

Leading the world towards food security and sufficiency: Path of Millets

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Abstract: Scarcity of food together with the widespread of undernourishment potentially has been challenging the entire humanity and pushing the earth and life of human beings under a deep crisis. The United Nations had realized the importance of these concerns in 2012 and had launched an initiative under Zero Hunger Challenge. In 2021, it also convened a Food System Summit to ensure zero hunger in the world. Apart from making the humanity aware of this real concern however, there was little that they were able to achieve in this direction. To meet this challenge, recently Bharat has started leading with a promising solution. Bharat has focused on to produce and popularize millets that has a potential to serve as superfood that can address both the above concerns. This paper discusses the same in detail.

Keywords: Millets, Hunger, Malnutrition, Scarcity of food

Introduction: According to a recent UN survey¹, Prevalence of Undernourishment (PoU) remained stagnant between 2014 to 2019 but jumped from 8.4 % to 9.9% in the last year. It is estimated that around 768 million people were undernourished in 2020 and majority of these exist in Asia and Africa region. In another estimate it was found that around 2.37 billion people do not have adequate food. This is almost one third of the world population and in absolute numbers the number has grown by 320 million in one single year as noticed in 2020.

Scarcity of food together with the widespread of undernourishment potentially challenge the entire humanity and pushing the same under a deep crisis. The United Nations had realized the importance of these concerns in 2012 and had launched an initiative under Zero Hunger Challenge¹. In 2021, it also convened a Food System Summit¹ to ensure zero hunger in the world. Apart from making the humanity aware of this real concern there was little that they were able to achieve in this direction². To meet this challenge, recently Bharat has started leading with a promising solution. Bharat has focused on to produce and popularize millets that has a potential to serve as superfood that can address both the above concerns. Not only millets can be

produced with much larger farming output as compared to our contemporary farming produces like wheat and rice, millets have also excellent nutrition value and therefore it promises to address the twin issue of malnourishment and food scarcity in a very effective manner.

Just like many other ancient wisdoms that India had lost while fighting with a blood-soaked mediaeval era, she gave up her tradition of using millets regularly in food habits. It is quite strange that the Indian traditional system that knew about the millets and their benefits for a long time, gave up the same initially but recently has again started believing in her own knowledge tradition. In 2015, India had notified millets as nutri-cereal food. Consequently, 2018 was declared as the National Year of Millets. In addition to focusing on our own population, following the true Bhartiya tradition of carrying along the entire world and make everyone happy on this planet, Bharat did not try to keep this initiative within its geographical boundary. And on the initiative² of Bharat, now even the United Nations has announced 2023 as the “International Year of Millets”.

Historically stating, millets were among the first cultivated crops of our region. There are enough historical indicators revealing that millets were consumed in the Indus-Sarasvati civilization between 3300 to 1300 BCE. According to a recent research it has been reported that, millets used to be our traditional grains³ that were consumed by half of the population of Asia and Africa.

Millets – availability and variety: It is said that there are about 6,000 varieties⁴ of millets throughout the world. Some of them are Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi or Nachni), Brown top (Sama), Kodu (Arke), Proso (Chena/Barr), Barnyard (Sanwa), and Foxtail Millet (Kora). It has now been medically proven by the modern research that not only Millets are the most beneficial for health since they are gluten free and are good for digestive system they also protect us from fatal heart diseases. To add to the benefits, as compared to the other grains, Millets are very easy to grow and do not require much of soil and are also not a rainfed crop just as rice and to some extent wheats. Besides these advantages, Millets neither require as much time nor pampering as it is needed for rice and wheat.

Known popularly as ‘nutri-cereals’ millets have emerged as a very resilient and nutritious crop that can help address food security in India. Also known as ancient grains, the millets group comprises of sorghum, pearl millet and finger millet, and are renowned for their drought resisting capacities that enable them to grow in the arid as well as semi-arid climate of India and elsewhere, thereby making them an excellent choice for climate resilient agriculture and as a very sustainable crop in respect of climatic change. Millets have recently gained popularity in India and other parts of Asia due to their richness in protein, dietary fiber and micro nutrients. They possess low glycemic index thus they help in regulating blood sugar levels and

thereby assists in controlling diabetes. Their gluten free nature makes them an excellent food choice for people suffering from celiac disease or gluten intolerance. Besides its numerous benefits, millets consumption has drastically decreased in India in recent years⁵. The main reasons are that millets are not popular in urban areas, and with a dominant monoculture of rice and wheat across the farming systems, millets have lost out. Raising awareness of the nutritional benefits of millets through a communication campaign⁴ can help to revive interest in millets; mainstreaming millets in India's food security programme and providing adequate pricing support to farmers for cultivating millets can also ensure that millets are available in local markets. The adoption and flourishing of millets would also ensure effective partnership among the stakeholders such as the farmers, agricultural scientists, as well as the food industry towards the development of new products. Ultimately, India can promote millets for the purpose of sustainable agriculture as well as for health and food security benefiting its citizens.

Millets: Healthy and Superfood: Millets have gained recognition as a healthy and nutritious superfood in recent years, owing to their exceptional nutritional profile and numerous health benefits. These small-seeded grains have been cultivated and consumed for thousands of years in various regions of the world, including India. Millets are packed with essential nutrients and offer a range of health benefits, making them a valuable addition to a balanced diet.

One of the primary reasons millets are considered a superfood⁶ is their excellent nutritional content. They are rich in complex carbohydrates, dietary fiber, protein, vitamins, and minerals essential for overall health. Millets are gluten-free, making them an excellent alternative for individuals with gluten intolerance or celiac disease. They are also low in calories and fat, making them a great choice for weight management and maintaining a healthy diet.

Moreover, millets are a good source of antioxidants, which help protect the body against oxidative stress and reduce the risk of chronic diseases. These antioxidants also have anti-inflammatory properties, contributing to overall well-being. Additionally, millets have a low glycemic index⁷, which means they release sugar into the bloodstream slowly, helping maintain stable blood sugar levels and preventing spikes.

The fiber content in millets supports digestive health by promoting regular bowel movements and preventing constipation. It also helps in maintaining a healthy gut microbiome, which is crucial for overall immunity and well-being. Millets are known to aid in reducing the risk of various digestive disorders and improving gut health.

Furthermore, millets are environmentally sustainable crops that require less water and are resilient to adverse weather conditions. Cultivating millets can contribute to water conservation and support sustainable agriculture practices. By promoting the cultivation and consumption of millets, we can move towards a more environmentally friendly and sustainable food system.

History of use and of Millets: Millets have been an integral part of Indian cuisine and agriculture for centuries, with a rich history and significant cultural importance. These small-seeded grains are highly nutritious, gluten-free, and have been traditionally grown and consumed in India. Millets play a vital role in providing food security, especially in the semi-arid regions of the country. In recent years, there has been a renewed interest in millets due to their numerous health benefits and environmental sustainability. The use of millets in India has a long history³ rooted in tradition and culture. With their nutritional benefits, environmental sustainability, and cultural significance, millets play a crucial role in ensuring food security and promoting healthy eating habits. As India moves towards a more sustainable and nutritious food system, the revival of millets stands out as a promising step towards achieving these goals.

Furthermore, millets have cultural significance in India, being an integral part of various regional cuisines. Different varieties of millets such as ragi, jowar, bajra, and foxtail millet are used to prepare a wide range of dishes like rotis, porridges, and dosas⁸. Incorporating millets into the daily diet not only adds diversity but also helps in preserving traditional culinary practices.

While wheat is a crop that is not a local product just as Millets, it is a matter of research to find out how Millets got out from our food habits. In pre-islamic invasion era, Bharat was known as the most prosperous part of the world and we used to have a major 30% share in the world GDP. Therefore it is only reasonable to assume that in that Millets-eating era, we would never have had encountered any period of food scarcity then. When wheat was introduced in Bharat by British and we were forced to consume the same probably because USA was over-producing wheat and they needed some country to consume the same. Wheat was then in all probability, marketed as the fashionable elite-class grain and we must have started consuming wheat initially and then producing the same to meet the demand that was created in this manner. After all we have so many examples of such forced creation of demands in the name of fashion, trend and sophistication wherein tea, synthetic clothes and other items were pushed into our lives as necessity. We probably rejected Millets for being crude, rustic and rural food and got attracted towards the elite grain – wheat – that were identified as fine, in look and feel.

Introducing wheat in our food habit served the market interest of British as we started consuming this grain at the cost of our own home-grown Millets. USA used to supply⁹

and sell their wheat product making turnaround profits from their wheat grains that they were otherwise being overproduced at that time and were forced to dump in sea those days. In addition to this, we were made so much dependent on their grains that during the India-Pakistan war in 1965, USA asked India to stop war and consequently threatened that they would stop supply of wheat to us¹⁰ if we failed to obey them. It goes to the credit of the then leadership who made an appeal to the citizens to stop consuming wheat once in a week and that was enough to reduce the consumption to a level that we were able to support ourselves.

The infamous famine of Bengal in 1943 is yet another incident of history that indicates how much we had become dependant on the grains that were not our own originally.

Policies to promote Millets as a super solution for our food concerns: In 2008, millets were renamed as “Nutri Cereals,” and 2018 was designated as the National Year of Millets in Bharat⁴. The nodal agricultural ministry made an announcement that the central ministries, state governments, and Indian embassies have been allotted a dedicated month in 2023 to carry out various initiatives to promote International Year of Millets (IYM) and raise awareness about the advantages of millets⁵. Further policies may be framed to promote millets as a super solution for our food concerns are crucial in harnessing the potential of these nutritious grains and integrating them into mainstream food systems. Governments, both at the national and regional levels, should play a vital role in creating an enabling environment for the cultivation, processing, promotion, and consumption of millets. The worldwide millets market is expected to have increased by 4.5% between 2021 and 2016. Several policy measures can be implemented to promote millets as a sustainable solution to our food concerns:

1. **Incentives for Millet Cultivation:** Government can provide financial incentives, subsidies, and support to farmers who cultivate millets. This can include subsidized seeds, agricultural equipment, irrigation facilities, and credit facilities to encourage farmers to adopt millet cultivation practices.
2. **Research and Development:** Investing in research and development programs focused on enhancing millet varieties, improving yields, and developing sustainable farming techniques can further promote the growth of millet production. This can be done through agricultural research institutes, universities, and collaborations with international organizations.
3. **Promotion and Awareness Campaigns:** Government can launch awareness campaigns to educate consumers about the health benefits of millets and promote their consumption. These campaigns can include advertisements, workshops, cooking demonstrations, and collaborations with celebrity chefs to create innovative millet-based recipes.

4. **Integration into Public Distribution Systems:** Including millets in public distribution systems and government feeding programs can increase their accessibility and affordability, especially for marginalized populations. This can help address food security concerns and ensure that nutritious food options are available to all.
5. **Regulatory Support:** Implementing regulatory measures to ensure the quality, safety, and labelling of millet products can build consumer trust and confidence. Setting standards for millet production, processing, and marketing can support the growth of the millet industry.
6. **Trade Policies:** Facilitating trade and market linkages for millet producers can help them reach wider markets and increase their income. Governments can negotiate favourable trade agreements, provide export incentives, and support the marketing of millet products domestically and internationally.
7. **Capacity Building:** Providing training programs, workshops, and capacity-building initiatives for farmers, entrepreneurs, and stakeholders in the millet value chain can enhance their skills and knowledge. This can help improve productivity, quality, and market access for millet-based products.

By implementing these policies and initiatives, governments can effectively promote millets as a super solution for our food concerns.

Millets: winner for farmers: There are numerous reasons why millets are considered a sustainable agricultural option and a viable solution to meet the world's food needs, while ensuring environmental sustainability and enhancing resilience to climate change. They can act as an important crop to replace wheat and rice, while providing a much more sustainable option. They can be grown where wheat and rice cannot, and require much less water². Besides, they are not attacked by pests and diseases as frequently as wheat and rice. Millets promote food and nutrition security, and they have value added health benefits. They are rich in nutrients like protein, iron, calcium, dietary fibre and have amino acids, vitamins and minerals. Millets are considered extremely sustainable, and using them in food production can help meet the increasing global food demands while we face higher frequency of climate related events.

Conclusion: The major staple crops in India, millets bear transformative change in the agricultural and nutritional landscape of India. Their ability to withstand extreme weather and climate related fluctuations helps in ensuring food and nutritional security at the ground level especially in drought prone and resource poor regions of the country. The nutritional composition of millets with relatively high protein content, dietary fibres, and minerals, is highly beneficial in reducing the incidence

of malnutrition in women and children and in this way it plays a very crucial role in the health and wellbeing of the vulnerable population.

Apart from the numerous health benefits, millets contribute to ecological sustainability in a big way by having a low water footprint and are capable of flourishing in a wide variety of adverse conditions like infertile lands with minimal use of fertilizers and pesticides. Millets enhance agricultural efficiency which leads to biodiversity and helps mitigate the effects of climate change. Therefore, supporting millet by way of promoting its food and cultivation can yield many positive outcomes in achieving the balanced nutrition in India while aligning the agricultural sector with Food and Nutrition Security and Sustainable Development Goals.

In conclusion it must be emphasized that millets are indeed a healthy and nutritious superfood that offers a range of benefits for human health and the environment. With their rich nutritional profile, antioxidant properties, and sustainability, millets have already and rightfully earned their status as a valuable addition to a balanced diet. Including millets in our regular meals can contribute to better health outcomes and support a more sustainable food ecosystem for future generations.

Bharat, on this issue therefore, has emerged a major solution provider in this most important global concern that can singularly ensure that this planet becomes a better place to live in for the entire humankind.

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References:

1. <https://www.un.org/en/global-issues/food#:~:text=Nearly%20one%20in%20three%20people,people%20in%20just%20one%20year>
2. <https://www.fao.org/interactive/state-of-food-security-nutrition/2021/en/>
3. ³Amit Tomar & Mahak Singh, **Studies on nutritional benefits and value addition in small millets under Bundelkhand region**, *International Journal of Agricultural Invention*, Vol. 2(2): pages 118-123: December, 2017.
4. <https://timesofindia.indiatimes.com/blogs/voices/magical-millet-ancient-grain-for-new-lifestyle/>
5. ⁵Aruna kumar Panigrahy and Minakshi Padhi, **The international year of millets 2023: A multi-dimensional opportunity for India**, *World Journal of Biology Pharmacy and Health Sciences*, 2023, 15(02), 122–127. DOI: 10.30574/wjbphs.2023.15.2.0331.

6. [6^{https://www.webmd.com/diet/health-benefits-millet#:~:text=Millet%20is%20rich%20in%20dietary,your%20risk%20of%20colon%20cancer.}](https://www.webmd.com/diet/health-benefits-millet#:~:text=Millet%20is%20rich%20in%20dietary,your%20risk%20of%20colon%20cancer.)
7. [7^{Anil Kumar, Madhu Rani, Shalini Mani, Pallavi Shah, Dev Bukhsh Singh, Himabindu Kudapa & Rajeev K. Varshney, **Nutritional Significance and Antioxidant-Mediated Antiaging Effects of Finger Millet: Molecular Insights and Prospects**, Front. Sustain. Food Syst., 05 October 2021, Sec. Crop Biology and Sustainability, Volume 5, 2021, https://doi.org/10.3389/fsufs.2021.684318, https://www.frontiersin.org/articles/10.3389/fsufs.2021.684318/full}](https://doi.org/10.3389/fsufs.2021.684318)
8. [8^{https://goldenmillets.com/exploring-different-types-of-millet-and-their-uses/}](https://goldenmillets.com/exploring-different-types-of-millet-and-their-uses/)
9. [9^{"USDA Wheat Baseline, 2013-22". USDA Economic Service. Retrieved 12 June 2013.}](#)
10. [10^{https://theprint.in/past-forward/hungry-india-a-nawabi-us-president-mexican-blood-the-real-story-of-green-revolution/835649/}](https://theprint.in/past-forward/hungry-india-a-nawabi-us-president-mexican-blood-the-real-story-of-green-revolution/835649/)

