

ROLE OF MILLETS IN SUSTAINABLE DEVELOPMENT**Dr. Bharti Sudarshan Goswami**

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E-mail: bhartigoswami@gmail.com**Abstract:**

India is celebrating the International Year of Millets 2023 in its unique way. It's indicated as the 'Super food' & 'Smart food', from the well-being perspective, the millets are highly nutritious in terms of fibre, proteins, iron and minerals. But, from the role of a sustainable development point of view, millets are turning out to be stalwart contributors in control the consequences of climate change, food insecurity, poverty, and malnutrition. Strengthening food and nutrient security is crucial to feeding the ever-growing world population. Millets provide energy and nutrients for millions of poor people in low and middle income countries of Asia. In case of India, promoting these nutritious and climate-resilient small-seeded grasses can go a long way in the search for achieving sustainable development goals (SDGs) and the globally appreciated Lifestyle for Environment campaign. In this research paper shows that millets are play important role for sustainable development as well as millets an approach for sustainable agriculture and healthy world today and tomorrow for healthy life.

Introduction:

In 2021, the Government of India had proposed at the United Nations for declaring 2023 as the International Year of Millets. India's proposal was supported by 72 countries and United Nations General Assembly declared 2023 as the International Year of Millets (IYM 2023) in March 2021. To take forward this declaration, the Government of India has decided to celebrate International Year of Millets 2023 to enhance awareness regarding millets and health benefits and promoting millets as a healthy world option for the food basket. Activities are also being taken up to demand creation of millets at both global and local levels, for better remuneration to the farmers for its production, to provide protection of sources (soil and water), and creation of direct and indirect employment.

India produces more than 170 lakh tonnes of millets per year and is the largest producer of millets in the world; accounting for 20% of global production and 80% of Asia's production. India's average yield of millets (1239 kg/hectare) is also higher than global-average yield of 1229 kg/hectare. Major millet crops grown in India and their percentage share of production are Pearl Millet (*Bajra*, 61%), Sorghum (*Jowar*, 27%), and Finger Millet (*Mandua/Ragi*, 10%). Millets have been part of India's tradition, culture and ancient civilization. Millets, popularly called '*Mota Anaj*' in Hindi, are a collective group of small-seeded annual grasses that are grown as grain crops, primarily on marginal land in dry areas of temperate, sub-tropical, and tropical regions. They are one of the ancient foods dating back to the Indus Valley Civilisation, around 3000 BC. They are grown in almost 131 countries today. Currently, millets constitute the traditional food for 59 crore people across Asia and Africa. In India, millets can be collect into major, minor, and pseudo categories.

Major Millets:

Sorghum (*Jowar*), Pearl Millet (*Bajra*), Finger Millet (*Ragi/Mandua*).

Minor Millets:

Foxtail Millet (*Kangani/Kakun*), Proso Millet (*Cheena*), Kodo Millet, Barnyard Millet (*Sawa/Sanwa/ Jhangora*), Little Millet (*Kutki*).

Pseudo Millets :

Buck-wheat (*Kuttu*) and Amaranth (*Chaulai*).

These are the categories of millets. The top five states producing Millets are Rajasthan, Karnataka, Maharashtra, Uttar Pradesh, and Haryana.

Keywords : Millets, Super food, Sustainable agriculture, Sustainable Development Goal (SDG)

Objectives of the research paper :

- To know about the current scenario in India for promoting millets.
- To understand the role of millets in sustainable development growth in India.
- To study the importance of the millets as a food security.
- To analyze the contribution of millets in sustainable agriculture and healthy world.

Millets Super Food :

Millets are a group of small-seeded grasses that are widely cultivated around the world, including in India. They are a traditional staple food in many parts of India and are known for their high nutritional value and resilience to harsh weather conditions.

Millets are important for India for several reasons:

Nutritional Value:

Millets are rich in nutrients such as fiber, protein, vitamins, and minerals. They are also gluten-free, making them a suitable alternative for people with abdominal disease or gluten intolerance.

Climate Resilience:

Millets are highly adaptable to different climatic conditions and can grow in areas with low rainfall or poor soil fertility. This makes them an important crop for farmers in drought-prone regions of India.

Food Security:

Millets have been an important source of food for millions of people in India for centuries. They are a cheap and nutritious food source that can

be grown locally, reducing dependence on expensive imported grains.

Biodiversity:

Millets are an important part of India's agricultural biodiversity. They are grown in a variety of agro-ecological zones and play a critical role in maintaining soil health and preserving traditional farming practices.

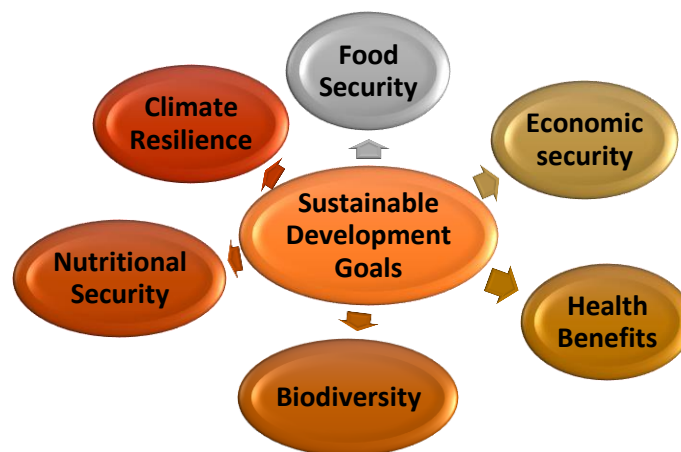
Economic Importance:

Millets are an important source of livelihood for many small-scale farmers in India. They provide a source of income and food security for these farmers and contribute to the local economy.

Health Benefits:

Millets have been linked to several health benefits, including reduced risk of heart disease, diabetes, and certain types of cancer. They are also gluten-free, making them a good option for people with celiac disease or gluten intolerance.

Sustainable Development Goals (SDG):



Millets and sustainable development goal- No Poverty :

Sustainable development goals is to reduce poverty. Millets can play a significant role in achieving this goal by providing farmers with a sustainable and reliable source of income. Millets require relatively less investment, resources and time than other crops. This makes them an ideal crop for small farmers who may not have the resources to invest in high-input crops. Furthermore, millets are an important food source in many developing countries where poverty is unlimited. They are a relatively inexpensive food source that can provide essential nutrition to people who may not have access to other types of food. According to the UN, more than 90 million people belonging to relatively poverty-prone regions of Sub-Saharan Africa and Asia depend on millets in their diets. The combination of inexpensive production costs as well as the consumption costs

of millets contributes significantly towards sustainable development.

Millets - Zero Hunger :

The sustainable development goals aim at achieving the zero-hunger target globally. A vital role can be played by millets in achieving this goal, as they are highly nutritious and enriched with essential vitamins and minerals that are often lacking in the diets of people living in poverty. Understanding this potential, in India, for example, millets are being promoted as a part of the government's efforts to tackle malnutrition. Being highly digestible and a great source of proteins, Millets are an ideal food for infants and young children. They are also a good source of energy and can provide long-lasting plurality, making them an affordable food option for all the economic sections of society.

According to a study by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the promotion of millets in the diets of children in India could prevent up to 24 million cases of malnutrition and 12 million cases of stunting. These characteristics indicate how millets can bring efficacy in the efforts to reduce hunger and achieve various targets of sustainable development goals.

Millets - Good Health and Well-being :

Sustainable development goals is focused on good health and well-being. Since millets contain necessary vitamins and minerals that can help prevent chronic diseases such as diabetes, heart disease, cancer etc., they can be path breaking work opened up a new era in cancer research. Having dietary fibre as the constituents, millets promote digestive health and prevent constipation. Further, studies suggest that Millets can even help lowering one's cholesterol levels as they contain omega-3 fatty acids as well as unsaturated fatty acids. Due to having relatively low glycerine index, millets can help regulate blood sugar levels. Additionally, millets constitute of antioxidants that can boost the immunity against oxidative stress. This richness of millets in terms of micronutrients helps not only in ensuring good health at individual level but also promoting well-being at community level.

Millets - Responsible Consumption and Production :

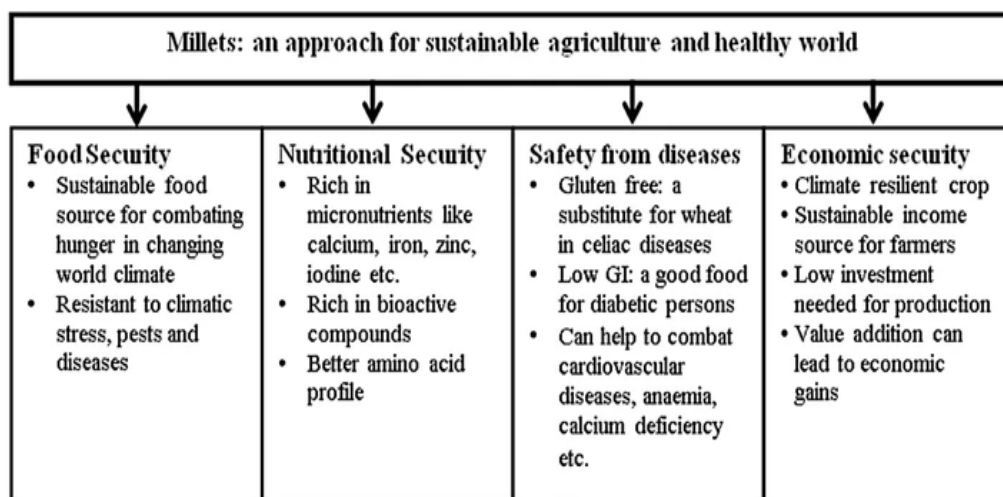
The increase in consumption and production of millets has a direct linkage with achieving the sustainable development goals that calls for sustainable consumption-production patterns. This particular SDG promotes resource and energy efficiency, reduction in environmental costs and reduction in poverty through consumption-production. These targets are in perfect synergic with the millets, as they grow with 60-70 percent less water usage than rice, within half the time as other paddy crops, and consume 40 percent less energy for processing. Due to their lesser permeability towards insect attacks, millets require minimal to no usage of pesticides, making their production even more eco-friendly and healthy. Further, the consumption of Millets promotes a sustainable lifestyle and such sustainable diets protect biodiversity and contribute to

food and nutrition security. These aspects showcase as to how millets are ideal for attaining the goals inducing sustainability in both production as well as consumption patterns.

Millets - Climate Action :

Sustainable development is one of the most crucial goals, as it outlines the actions towards combating climate change. The call for taking urgent actions and to mitigate with the risks posed by climate change can be sustainably addressed by promoting Millets. Due to their qualities, Millets require optimum resources to grow than other traditional crops and can be grown in marginal lands. This can be helpful in tackling the pressing issues posed by deforestation, rapid land use change etc. One of the most important tools to combat climate change is actions towards decarbonize. Multiple studies show that Millets can convert relatively more Carbon Dioxide to oxygen and according to the ICRISAT, millets can reduce the carbon footprint of agriculture by up to 30%. The agro-climatic adaptability of Millets is also a top value addition, reducing risks of crop failure due to changing weather patterns. Additionally, Millets are also known to be good for the health of soil, which can help reduce the need for synthetic inputs that can have negative environmental impacts. These unique characteristics of Millets can prove to be clinical in the mission of combating climate change and achieving the sustainable development goal.

Besides all these important contributions, the production, consumption and promotion of Millets have added advantages in achieving other sustainable development goals. For instance, due to their inexpensive production-consumption, Millets can help ensuring economic growth of the farmers and society. Importantly, large scale public awareness campaigns, as being carried out by the Government of India, can build constructive partnerships between farmers, agro-businesses, consumers and allied stakeholders.



Conclusion:

Millets with their unique characteristics and benefits have emerged as key contributors to achieving multiple Sustainable Development Goals. Role of millets in addressing global challenges and promoting sustainable development. Millets possess exceptional nutritional

value, being rich in protein, fiber, vitamins and minerals. Their inclusion in diets helps combat malnutrition and achieve Zero Hunger. These climate-resilient crops require fewer resources including water and contribute to Clean Water and Sanitation. Millets are also gluten-free, low glycemic index alternatives that promote Good Health and Well-being. By integrating millets into urban diets, we can foster Sustainable Cities and Communities and reduce the ecological footprint of food consumption. By promoting the incorporation of millets in daily diets, the strengthening of sustainable food systems is being done by the Government of India. However, multiple constructive initiatives and innovations in the world of millets still await to help achieve the sustainable development goals efficiently and create a healthy, sustainable and inclusive future for everyone.

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