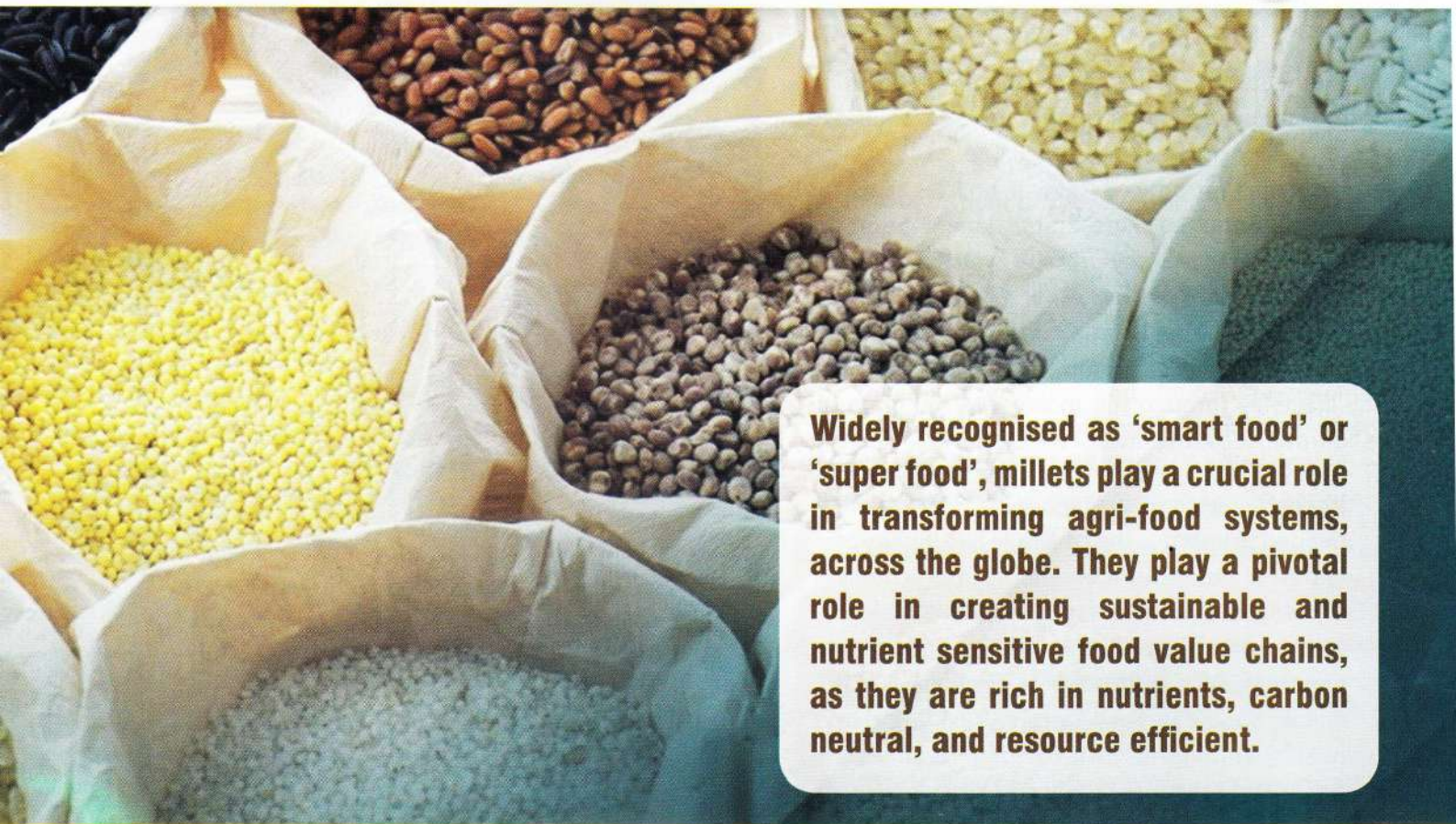


Shree Anna for Nutritional Wellbeing



Widely recognised as ‘smart food’ or ‘super food’, millets play a crucial role in transforming agri-food systems, across the globe. They play a pivotal role in creating sustainable and nutrient sensitive food value chains, as they are rich in nutrients, carbon neutral, and resource efficient.

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y declaring 2023 as ‘The International Year of Millets’, the United Nations General Assembly has set the tone for promoting millets across the world. Millet is a common term to categorise small-seeded grasses that are often termed nutri-cereals or dryland-cereals and includes Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi), Little Millet (Kutki), Foxtail Millet (Kakun), Proso Millet (Cheena), Barnyard Millet (Sawa), Kodo Millet (Kodon) and other millets.

Millets: Key Properties and Benefits¹

Millets are nutritionally superior to wheat and rice owing to their higher levels of protein with a more balanced amino acid profile. Similarly, the dietary fiber content of millet is higher compared to some of the staple cereals. Millets also contain various

phytochemicals that exert therapeutic properties owing to their anti-inflammatory and anti-oxidative properties. Millet grains are rich sources of nutrients like carbohydrates, protein, dietary fiber, and good-quality fat. They also have substantially higher amounts of minerals like calcium, potassium, magnesium, iron, manganese, zinc, and B complex vitamins, making them a preferable choice over cereal grains.

Millets can help tackle health challenges such as obesity, diabetes, and lifestyle problems as they are gluten-free and have a low glycemic index. A study was undertaken by ICRISAT across four countries, involving nearly 1,000 children, adolescents, and adults, to understand the impact of the inclusion of millets in the diet. The researchers found that millets increased haemoglobin levels by as much as 13.2%. Serum ferritin

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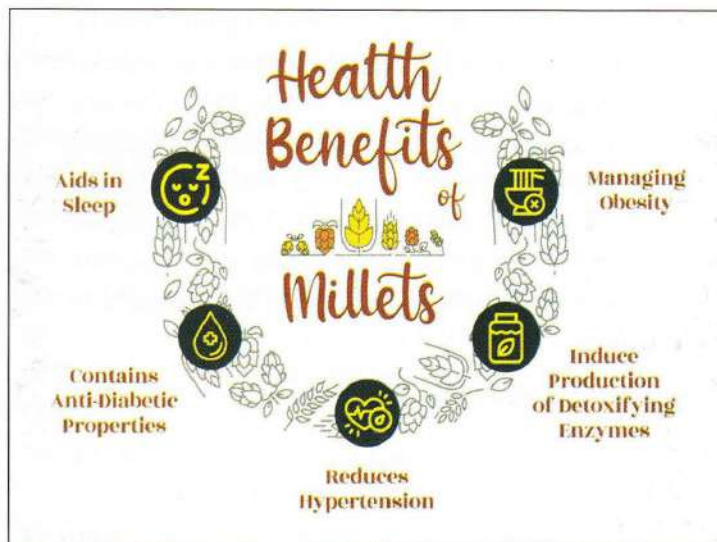
has been shown to increase by an average of 54.7% due to millet consumption. Ferritin is an iron-containing protein in the blood and a clinical marker for iron deficiency.

Widely recognised as ‘smart food’ or ‘super food’, millets play a crucial role in transforming agri-food systems, across the globe. They play a pivotal role in creating sustainable and nutrient sensitive food value chains, as they are rich in nutrients, carbon neutral, and resource efficient. They are also widely used for human consumption, animal fodder, and other untapped markets like biofuels and fermentation.

Millets are the backbone of dry-land agriculture. They are hardy, resilient crops that have a low carbon and water footprint, can withstand high temperatures, grow on poor soils with little or no external inputs, and are therefore termed ‘miracle grains’ or ‘crops of the future’. They are the most secure crops for small farmers as they are the hardiest, most resilient, and climate-adaptable in harsh, hot (up to 50 degrees Celsius) and drought-prone environments. Further, millet production is not dependent on the use of chemical fertilisers. These crops do not attract pests, and a majority of millets are not affected by storage pests. These crops will be the sustainable food source of the future amidst worsening climatic conditions.

Millets in India have been given the identity of ‘Shree Anna’. As highlighted by the Hon’ble Prime Minister, ‘Shree Anna’ means a door to prosperity for small farmers of the country; ‘Shree Anna’ means forebearer of nutrition for crores of people of the country; ‘Shree Anna’ means welfare of the tribal society of the country; ‘Shree Anna’ means more crop yield with less water; ‘Shree Anna’ means chemical-free farming; ‘Shree Anna’ means a way to tackle the challenge of climate change.

The latest research by Ruth DeFries et al. reveals that ‘Jowar is India's sustainable alternative to Wheat in the face of climate challenges’. The research paper² titled, ‘Climate resilience of dry season cereals in India’, published in Nature’s Scientific Reports examined the sensitivity of wheat and Jowar yields to increases in temperature and compared water requirements under different scenarios. The research revealed that ‘Wheat is highly sensitive to increases in maximum daily temperature in its multiple stages of growth during the post-monsoon, dry winter season. In comparison,



Jowar is able to handle increases in temperature with far less impact on yields. In addition, wheat requires 1.4 times more water than Jowar owing to the extension of its growth cycle into the summer. With future climate projections, this study argues that without pragmatic changes in managing how wheat is cultivated in India, it is likely that the yields will decrease by 5 per cent coupled with a significant increase in the water footprint by 2040. Jowar, in that case is India’s best bet with its meagre 4 per cent increase in the water footprint with the same climatic projections. A renewed focus on jowar also aligns with the sharpened focus of the Government on millets for nutrition and climate resilience, besides much-needed emphasis on protection for marginal farmers in the Indian context.’

Overview of India’s Millet Sector³

India produces all nine commonly known millets. It is the fifth-largest exporter of millets in the world. Most States in India grow one or more millet crop species. India grows over 17 million tons (MT) of millet, which amounts to 80% of Asia’s and 20% of global production. India recorded 27 per cent growth in millet production in 2021-22 over the previous year. Pearl Millet (60%) followed by Sorghum (27%), Finger Millet (11%) and Small Millets (2%) are the major varieties produced in India. The major millet producing States are Rajasthan, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, and Telangana.

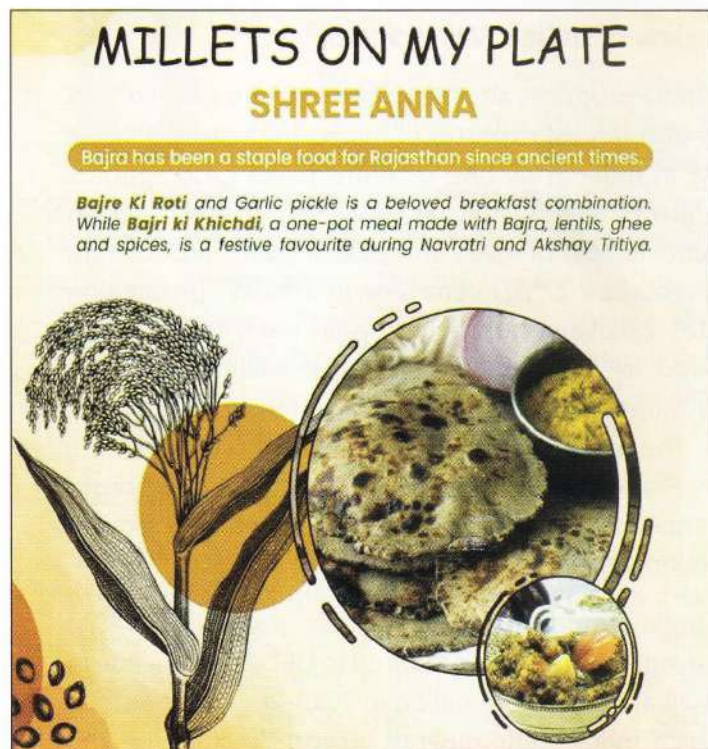
India exported millet products worth USD 34.32 million during 2021-22 compared to USD 26.97 million in 2020-21 and USD 28.5 million in 2019-20. The countries to which India predominantly exports millets are the

U.A.E, Nepal, Saudi Arabia, Libya, Oman, Egypt, Tunisia, Yemen, the U.K and the U.S.A. The major varieties of millets exported by India include Bajra, Ragi, Canary, Jawar, and Buckwheat. The major millet-importing countries in the world are Indonesia, Belgium, Japan, Germany, Mexico, Italy, the U.S.A, the United Kingdom, Brazil and the Netherlands. India could look to grow its millet exports further by focusing on the markets in these countries.

Government Initiatives to Promote Millets⁴

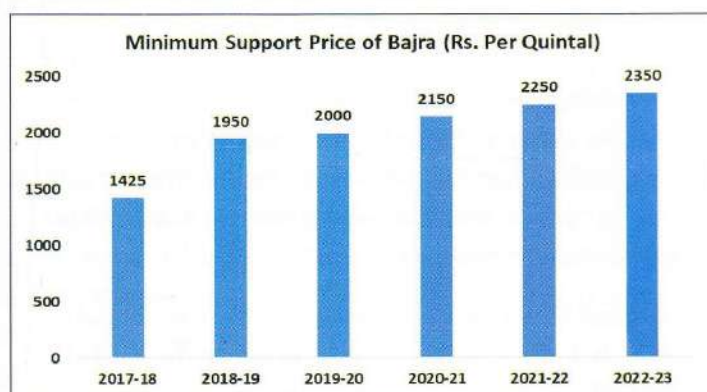
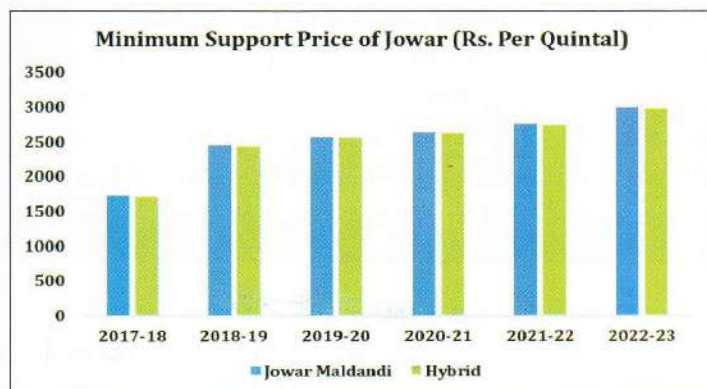
India is taking wide-ranging steps to popularise the production, consumption, and export of millets in the country. The Government notified millets as nutri-cereals in April 2018. Efforts have been made at every level - from raising awareness among farmers to developing a market for millets. While millets are cultivated in around 12 States across India, their consumption was less than 2-3 kg per person per month. This has now increased to 14 kg per month. There has also been a 30% rise in the sale of millet-based products in the country. Millets have now become popular on social media and in cafes. At least 19 districts have chosen millets under the 'One District, One Product' scheme.

Under the National Food Security Mission (NFSM), awareness is being created among farmers about millets through demonstrations and training. The growing market for millets will directly benefit the 2.5 crore small farmers who are involved in its production.



Their income levels will rise, and the rural economy overall will gain tremendously. From villages, millets are reaching malls, markets, and stores across India. Self-help groups are also engaged in making millet products. Food Producer Organisations are also coming forward. The result is that the supply chain for millet products is getting built and strengthened across India, which will not only help farmers but also create jobs.

Farmers growing millets are supported by the remunerative Minimum Support Price (MSP) and procurement. During the Kharif season of 2021-22, 6.29 lakh tonnes of coarse cereals like Bajra, Jowar, Maize and Ragi were procured by the Government in Haryana, Karnataka, Maharashtra, Madhya Pradesh, Odisha, Uttar Pradesh, Gujarat, and Chhattisgarh. The procurement of millets is expected to double at 13.56 lakh tonnes, during the year 2022-23 to give further impetus to millet farmers. There has been a significant rise in the MSP of millets as shown in the charts below.



The Government is popularising millets through research and development support. Additionally, support is being provided to start-ups and entrepreneurs for developing recipes and value-added products that promote the consumption of millets. India has more than 500 start-ups working in the millet value-added chain. The Indian Institute of Millets Research has

incubated 250 start-ups under the Rashtriya Krishi Vikas Yojana - Raftar. The Production-Linked Incentive Scheme for the food processing sector can also benefit the millet sector as more companies come forward to develop millet products.

The Union Government is implementing Pradhan Mantri Poshan Shakti Nirman (PM POSHAN), from 2021-22 to 2025-26, wherein millets can be used by States/UTs. Along the same lines as the Wheat Based Nutrition Programme, millets are allotted to States and UTs at subsidised rates under Anganwadi Services. At least 6 States—Assam, Chhattisgarh, Jharkhand, Karnataka, Odisha, and Tamil Nadu have launched exclusive Millet Missions.

In order to improve the nutritional status of children, the Central Government is encouraging State Governments/Union Territory Administrations to explore the possibility of introducing millets under the PM POSHAN Scheme, preferably in districts where eating millets is a culturally accepted food habit. Under NFSM, a special programme on millets has been launched in 212 districts in 14 States. Interventions like cluster demonstrations on improved package of practices, demonstrations on the cropping system, distribution of seeds of High Yielding Varieties (HYVs)/hybrids and nutrients are being implemented in collaboration with States.

In 2021, NITI Aayog signed a Statement of Intent (SoI) with United Nations World Food Programme (WFP) to mainstream millets and support India in taking the lead globally in knowledge exchange. NITI Aayog has also published a Compendium⁵ titled 'Promoting Millets in Diets: Best Practices across States/UTs of India' to serve as a guiding repository for reviving and mainstreaming millets in our diets. The Compendium presents a set of innovative practices adopted by State Governments and organisations in various aspects of the millet value chain especially production, processing, and consumption. Three major themes are included in the Compendium, i.e., (a) State Missions and initiatives to promote millets; (b) Inclusion of millets in ICDS; (c) Research and Development and use of technology for innovative practices.

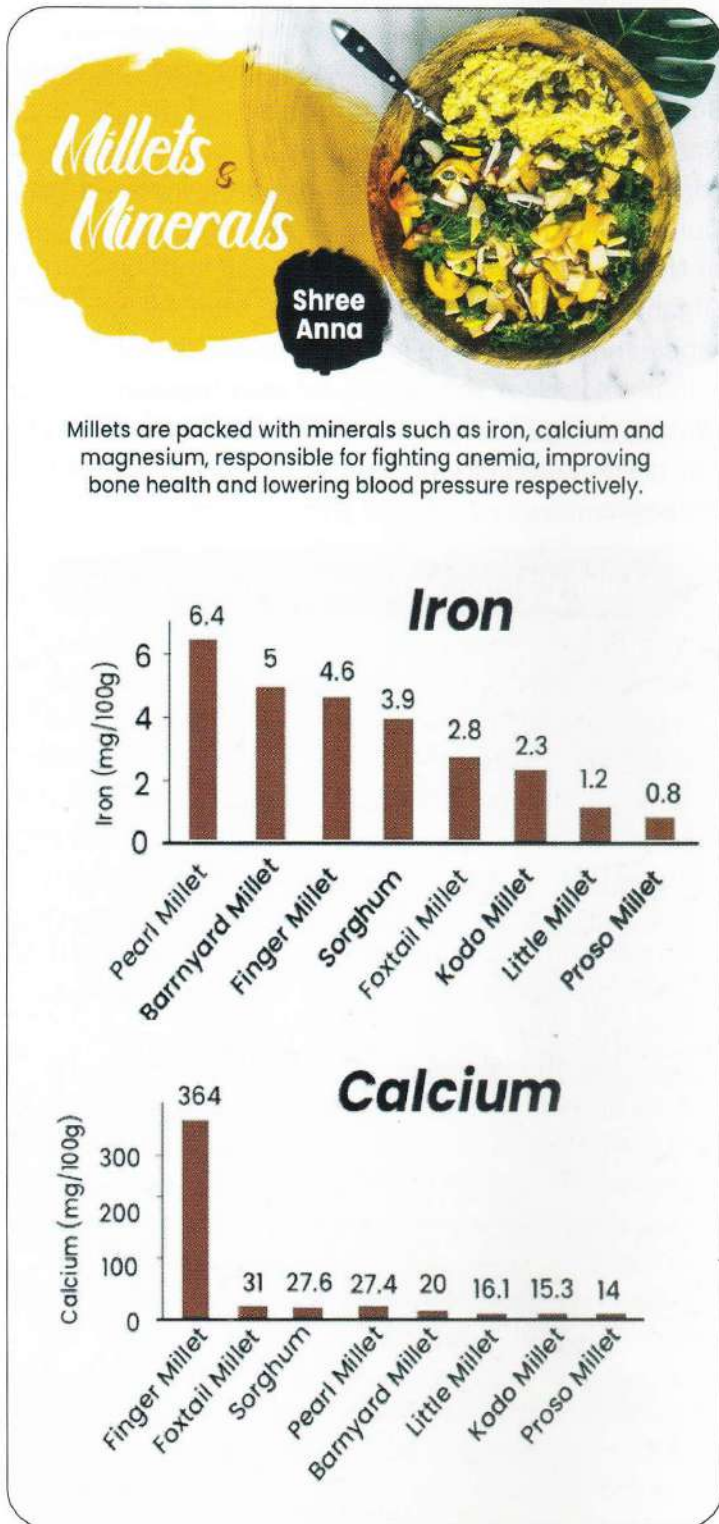
The Agricultural and Processed Food Products Export Development Authority (APEDA) has prepared a comprehensive strategy to promote Indian millet exports across the globe commencing December, 2022.

The Union Budget 2022-23 highlighted that support would be provided for post-harvest value addition, enhancing domestic consumption, and branding millet products nationally and internationally. In a post-budget webinar focused on the positive impact of the Union Budget 2022-23 on the agriculture sector, Prime Minister Narendra Modi called upon the corporate world to come forward in branding and promoting Indian millets. During the launch ceremony of the International Year of Nutri-cereals organized by the Food and Agriculture Organization (FAO) in Rome, Prime Minister Narendra Modi emphasised the importance of making millets a food choice for the future. He also highlighted how climate change is affecting food availability and the key role played by millets in this context due to their climate resilience.

Making 'Shree Anna' a Global Movement

India's motto during its G20 Presidency is 'One Earth, One Family, One Future'. The International Year of Millets also reflects this spirit of considering the whole world as one family. India has already taken Yoga to the world stage through the celebration of International Yoga Day. Today, over 100 countries globally are officially promoting Yoga. Similarly, India's efforts on the climate front have borne fruit, with over 100 nations joining the International Solar Alliance. Through its G20 Presidency, India is focusing on globalising Mission LiFE (Lifestyle for Environment), where we derive inspiration from our heritage and drive change for the benefit of society and the environment. 'Shree Anna' has also been a part of the traditional lifestyle in India for centuries. We are well positioned to share this knowledge with the world. During the 100th meeting under India's G20 Presidency, the Meeting of Agricultural Chief Scientists (MACS) on 'Sustainable Agriculture and Food System for Healthy People and Planet', it was unanimously agreed to launch a millet initiative – MAHARISHI, which was proposed by India for research in the field of millets. MAHARISHI stands for Millets And Other Ancient Grains International Research Initiative (MAHARISHI). Its secretariat will be housed at Indian Institute of Millets Research (IIMR), Hyderabad, with technical support from ICRISAT, One CGIAR Centre, and other international organisations.

Proposed Initiatives by States/UTs for Promoting Millets in India



India is poised to become a global millet hub if all States and UTs maximize their participation. Some of the key initiatives that States/UTs can implement for the promotion of millets in the daily diet include:

a) Awareness programmes on the health benefits of various millet grains.

- b) Millet melas and events to publicise the inclusion of millets in the daily food habits of farmers and consumers at the State-/District- level.
- c) Training and promotional campaigns on millet cultivation for farmers and Farmer Producer Organisations, at the district, gram panchayat, and block levels.
- d) Chaupals for millet related awareness sessions at the gram panchayat level.
- e) Awareness about improved millet production, seed production, and technologies with mechanisation, identification of village clusters for promotion of millets.
- f) Distribution of seed mini kits to farmers.
- g) Orientation of farmers on new age practices for branding, labeling, packaging, and export markets.
- h) Promotion of millets cultivation across fallow and degraded lands.
- i) Supplementation of millets in Integrated Child Development Services, Mid-Day Meal, Public Distribution System, and other State funded programmes. 'Shree Anna' has been included by several States in their Public Distribution System. This can be replicated in other States too.
- j) Engaging hotel associations for popularising millet recipes and enabling value addition.

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