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Role of Millets in Ensuring National Security

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ARTICLE ID: 44

Introduction

Nearly majority of millets have significant concentrations of fiber, minerals, and B-complex vitamins. The Indian subcontinent has produced and eaten millets, a type of coarse grain, for the past 5000 years. Millets have benefited from the nickname "poor man's food grain" for a very long time due to its remarkable affordability.. Millet is a generalized term for a number of small-grained cereal grasses. Millets were a staple in China and India before the development of quality grains like rice. Millets are incredibly adaptable crops that are extremely robust, drought-resistant, and able to withstand a variety of agro-climatic difficulties. These crops need the same micro-dosing of fertilizers as primary grains. Since they frequently contain higher levels of protein, fiber, calcium, and minerals than the widely consumed grains of rice and wheat, the majority of millet grains are now frequently referred to as "Nutri-cereals." Millets provide significant potential for enhancing India's food and nutritional security and eradicating hunger. As has already been indicated, millet is a versatile crop. This crop, usually offers a variety, may thrive in high-altitude and desert environments.

Millets are the Carbon Neutral Crops because they absorb carbon from the environment at a rate of 0.1 to 0.2 kg CO_2 eq/kg of production, as opposed to 0.4 kg CO_2 eq and 0.35 kg CO_2 eq/kg of production for rice and wheat, respectively. Millets have a great deal of promise to improve India's food and nutritional security and end hunger. Millet is a versatile crop, as was already said. With numerous variants, this crop can flourish in desert and high-altitude areas. Following the national millets festival in India in 2018, on March 5, 2021, India submitted to the UN General Assembly that 2023 be declared the “International Year of Millets.” 72 nations agreed with this suggestion, and the UNGA designated 2023 to be the Millets International Year. The current review aims to concentrate on the potential role

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millets could play in promoting dietary diversification and balanced diets and suggests the best way to use millets in the future to address food and nutrition security issues in India. This is because there is an increasing awareness of the significance of millets.

Global distribution

More than 130 countries are now growing millets. India, Nigeria and China are the largest producer of millets in the world which account for more than 55% of global production. However, millet output in Africa has greatly increased over the past decade. The production of millets has increased from 14.52 million tons in 2015-16 to 17.96 million tons in 2020-21. In India, major millet producing states are Rajasthan (43%), Uttar Pradesh (20%), Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Maharashtra, Gujrat (10%) and Haryana (8%). India is the world's fifth largest exporter of millets which produces 12 million tons of millets annually. India exported millets worth US $ 26.67 million in 2020-21.

Body

At both the macro and micro levels, ensuring food and nutrition security for India's immense and diverse population is a challenge, and work has been done on numerous fronts. There is no question that significant efforts have been undertaken recently to achieve food and nutrition security in India, and the advancements made cannot be challenged. However, unless concerted efforts are made, food insecurity and malnutrition appear to be continuing and may continue in the near future. As a result, the goal of sustainable improvement in food and nutrition security remains. After years of famine and severe food shortages, India started a number of programme to promote agriculture and is now self-sufficient in food. Recently, millets were marginalized while cereal production and distribution received a lot of policy attention. Millets also lost importance in our everyday meals as a result of changing dietary trends.

Nutrition security implies a balanced diet, a secure environment, access to clean water, and health care outreach. Millets promote a secure atmosphere and a nutritious diet. They are a gift from the natural world to people. Millets are rich in micronutrients, such as the B-complex vitamins and minerals, whose deficiencies are frequent in India. The most macronutrients and micronutrients among the millets are found in pearl millet (Bajra), which also contains folic acid, riboflavin, iron, zinc, magnesium, and magnesium. Finger millet is a fantastic source of calcium.

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Millets, for instance, were included in the food basket in the lower stratum of the recently passed National Food Security Bill in the early part of 1996, but since then, progress has been relatively slow. The Initiative for Nutritional Security via Intensive Millets Promotion (INSIMP) also seeks to demonstrate improved production and post-harvest technologies in an integrated way by promoting the growing and consumption of millets and millets-based products. Both food security and food sovereignty will be ensured. While there are other government initiatives that provide low-income individuals with access to discounted cereals, the Food Security Bill is anticipated to be the first to include millets in the Public Distribution System (PDS). There is evidence that implementing simple and inexpensive home processing methods can improve the amount of minerals present in millets. It has been demonstrated that methods like as soaking, malting, popping, puffing, germination, and fermentation increase the availability of nutrients from millets. Because of this, if recipients of the food security bill are taught about these simple strategies, nutrition security will be managed to some extent along with food security within the constraints of the available resources.

Agricultural scientists, food technologists, home scientists, policy leaders, and the media must work together on a variety of scientific, technological, and behavioral engineering projects if millets are to receive the respect they merit. Revalorizing Small Millets in the Rain-fed Regions of South Asia (RESMISA), the National Academy of Agricultural Sciences 13 DSR-led value chain development, and the Initiative for Nutritional Security through Intensive Millets Promotion (INSIMP), funded by the International Development Research Center (IDRC) and CIDA (Canadian funds), are some recent initiatives to revitalize millets from production to consumption. With proper implementation, the Seeds Act of 1966, the Patent Act of 1970, the Protection of Plant Variety and Farmers' Rights Act of 2002, and the Biological Diversity Act of 2002 are just a few of the laws that provide support for the ongoing growth of the supply side of millets. Millets are used extensively in both the ICAR's National Agriculture Innovation Projects and the All India Coordinated Project in Home Science. Other examples include the promotion of Nutri farms, price and procurement assistance, and millets' inclusion in the Midday Meal Program.

Conclusion

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There is a need for research and development initiatives as well as the design of policies. Certain actions have already been done globally, particularly in India. These efforts however are by no means adequate. To ensure ongoing research and development for better varieties, the availability of high-quality seeds, adequate assistance for millet production, and suitable technology for processing and marketing, it is imperative that the essential legislation is properly implemented. Millets should be included in the PDS together with rice and wheat on the demand side so that they get the proper MPS. In addition, it is necessary to develop new and improved millet-based goods and performance measures marketing strategies. The proportion of the preliminary targets for boosting food grain production by an additional 25 MT under the National Food Security Mission (NFSM) that was allocated for an increase in the per-hectare output of cereal grains has led to a reduction in the nutritional value of food grains. Now is the time to try and make our dry lands productive while minimizing the stress on our fertile soils. Millets have a significant impact on both food and nutritional security. Additionally, we must develop cutting-edge techniques for using millets as food.