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## Central and State Government initiatives for mainstreaming millets and millets based products

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#### Abstract

Millets are a group of crops having small seeds and are considered as nutri-cereals as they are highly nutritious containing a rich amount of Proteins, Fibre, Minerals, Iron, Calcium etc. Along with these nutritional benefits, Millets are also a perfect Climate resilient crop and thus our government is emphasising on implementing farmer friendly schemes and policies to enhance the production and consumption of Millets in our country. With the prominence in production of Wheat and Rice due to the introduction of green revolution in 1960, there was a decline in the production of Millets in our country. Thus, this paper is an initiative to create awareness among people regarding the schemes and programmes implemented by Indian Government to boost the production & consumption of Millets to get higher returns from minimum possible investment. As India is the 5<sup>th</sup> largest exporter of Millets in the world, a lot of effort is being made by the State as well as the Central Government to mainstream the production and consumption of Millets. Programmes like National Food Security Mission, Integrated Cereal Development Programmes in Coarse Cereals & Initiative for Nutritional Security through Intensive Millet Production-Rashtriya Krishi Vikas Yojna etc. have been implemented by the government, which has accelerated the production of Millets upto 17.96 MT in 2020-21 from 14.52 MT in 2015-16 as per the data of the Department of Agriculture and Farmers Welfare. With production, consumption is equally important and thus in order to encourage the usage of Millets, Ministry of Food Processing Industries is also making efforts to promote the production of Millet-based products through schemes like Production Linked Incentive Scheme for Food Processing Industry (PLISMBP) with an objective to enhance the consumption of Millets via Ready to Eat and Ready to Cook products.

**Keywords:** Millets, Nutri-cereals, National Food Security Mission, RKVY, ICDPCC

#### Introduction

Millets are small seeded annual crops belonging to poaceae family and are cultivated in temperate, subtropical & tropical regions (Sood & Singh, 2021 and FAO, 1996) <sup>[1,4]</sup>. There are various types of millets including major and minor i.e., Sorghum, Pearl Millet, Finger Millet, Little Millet, Proso Millet, Barnyard Millet, Foxtail Millet, Brown Top Millet, Teff, Kodo Millet and Fonio. According to a research study conducted by FAO; it was presented that India is the largest producer of Millets in the World. It was observed that the major millets accounts for about 7% of the Gross Cropping Area in the Country including 3.67% of Bajra, 2.13% of Jowar and 0.48% of Ragi (Amruta., 2023) <sup>[5]</sup>. As per a report submitted by PIB in 2020-21, India is the 5<sup>th</sup> largest exporter of Millets in the world with about USD value of 26.97 million, which is continuously increasing in last five year at around 3% CAGR (PIB, 2022) <sup>[3]</sup>. In India the major millet growing states are Rajasthan, Maharashtra, Karnataka, Andhra Pradesh & Madhya Pradesh which cultivate millets not only for domestic uses but also for international markets (APEDA). Other than these states, Bihar & Uttar Pradesh also grows millets in smaller amount.

Millet is a traditional crop and can be grown without much scientific interventions. Millets can withstand extreme high temperatures, drought etc. and that's why it is included under Climate Resilient Agriculture projects of ICAR (Satyavathi *et al.*, 2021) <sup>[7]</sup>. It can provide higher yields even without pesticides and fertilizers.

Millets are not only adaptable to extreme climatic conditions but also have high nutritional profile and can be used to serve medicinal and therapeutic purposes, that's why initiatives are being taken by the state and central government to promote the consumption and cultivation of millets in the country as it has potential to combat the rank of India in Global Hunger Index (Konapur *et al.*, 2014) <sup>[8]</sup>. With these points in mind, our government is taking initiatives in improving production as well as quality of grains and offering subsidies & opportunities to private companies, entrepreneurs etc. to invest more and more in the field of Millets so that the consumption and production of millets could be increased.

## Materials and Methods

The study was conducted by the information and data collected from the scientific studies available in the existing literatures and National publications both online & offline which were associated with the initiatives taken by state and central government to promote the cultivation and consumption of Millets in the country. The Indian media publications like Indian Express, ANI, Press Information Bureau etc. also played an important role in serving the source of related databases.

The sources of information were shortlisted on the basis of the accessible research papers, articles, blogs, Newspapers, information available on associated government websites, Press Conferences etc. and were documented together to present in this papers.

## Need of the Government Initiatives

Millets serve as a food with wide nutritional and health benefits. They are rich in Iron, Zinc and Calcium and thus should be consumed by anaemic patients. According to a data of ICAR, Millets contains about 7-12% Proteins, 2-5% of Fat, 65-75% of Carbohydrates and 15-20% of dietary fibers (Rao *et al.*, 2017) [9].

They have low glycemic index and are gluten free thus are good option for diabetic & celiac patients (Sachdev, 2022) [11]. Millets have high dietary fibers which makes them easily digestible. Millets are a good source of bioactive flavonoids (Rao *et al.*, 2017) [9]. It can treat hyperlipidemia and risks of CVD. The consumption of Millets along with legumes are highly beneficial as they balance the protein supplementation and improves the protein digestion in our body.

With these nutritional and health benefits, it was suggested by ICAR to include the consumption of Millets in our daily diet (Rao *et al.*, 2016) [12]. The Ministry of Agriculture has declared millet to be Nutri-Cereals in April, 2018 (PIB, 2022) [3].

## Initiatives taken during Vedic and Post Vedic Period

The importance of Millets are not new to us, it was being included in our diets since Vedic period. Many Vedic literatures and historical evidences have proved Millets to be a earliest known food of our tradition.

Millets in Vedic scriptures are known as Trunadhanya or Kudhanya which mentions Bajra as “Nali”, Proso Millet as “Chinaka”, Foxtail Millet as “Kangu”, Barnyard Millet as “Shyamaka” and Little Millet as “Nandimukhi” (Kavya *et al.*, 2016 & D’Souza., 2021) [12, 13]. Hindu Vedic Scriptures like Mahadodhi by Sushena, Sathapatha Brahmana, Shakuntalam by Kalidas etc. have references about the therapeutic uses of Millets since ancient times (Prabu, 2015) [14].

An NGO named, Pristine and Sahaja Organics authored a book, “Millet in Your Meals”, which clearly mentions the archeological evidences of various millets being cultivated during Harappan and Mohenjodaro civilizations (Prabu, 2015) [14]. The cultivation of Millets were also favoured during 6<sup>th</sup> century BC as the ‘Hanging Gardens of Babylon’ were having Millets as part of their treasured Plants (Prabu, 2015) [14].

## State Government Initiatives

- **Uttar Pradesh Millets Revival Programme (UPMRP):** In order to enhance the production, consumption and processing of Millets in Uttar-Pradesh, the Honourable Chief Minister of the state, Yogi Adityanath, addressed

the cabinet on 28<sup>th</sup> January, 2023 to approve the Uttar-Pradesh Millets Revival Programme with an initial fund of 186.26 crore from 2022-23 to 2026-27 so as to promote the production and processing of Millets (Omar., 2023) [15]. As per the announcement, the programme will also provide the millet growers who are registered on the website of Agriculture Department or are the recipients of Kisan Samman Nidhi Yojna with a free mini-kit of millet seeds for consecutive four years.

- **Odisha Millet Mission:** In view of the growing need of millets cultivation in the state, the government of Odisha has formulated a “Odisha Millet Mission” model in the year 2017 to bring back the Millets in farms and in plates of every household (Odisha Millet Mission). The major objective of this model is to promote the consumption of millets in every home, to conserve the landraces of Millets, to setup a decentralized processing unit, to improve the production of millets, to facilitate millets Market in the state and to include Millets in Public Distribution System of Odisha state.

Also, in order to promote Millets production and consumption, the government has started celebrating “Mandia Diwas” i.e. Millet Day 10<sup>th</sup> November, 2022 (Pragativadi, 2022) [17]. The Honourable chief minister of Odisha, Naveen Patnaik announced to spend about Rs. 2,800 crores in next five years for the mission. The state targets to include about 30 districts along with 2 lakh farmers, 82 Farmer Producer Organization and 1200 Mission Shakti Groups to become an integral part of this Odisha Millet Mission (Swain, 2022) [18].

- **Rajasthan Millets Promotion Mission:** The state of Rajasthan is in the frontline in terms of Millets production as it alone produces about 41% of the country’s total Millets yield (The Hindu., 2022) [23]. The Government of Rajasthan has initiated a mission for the promotion of Millets production in the state. The Honourable Chief minister of Rajasthan Ashok Gehlot announced budget of Rs. 5,000 crore for the CM Krishak Saathi Yojna so as to formulate 11 schemes like Rajasthan Micro-irrigation Mission, Rajasthan Organic Farming Mission, Rajasthan Crop Protection Mission, Rajasthan Horticulture Development Mission, Rajasthan Millets Promotion Mission, Rajasthan Agri-tech Missions and Rajasthan Food Processing Mission etc. in the year 2022-23 (Press Trust of India., 2022) [20].

The Rajasthan State of Agricultural Marketing Board has planned to install about hundred processing units of Millets in the state with each unit having a subsidiary benefit of Rs. 50 Lakh (AgroSpectrum, 2022) [21].

## Central Government Initiatives

- **Poshan Mission Abhiyan:** The Ministry of Women and Child development has implemented a government programme to fight against malnutrition and under-nutrition problems in pregnant women and infants called as Prime Minister’s Overarching Scheme for Holistic Nourishment i.e. POSHAN Mission Abhiyan (Women and Child Development Department). Under this Mission, Crops with high nutritional profiles and huge health benefits which are easily cultivable in wide range of climatic conditions like Millets are promoted.
- **National Food Security Mission:** In the Global Hunger

Index, India is ranked 107<sup>th</sup> among the 121 countries which has presented a very poor condition of or country in terms of child malnutrition and thus cultivation of crops which are power house of nutrients like Millets are included under the National Food Security Mission of our Country. The unsatisfactory position of India in the Global Hunger Index is also due to the poor management of Public Distribution System as their focus is only towards the distribution of Rice and Wheat and not towards the Millets which can overcome the major problems of malnutrition and thus the Union Agricultural Minister of India, Mr. Narendra Singh Tomar in a recent press conference marked the importance of Millets in PDS system and said, “ This time has come for the Public Distribution System to shift the focus of distribution programmes from basic calories to provide a more diverse food basket that includes Millets to improve the nutritional status of pre-school children and women of reproductive age.

The stock of FCI data shows that Rice and Wheat procurement by the government is 265.97 LMT& 210.46 LMT respectively whereas Millets are procured only upto 2.64 LMT which represents the negligible procurement of millet in day to day life and thus the government aims to procure about 13.72 LMT coarse grain i.e. Millets during Kharif marketing season in the year of 2022-23.

- **Integrated Cereal Development Programmes in Coarse Cereals:** The Department of Agriculture & Cooperation formulated a scheme sponsored by Central Government i.e. Macro Management of Agriculture (MMA) which aims to improve the growth of agriculture sector in India. As a major step towards increasing the overall the agricultural production, several schemes have been formulated by this MMA. One of these scheme includes the production of Coarse grains i.e., Integrated Cereal Development Programmes in Coarse Cereals. This

scheme aims to push the production, popularization of latest scientific technologies & new varieties etc. of cereals along with Coarse grains (Ministry of Agriculture., 2008) [26].

- **Initiative for Nutritional Security through Intensive Millet Production-Rashtriya Krishi Vikas Yojna:** In order to increase the production of Millets and associated post-harvest techniques, the Indian Government has taken an initiative for Nutritional Security through Intensive Millet Promotion (INSIMP) and is providing huge funds to Rashtriya Krishi Vikas Yojna to promote the Millets production as a Nutri-cereal (The Indian Iris., 2016) [25].

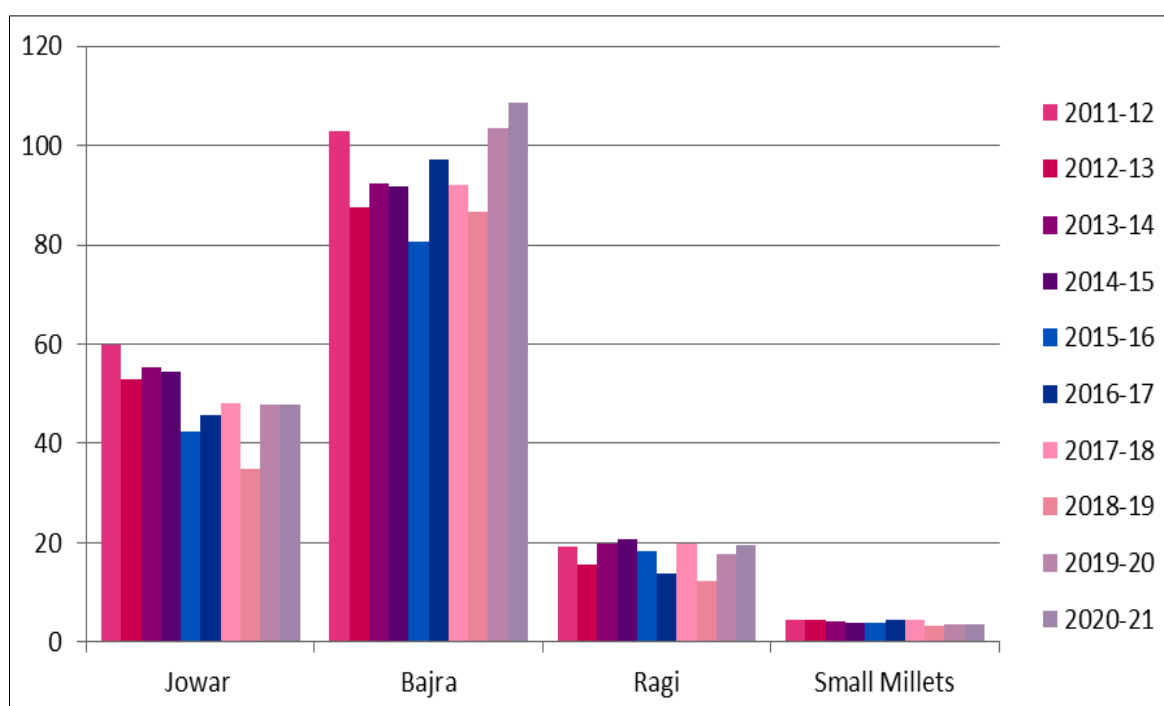
**Government Initiatives taken for Value added products of Millets**

**Production Linked Incentive Scheme for Food Processing Industry (PLISMBP):** The Ministry of Food Processing Industries has approved a centrally sector scheme i.e., “Production Linked Incentive Scheme for Food Processing Industry” with an objective to support the Indian Food Brands in International Market with an average outlay of about Rs. 10900 crores. This scheme mainly focuses on processed food products as Ready to cook or ready to eat for marketing of four main segments of food industries i.e., Products processed from Millets, Fruits & Vegetables based products, Marine products & Mozzarella Cheese.

**Results and Discussion**

Millets are the oldest known food of our culture with high nutritional importance, therapeutic benefits, easy digestibility and least allergic benefits. The introduction of Green revolution during 1960s led to the large scale production of Rice and Wheat which somehow reduced the cultivation of Millets in our country but, now with the increasing awareness regarding the importance of Millets several initiatives are being taken by the government to increase the productivity of the Millets.

**Production of Nutri-cereals from 2011-12 to 2020-21**



**Table 1:** Production of Nutri-cereals

Crop	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jowar	59.8	52.8	55.4	54.5	42.4	45.7	48	34.8	47.7	47.8
Bajra	102.8	87.4	92.5	91.8	80.7	97.3	92.1	86.6	103.6	108.6
Ragi	19.3	15.7	19.8	20.6	18.2	13.9	19.9	12.4	17.6	19.6
Small Millets	4.5	4.4	4.3	3.9	3.9	4.4	4.4	3.3	3.7	3.5

Source: IYoM, 2023, National Conference on Kharif Campaign, 2022

Currently, our Government is paying attention towards the promotion and popularization of Millets and Millets based products in the country through various programmes initiated by State and Central Government in collaboration with ICAR and other associated organizations. The main aim of promoting Millet is to create awareness about the nutritional and health benefits and increasing the consumption in both rural and urban areas so that people could consider Millet based food products as a part of their daily diet so as to achieve the nutritional security and sustainability.

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