Original Article
ISSN (Online): 2582-7472

ShodhKosh: Journal of Visual and Performing Arts
July-December 2023 4(2), 4756–4759

THE ROLE OF MILLETS IN ATTAINING SUSTAINABLE DEVELOPMENT GOALS

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DOI
10.29121/shodhkosh.v4.i2.2023.5656

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

Millets are the highly nutritious ancient grains. Consumption of millets as staple diet can supply superior nutrients and combat malnutrition. The small-sized grain holds promise for addressing food security to ever increasing population. These helps to prevent lifestyle related chronic diseases. The climate-resilient crops require no pesticides and fertilizers. The drought-resistant, resilient, short-growing, cost-effective crops can bring a positive transformation in agriculture. Climate change, uncertainty of weather can be sustainably addressed by promoting millets. The plant millets can convert more Carbon-Dioxide to Oxygen and reduce the carbon footprints of agriculture up to 30%. Cultivation and consumption of millets is the best way to maintain the balance on health, soil, water, and air. It can play a key role to bring back diversity in food grains for healthy, disease free life as well as sustainable future. In this paper an attempt has been made to highlight the unique characteristics and potentialities of millets in achieving Sustainable Development Goals-1. No poverty, 2. Zero hunger, 3. Health and Well-being, 6. Water and Sanitation, 8. Decent work and Economic growth, 11. Sustainable cities and communities, 12 Responsible consumption and production. 13. Climate Actions.

Keywords: Millets, Sustainable Development Goals, Climate, Cost-effective

1. INTRODUCTION

Cultivation of millets is an ancient practice of Africa, China and India. According to a report of Asian News International millet was grown in India as far back as 7000-5000 BCE. In 'Indica' the ancient Greek historian Megasthenes wrote about the importance of millet as a staple food crop in Indian subcontinent during the 4th century BCE. Nigeria, Niger and Mali have a long history of agricultural practices and dietary habits of millets. Harappa and Mohenjo-Daro of India, Xiaocheng of China are some notable Archeological evidence of cultivation and consumption of millet in various ancient civilizations. Introduction and popularity of other grains like wheat and rice, dietary shifts during late medieval period led to a decline in millet cultivation. After green revolution farmers had preferred to high-yielding varieties of crops rather than millets. Thus, millet is no longer the main crop cultivated by farmers today.

1.1. OBJECTIVES

1) The study aims to fulfil the following objectives-
2) To discuss the nutritional benefits of millet
3) To highlight the agronomic, environmental implications of millet production

2. METHODOLOGY

Descriptive method is used in preparing the study. It is based on secondary data like journals and internet as well as an informal interview with millet farmer.

2.1. INDIAN INITIATIVES TOWARDS MILLETS

In recent times there has been a resurgence of interest in millet. It has been gaining a worldwide attention. As the largest producers and consumers of millet in the world, India has implemented several initiatives to raise awareness of the potential of the nutrient-dense grains. National Mission on Agriculture, National Food Security Mission, National Mission for Sustainable Agriculture etc. reflects India's commitment to revitalizing millet cultivation as a sustainable and nutritious crop. India formed ICAR (Indian Council of Agricultural Research) to conduct research and development activities, disseminate knowledge and technologies related to millet cultivation. Some states have incorporated millets into the Public Distribution Systems to make accessible to larger population. Some states have introduced millets into the Mid-day Meal programme in school. India observed 2018 as the year of millet. United Nations Orgnization (UNO) declared 2023 as the International Year of Millet on the request of the government of India. At various G20 events delegates were served millet dishes. During the 100th G20 meeting under India's presidency the meeting of agricultural chief scientists decided to launch Indian initiative named MAHARISHI (Millet and Other Grains International Research Initiative) in order to bolster research, and awareness concerning agro-biodiversity, food security and nutrition. It aims to focus millets and other underutilized grains. It is a significant step toward addressing global food security, nutrition and sustainable agriculture challenges.

2.2. HOW MILLETS LOOK LIKE?

Millet grains are small, round seeds with smooth, glossy outer layer which are white, yellow, red, brown and gray depending upon its variety. Pearl millet, finger millet, foxtail millet, prosco millet etc. are different types of millet. The appearance, size, colour and characteristics of each type is unique.

2.3. HEALTH BENEFITS OF MILLETS

Millet is a highly-nutrient, wonderful grain for good health. This is considered as smart food, super food, food of poor as these are the great source of dietary fiber, Carbohydrate, protein, minerals and vitamins. It is low in calories but high in iron, phosphorus, calcium, carotene, magnesium, potassium and zinc. The small grains are also rich in antioxidants. It has anti-inflammatory, antiviral and antibacterial property. It promotes digestive health. It is helpful to regulate blood sugar levels and contribute heart health due to its potential to lower cholesterol. The gluten-free nature provides a safe alternative for those who need to avoid gluten- containing grains. It has the potentiality of lowering the risk of chronic diseases like certain cancers. It is a good supporter of weight management and strong weapon to combat mal-nutrition. The cereal grains are gaining increased popularity for their numerous health benefits. The nutritional value of millets contributes to global efforts to ensure food security. It can be sustainable food source for animal consumption.

2.4. AGRONOMIC AND ENVIRONMENTAL IMPLICATIONS OF MILLET PRODUCTION

Millet is considered as an agro-economic sustainable crop for the nature of low resource requirement and short growth cycle. It requires less water comparing to other major crops. It is resilient to pests and diseases. So, it reduces the needs of extensive fertilizers, pesticides or chemical inputs. Thus, millet farming is a cost-effective way of producing food.

Millet is climate-smart agriculture for resilience to climate change. It has the ability to thrive in diverse and harsh environment, well- adapted to arid and semi-arid regions. It is resilient to diverse climate and soil type. Millets can be grown in the areas where other crops may not be viable. It is suitable for regions with unpredictable climate. It reduces vulnerability to environmental uncertainties. The drought-tolerant crop can survive and produce good harvest in dry conditions also. It can help in improving soil fertility as they are nitrogen fixing crops.

Cultivating millet can contribute to biodiversity and support small-scale agriculture, promoting local food system. It can contribute in improving crop diversity that can reduce the risk of crop failure due to disease or unsuitable weather.

Millet farming is the most important and promising agricultural sectors in India. It has all the potentiality to contribute to economic growth and development. It can boost rural development by providing diversified income sources. NABARD (National Bank for Agriculture and Rural Development) reported that millets are estimated to have a market potential of around Rs. 19000 corers. It opens employment opportunities to millions of people as farmers, traders, processors, millers, packers or transporters.

2.5. CHALLENGES OF MILLET PRODUCTION

Challenges in millet production include inadequate infrastructure and technology for cultivation and processing. Market access and price fluctuation are another economic factor that can impact farmers. Lack of awareness of the nutritional values, cultural preferences favoring other grains, lack of diverse millet-based products in the market are some problems related to millet consumption.

3. RECOMMENDATIONS

For overcoming the challenges related to cultivation and consumption of millets different efforts are required –

- Awareness campaigns for promoting mass awareness about its multi- dimensional benefits is necessary.
- Research and development for improving cultivation techniques and processing methods to increase yield and quality is important condition.
- Establishment of better market linkages and providing fair pricing to encourage farmers is important.
- Development of rural infrastructure for millet cultivation, harvesting, processing for reducing post- harvest losses.
- Implementation of adequate government policies.
- Collaboration with chefs and food industry experts to create millet-based recipes to enhance its culinary reputation.

4. CONCLUSION

Millet is the best commodity for economic, environmental and social sustainability. Millet cultivation can be a sustainable choice for maintaining and improving soil health as well as human health. There has been renewed worldwide interest in millet due to its nutritional benefits and resilience in diverse growing conditions. Millets are not just grains; but the seeds of hope for a sustainable and healthier future. It can be the best mean to achieve the dream of becoming a developed India up to 2047.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

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