MILLETS: THE KEY TO A HEALTHY AND SUSTAINABLE LIFESTYLE

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Abstract :

India and other emerging countries have lost out on a lot of beneficial and significant things as a result of adopting the western model of development. One of the largest adjustments has been in eating habits. We are pursuing standardization while swiftly forgetting our native foods. Millets have sometimes been written off as being too simple to be useful, forgetting their origins. Millets are high in fiber, minerals such as magnesium, phosphorus, iron, calcium, zinc, and potassium, and are high in protein. But there has been a significant decrease in millet production and consumption as a result of changes in eating patterns and state policies that favor rice and wheat. Many attempts are being made today to expand the demand for millets in India and across the world, including altering people's perspectives. A lot of organizations and government initiatives are emerging to promote this cause. There are initiatives underway to teach farmers better millets-growing practices.

Keywords- *Millets, superfood, sustainable, government initiatives, nutri-cereals, millet promotion, millet mission, health benefits*

Introduction :

Millets are cereal crops and small seed grasses that are commonly grown in Africa and Asia. These little crops have been used for human food as well as animal fodder for centuries. Millet is mostly grown in semiarid tropical regions of Africa and Asia, where it accounts for around 97 percent of global production. Millets were regularly utilized to feed birds and animals for centuries before the health benefits of these superfoods were discovered. However, millets were employed for a variety of meals in different parts of India. There are two types of millets: large millets and small millets. While pearl millet, sorghum, finger millet, and foxtail millets are considered major millets, others such as sama, kodo, chinna, and others are called minor millets. Many of the smaller millets are threatened by depletion, and some have already been completely eradicated.

A Brief history of Millets in India :

One of the earliest crops to be cultivated was millets. Evidence of millet cultivation on the Korean Peninsula dates back to the Middle Jeulmun Pottery Period (about 3,500-2,000BC). Millets have been mentioned in some of the oldest Yajurveda manuscripts in India, identifying foxtail millet (priyangava), Barnyard millet (aanava), and black finger millet (shyaamaka),

indicating that millet usage was widespread prior to the Indian Bronze Age (4,500BC). Another study suggests, millets were consumed during the Indus-Sarasvati civilization (3,300 to 1300 BCE). Half of the people in Asia and Africa typically eat millets as their main grain. Around 6,000 different types of millet can be found worldwide. Some of them include jowar (sorghum), bajra (pearl millet), ragi (finger millet), nachni (finger millet), sama (brown top), arke (kodu), chena/barr (proso), barnyard (sanwa), and kora (foxtail millet).

Although millets have been used in India for a very long time, between 1972–1973 and 2004–2005, consumption of bajra or pearl millet decreased by 67% in urban areas and by 59% in rural ones. Another study found that jowar, bajra, maize, and ragi contributed 23% of Indians' grain demand in 1983 but just 6% in 2011.

Indians, like many other cultures, adapted their food choices according to western preferences. Indigenous cuisines were rapidly phased out. Food grains such as millets were finally scrapped out because they were deemed inferior to wheat or rice. Prior to the Green Revolution, millets accounted for 40% of produced grains, accounting for more than rice production.

Why are Millets regarded as Superfood?

Protein, fiber, and vital vitamins and minerals are all found in abundance in millets. They are well known for being extremely nutritious. Millets promote general health, weight loss, and immunity. They are rich in vitamins and minerals including calcium, iron, manganese, zinc, potassium, and magnesium as well as nutrients like dietary fiber, carbohydrates, protein, and healthy fats. Millets have a low-calorie content, which helps with fitness and energy maintenance. Millets have also been proved to eliminate toxins from our systems, reduce migraines, and ease asthma symptoms, enabling our organs to function at their best. Addition of millets in daily diet can amp up the health quotient and keep diseases at bay and provide ample nutrition. Here are some additional health benefits of consuming these little grains.

Health Benefits:

1) Millets are beneficial for heart diseases :

These tiny grains are a nutritional powerhouse that can successfully lower coronary occlusion and aid to improve heart health. It is enhanced with magnesium, which has the beneficial properties of lowering blood pressure and lowering the risk of stroke and heart attacks. Millets, in particular, can lower the risk of conditions like atherosclerosis. As these are high in potassium, have a strong vasodilator effect. Additionally, the plant lignans found in millets may be converted into animal lignans, which can fight against long-term conditions including cancer and other cardiovascular illnesses.

2) Millets can control blood sugar level :

Magnesium, which is abundant in millets and helps to stimulate insulin production and improve the body's glucose receptors, is also important for maintaining a good balance of blood

sugar levels. This lowers the likelihood of developing type 2 diabetes.

3) Millets facilitate digestion :

Millets are a fiber-rich, nutritious grain that helps ease intestinal discomfort and aid with digestion. With addition to easing various liver and renal illnesses, it aids in digestive issues. Additionally, it can aid in lowering the risk of colon cancer. Black grapes and noni juice can be added to your diet to prevent cancer.

4) Millets aid in detoxification :

Millets are rich in antioxidants such curcumin, ellagic acid, Quercetin, and catechins that also enable the body's removal of foreign substances and free radicals and the regulation of enzymatic processes. These can help the blood to naturally cleanse.

The above benefits of millets are enough to realize the need for including these grains in our meals on a regular basis. It is evident that globalization and blindly following western food habits have altered our diet in significant manner. This is the time to appreciate indigenous grains and switching back to healthier alternatives which are not only locally sourced but also sustainably cultivated.

Harvesting Millets in a sustainable way :

One of the easiest crops to grow in the field is millets. It doesn't need as many fertilizers or as much care because it is a rainfed crop, unlike wheat and rice. One of the first crops to be produced for food was millets. Millets need less time to develop, fit a variety of cropping systems, and have exceptional response to changing climatic and environmental circumstances, making them simple to plant and care for. Millets are environmentally friendly, sustainable for the farmer, and a good source of affordable, nutrient-dense food for everyone because of their excellent tolerance to hard environments.

Most millets can be cultivated in rain-fed regions and don't need a lot of water to produce them, which is good for the environment. This crop is more environmentally friendly than vegetables, legumes, rice, wheat, and many other crops since it can be produced on soil that has little fertility, unlike those other crops that need fertilizers to increase soil fertility and different carbon-emitting fuel sources for irrigation. Millets continue to be a plant-friendly crop, drawing attention from efforts to combat climate change and promote sustainable living. Millets don't need much, if any, pesticide use since they are insect resistant.

Every year, India loses close to 40% of the food it produces. Millets do not spoil quickly, and some varieties are still edible 10 to 12 years after planting. As a result, millets help to ensure food security and play a significant part in reducing food waste.

Millets have a huge potential as a mainstream crop in the future. It is a prospective crop for agriculture because of its benefits to farmers, to cultivation, and to human health. Since 2007 and 2017, India's groundwater levels have decreased by 61 percent. Millet is thus an ideal crop to farm due to its minimal water footprint and favorable climatic needs. Millets have the potential to be a profitable crop, and the advantages they provide make them a potential source of future global food security. Millets are regaining popularity due to their distinctive health benefits and ease of production, and they are currently becoming more popular among people.

Government Initiatives to promote millet production :

On April 10, 2008, millets were rebranded as "Nutri Cereals," and 2018 was designated as the National year of millets to boost the consumption of millets or nutri-cereals in an effort to halt the downward trend in millet consumption. From 14.52 million tons in 2015–2016 to 17.96 million tons in 2020–21, millet's output increased. Jowar, Bajra, and Ragi are the three millets that are regarded as neutral, whereas Brown top, Kodu, Proso, Barnyard, and Foxtail are the millets that are regarded as positive. These five millets are gaining popularity because they are so good for the digestive system and can treat long-term diseases like diabetes.

- **Intensive Millet Promotion (INSIMP) :**

In order to promote millets as "nutri-cereals," the Central government established the Initiative for Nutritional Security via Intensive Millet Promotion (INSIMP) in 2011–12. The program intends to spur higher millets production across the nation. It hopes to improve India's nutritional security by doing this. The plan called for planting millet on 0.5 million hectares (ha). At first glance, this is admirable. Since the 1960s, India has seen a 60% decrease in the area planted with millets. The agricultural environment has essentially squeezed out what accounted for close to 50% of the nation's overall cereal production. Despite millets being more nutrient-dense than rice and wheat, the food regulations implemented over the years have discouraged many people from eating them. Therefore, every effort to support millet growing and consumption is appreciated.

Giving farmers input kits, which include urea and pesticides and cost between Rs 2,000 and Rs 3,000 depending on the type of crop, and seed kits, which include hybrid seeds, is a significant component of INSIMP. These kits are provided by nodal organizations in a state, who in turn buy them from numerous suppliers. The post-harvest management of millets, which involves setting up units for processing and value-adding, is the second important component of the project. To achieve this, 4,00,000 rupee composite millet processing centers that handle de-stoning, de-hulling, flaking, and rava-making are planned to be built around the nation.

- **APEDA Action Plan :**

In light of the growing export potential of millets and millet products, an APEDA strategy is being created with the Indian Institute of Millet Research (IIMR) and other stakeholders like the National Institute of Nutrition (NIN), CFTRI, and Farmer Producer Organizations (FPOs).

APEDA is creating an action plan to increase millet and millet product exports from 2021 to 2026 so that all stakeholders may take the required actions in a timely way to achieve the goal.

The strategy to promote Indian millets includes the identification of millets clusters, the creation of a platform to unite farmers and other stakeholders, and the finding of new potential worldwide markets.

Millets include Pearl Millet, Sorghum, Ragi, Foxtail Millet, Small Millet, Proso Millet, Kodo Millet, Barnyard Millet, and other grains. Millets and other small-seeded cereal crops are widely known for their excellent nutritional value. Consumption of millet is increasing globally, which will increase the product's potential for growth on both a domestic and

international level.

- **Bhavantar Bharpayee Yojana, Haryana :**

It is a unique government program in Haryana created to make up for the poor price of horticulture farmers' output. To assist millet farmers in the state, the Scheme will now include the bajra crop starting in the Kharif season of 2021.

- **Millet Mission, Chattisgarh :**

The Chhattisgarh government unveiled Mission Millet Chhattisgarh in September 2021 in an effort to make the state the millet powerhouse of India. Its major objective is to encourage the cultivation of Kodo millet, small millet, and finger millet in the State. A total budgetary allocation of US$ 20.71 million (Rs. 170 crore) and an input grant of US$ 109.65 (Rs. 9000) per hectare are made for this project.

- **Procurement and processing for value addition of millets, Uttarakhand :**

The Uttarakhand State Co-operative Federation Ltd. (UCF) has set a target to acquire Finger Millet (Mandua) and Barnyard Millet (Jhingora), as well as to create and build a Multi-Grain Processing Facility for primary and secondary processing of conventional small millet types, under the State Millet Mission and in compliance with the State Department of Agriculture.

- **Organic production and certification of millets, Uttarakhand :**

The majority of the natural crops grown by farmers in the state's hilly regions include amaranthus, finger millet, and barnyard millet. The Rashtriya Krishni Vikas Yojana (RKVY)-Organic Program covers 70,240 hectares, the Namami Gange Program covers 620 clusters (12,400 acre), and the Paramparagat Krishi Vikas Yojana (PKVY) covers 1,657 clusters (33,140 hectares). These programs are centrally financed, according to the State Government.

- **Promoting Kodo and little millets, Madhya Pradesh :**

The state of Madhya Pradesh is promoting millets, particularly Kodo and Little millet, under the Nutri Cereal Sponsored Scheme of the Center. In the tribal districts of Mandla and Dindori, a non-profit organization called Action for Social Advancement (ASA) has chosen 30 to 40 villages for millet promotion.

- **Millet Mission and SHG Mission Shakti, Odisha :**

The Odisha Millet Mission (OMM), a unique project the state government of Odisha began in 2017 with the objective of promoting millets in tribal regions, intends to bring millets back to fields and tables while concurrently focusing on production, processing, consumption, marketing, and inclusion of millets in government activities. The collaboration of Odisha Millets Mission and SHG Mission Shakti, in order to generate innovative recipes and teach SHG women, has been one of the main endeavors to promote millet consumption.

Conclusion :

To promote millets, the Indian government has been working very hard. On the future

of millets, a shift in government policy from food security to nutritional security is anticipated to have a substantial influence. The Indian government's millets sub-missions and the pilot millets missions carried out by many state governments serve as scalable templates for millets missions. The main objective must be to keep raising productivity in order to offer processors and exporters with affordable, high-quality raw materials for the production of value-added items on a worldwide scale. This calls for vigorous R&D initiatives that prioritize, among other things, extending the shelf life of products, enhancing access to superior varieties, and upgrading processing technologies. With a committed international marketing campaign and robust public-private cooperation, India has the potential to export US$ 2 billion in millet and millet-based products by 2030.

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