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Millets an Answer to Food Security

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Abstract:

*Food security means that every person, at all times, has enough safe and healthy food to meet their needs and live a healthy life. Since India's independence, making sure everyone has enough food has been a major goal. The Green Revolution helped India produce more food and meet the calorie needs of its growing population. India gives special importance to millets because these crops grow well even in dry areas. India is the largest producer and the second-largest exporter of millets in the world. Although the area of land used to grow millets has dropped by 56% in the last 50 years, production has actually increased from 11.3 million tonnes to 16.9 million tonnes. This is due to better farming methods and new technology. Millets have been a staple food in many parts of the world for a long time. But their use has decreased recently because more people prefer processed foods and grains like wheat and rice. India is often called the "barn of millets" because it produces and exports so many of these grains. Millets are drought-resistant, need less water, and do not require heavy farming inputs. This makes them a good choice for sustainable farming and a reliable food source as the climate changes. Millets also have many health benefits. They are a good food option for people with celiac disease, diabetes, heart disease, high cholesterol, and obesity. This study mainly uses **secondary data** (data already collected from other sources). The objectives of this study are followings: 1. To understand the **history of millets**. 2. To study the **importance of millets**. 3. To study the **health benefits of millets**. This study highlights how millets can play a major role in ensuring **food security** in India.*

Keywords: Millet's historical Background, Importance, Millets Production, Promote Millets, Millets Health Benefit

Introduction:

Climate change is a serious reality that is already causing major problems around the world, such as cyclones, floods, heat waves, wildfires, hurricanes, and rising sea levels. Because of these changes, there is growing concern about global food security. Most food crops use a lot of water and depend on regular rainfall or irrigation systems. But now, with water shortages, we need to find ways to reduce the impact of climate change on our food supply. There is no single or easy solution, but we can take thoughtful actions and use different strategies to adjust to the changing environment. There is one good way is to grow crops that do not need a lot of water. Millets are one such crop. They are usually grown on dry and less fertile land in temperate, sub-tropical, and tropical areas. Millets use of about 70 percent not as much of water than rice, grow in half the time related to wheat, and need 40 percent less energy to procedure. Millet is not just one crop. It is a group of small-seeded grains that grow well even in poor soil and dry conditions. The type of millet that is grown depends on the region and the climate. This shows that rising millets should be strongly measured, particularly in areas that face unequal rain for the reason that of climate change.

Objectives:

1. To Study the Historical Background of Millets
2. To Study Importance of Millets
3. To Study Millets Health Benefits

Research Methodology:

The present study is descriptive analysis and based on the secondary data .The data are collected from various resources, previous study, research articles etc.

Millet's historical connection with ancient Indian civilization

Millets have been grown since a very long time, even before 3000 BC, in the Indus Valley Civilization. They are one of the oldest grains used for food and have been part of traditional diets in many cultures.

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Over time, as the weather changed and some places became drier; farmers started growing millets instead of wheat and barley. This is because millets can grow well even with little water. Studies show that this change in farming happened because the rains became less in some parts of India, like Gujarat. Today, India is also facing similar problems. Many areas have less rain, droughts, and very hot weather. So, increasing crops like millets that need less water is a very good idea. It's something that worked in the past and can help us again now.

Importance of Millets in India

In India, millets play an important role in ensuring food security and supporting sustainable farming. Since most farming in India depends on the monsoon, it is affected by climate changes like extreme heat, uncertain rainfall, floods, and lower crop production. Because of this, India is now focusing on growing crops that can handle these tough weather conditions better and millets are one of them. Millets are not only easy to grow in harsh climates, but they are also healthy. Like other grains, millets are a good source of protein, fibre, iron, calcium, and important vitamins. They also have a low glycaemic index, which means they are good for controlling blood sugar. Since a large part of India's population is still undernourished, millets can be a great way to improve nutrition and health for many people.

Millets Production in India:

India has many different agro-climatic zones, and each zone grows different types of crops based on its weather and soil. Due to changing climate conditions, these cropping patterns are also changing. To feed the large population, India places a strong focus on food security, and food grains, especially millets, play a key role in this. India is one of the largest producers of millets in the world. In 2022, India contributed over 18% to the global millet production, mainly producing Sorghum (Jowar), Bajra (Pearl millet), and Buckwheat. Among these, Bajra made up 38.4% of the world's production, Sorghum 7.21%, while Buckwheat had a very small share. The main states growing millets in India are Rajasthan, Karnataka, Maharashtra, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Tamil Nadu, Andhra Pradesh, and Uttarakhand. These ten states together produced about 98% of India's total millets in 2023–24. Out of these, six states Rajasthan, Uttar Pradesh, Karnataka, Maharashtra, Madhya Pradesh, and Haryana contribute more than 79.6% of the total millet output. Rajasthan alone accounts for 31.3% of India's millet production. India produces different types of millets such as Jowar, Bajra, Ragi, Buckwheat, Canary seeds, and other cereal millets. Among them, Pearl millet (Bajra) and Sorghum (Jowar) are the most widely grown.

Promotion of Millets Grains:

The Indian government is actively working to promote millets both within the country and around the world. The United Nations in 2023 declared it the International Year of Millets creativity supported by more than 70 countries. The goal is to raise global

awareness about the health benefits of millets and their ability to grow in tough climate conditions. India played a key role in this global effort. At the 22nd Summit of the Shanghai Cooperation Organisation (SCO) in September 2022, Prime Minister Narendra Modi highlighted the importance of millets. He called millets a super food that has been grown for thousands of years and suggested they could help solve global food security issues. He also proposed holding a 'Millet Food Festival' under the SCO to further promote their use. At the national level, the Indian government is running several programs under the *National Food Security Mission* to boost millet production. This includes setting up Centres for Excellence and launching Millet Missions in various states.

In 2021, NITI Aayog joined with the United Nations World Food Program to promote climate-resilient agriculture, with a solid attention on millets. This partnership aims to support millet farming in India and share India's experience with other developing countries through knowledge-sharing platforms. Business executive and start-ups are also being stimulated to create new millet-based products and recipes. Today, millet-based foods like breads, snacks, biscuits, and drinks are easily available in stores and online, making it easier for health-conscious consumers to include millets in their diets.

Health Benefits of Millets:

1. Millets are nutritious and healthy. Compared to other cereal crops, millets have more micronutrients and helpful plant compounds like flavonoids that promote good health.
2. Good for blood sugar control. Millets have a low glycaemic index, which helps in managing and preventing diabetes.
3. Rich in essential minerals. Millets are a noble source of significant minerals like iron, calcium and zinc.
4. Gluten-free. Millets do not contain gluten, so they are safe for people with celiac disease or gluten sensitivity.
5. Heart health benefits. Eating millets can help manage high cholesterol (hyperlipidaemia) and reduce the risk of heart disease.
6. Supports weight loss and blood pressure control. Regular consumption of millets can help reduce body weight, body mass index (BMI), and high blood pressure.
7. Better protein intake with legumes. In India, millets are often eaten with a legume, which helps increase protein quality and improves digestion of proteins.
8. Easy to use in modern diets. Millet-based products like ready-to-cook and ready-to-eat foods are now widely available, especially in urban areas.
9. Useful for both people and animals. Millets serve a dual purpose — they are food for humans and also used as fodder for animals, making them efficient for farming.

10. Environmentally friendly. Growing millets helps protect the environment by reducing the carbon footprint and supporting sustainable agriculture.

Conclusion:

Millets are very powerful and dominant source of energy and nutrition. They have been grown and eaten by people for thousands of years, making them one of the oldest grains in the world. In India, millets face some challenges like producing enough to meet the growing demand, but they are still very important for food security. Millets are special because they can grow well even in dry and tough conditions. They grow fast, don't need a lot of water or fertilizers, and can survive droughts. This makes them perfect for areas where other crops might fail due to lack of rain or poor soil. Millets are healthy too. They provide good amounts of protein, fibre, vitamins, and minerals that our bodies need. Eating millets can help protect the heart, prevent diseases like diabetes, help people maintain a healthy weight, and reduce problems related to digestion and inflammation in the gut. Because millets are gluten-free, they are safe for people who have celiac disease or gluten intolerance. They can be cooked in many easy ways, such as porridge, bread, or snacks, which makes them easy to include in everyday meals. Besides being food for people, millets are also used as feed for animals like cows and birds, which makes farming more efficient and useful. Overall, millets are a smart choice for farmers, consumers, and the environment because they help conserve water and reduce the impact on nature. With growing awareness about health and climate change, millets are becoming more popular again, both in India and around the world. This ancient grain could be an important part of solving future food and health challenges.

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Conflicts of interest

The authors declare that there are no conflicts of Interest regarding the publication of this paper.

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