scheme (Mid-Day Meal Scheme).

Exports of Millets

India is well placed to raise output and drive exports to tap into a growing global market. India produces more than 170 lakh ton (80% of Asia's & 20% of global production) of millets. The global Millets market was valued at \$9.95 Billion in 2020 and is projected to reach \$14.14 Billion in 2028, growing at a CAGR of 4.5% from 2021 to 2028

- Share of export of millets is nearly 1% of the total millet production.
- Exports of millets from India include mainly whole grain.
- Export of value-added products of millets from India is negligible.

India's major millet exporting countries are U.A.E, Nepal, Saudi Arabia, Libya, etc.

Consumption pattern of Millets in India

- According to the latest available NSSO household consumption expenditure survey, less than 10% of the rural and urban households reported consumption of millets.
- The consumption of millets was reported mainly from Gujarat (jowar and bajra), Karnataka (jowar and ragi), Maharashtra (jowar and bajra), Rajasthan (bajra), and Uttarakhand (ragi)

Conclusion

While farmers and doctors say the renewed push to millets is welcome, they also request the government to be wary of corporations jumping on the bandwagon, to capitalise on the people's desire for good health.

Since the start of this year, the Union government appears to be on a mission to promote millets. With United Nations declaring 2023 as the 'International Year of Millet' on India's proposal, the government has announced several programmes for the duration of the year to raise awareness on millets, and spawn a discussion on their health benefits and explore ways to increase their cultivation.

People are beginning to recognize the nutritional value of these ancient grains and are looking for more sustainable food options.