

## PROMOTING MILLETS FOR BETTER HEALTH, BETTER FUTURE MILLETS CULTIVATION

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### **Abstract :**

*Milletts are sustainable options to achieve food and nutritional security. Milletts cultivated and consumed traditionally in India exhibited a decline in area and production except for bajra. These crops are getting wide attention because of their health benefitts and environment-friendly nature. This study examines if the supply would be sufficient to meet the demands in the near future while also analysing the trends in the area, production, productivity, and consumption of milletts in India at the national and state level. The study indicates that there will be a surplus in the case of bajra and small milletts, while in the case of jowar and ragi there will be a net deficit in the coming years which is a matter of concern. There is a scope for augmenting the production in the short run by improving the productivity without increasing the area through popularizing new varieties, expanding certified seed distribution, and improving crop management practices.and nutritional security. Milletts cultivated and consumed traditionally in India exhibited a decline in area and produc-tion except for bajra. These crops are getting wide attention because of their health benefitts and environment-friendly nature. This study examines if the supply would be sufficient to meet the demands in the near future while also analyzing the trends in the area, production, productivity, and con-sumption of milletts in India at the national and state level. The study indicates that there will be a surplus in the case of bajra and small milletts, while in the case of jowar and ragi there will be a net deficit in the coming years which is a matter of concern. There is a scope for augmenting the production in the short run by improving the productivity without increasing the area through popularizing new varieties, expanding certified seed distribution, and improving crop management practice*

### **Keywords :**

*Milletts... Production...Consumption...Demand...supply Demand□· Supply□· Demand–supply ga.*

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### **Introduction :**

World is celebrating year 2023 as “International Milletts Year.” The importance and benefit of milletts in diet is increasing, as it has many nutritional ingredients, besides have found effective in curing many diseases, being a healthy food effective in curing many diseases, besides a healthy food. The production both quantity and capacity, of milletts is comparatively

less and therefore fetch food market price.

With increasing population in India and to meet requirement of essential food grains, “Green Revolution” was focussed for cultivation/ production of Wheat and Rice crops only. During this time/period, cultivation of millets crops became secondary and remained far behind.

Now with International Millets year, the importance and usage of millets is fast increased.

### **Creative program of government of india :**

The government's aim is to cultivate pulses as the main crop and not as a secondary crop. Accordingly, India has focused on 212 districts in 14 states through guidelines under the Revised National Food Security Mission. It will provide incentives to RE for providing quality seeds, production, distribution, demonstration, training, primary processing clusters and research support. The Agricultural Infrastructure Fund has encouraged the establishment of Farmer Producer Organizations for investment in coarse grain enterprises, primary processing and machinery. 27 coarse grain producing districts have been identified under the 'One District One Product' initiative. There are around 80 Farmers Producer Organizations (FPOs) producing jowar and other pulses across the country. FPOs can help bring farmers together to get the most out of their produce. Apeda', 'ICMR', 'IIMR', National Institute of Nutrition, 'CSIR', 'CFTRI' etc. have prepared a five-year plan for the promotion of bulk grains and products. Assistance will be given for branding of coarse grain products in the country as well as internationally. In Karnataka since 2017 under 'Raitha Siri Yojana' Rs 10,000 per hectare is given as an incentive. The State of Odisha has embarked on a 'mission mode' to increase cultivation and production of pulses, pulses and oilseed crops. Other states can also follow the example of these states. India definitely has the opportunity to be a global leader in whole grains from cultivation, processing, marketing and export.

### **Whole grains year -objectives :**

1. Enhancing food and nutrition security. To increase awareness about nutritional values.
2. Encouraging government and global stakeholders for sustainable production and quality.
3. Focusing on investments in research, development, technical networks and extension services.
4. Increasing mainstream consumption of pulses.
5. Supporting India to share information globally
6. To provide livelihood options for smallholder farmers
7. Adapting capacities to climate change, changing food systems.

### **Classification of millets :**

Millet crops are mostly of two types. Main millets and secondary millet. The

cultivation of millets is mostly undertaken in kharif season and in hilly areas.

Additionally, staple food grains which are classified as millets are also consumed. Such crops are known as “Pseudo millets” (Non cereal millets) The millets, which are consumed as cereals/staple foods are of 10/12 types.

1. Main Millets: - Jowar, Bajra, Finger Millets/Ragi(nachani)
2. Subsidiary/secondary Millets: - These are less known and are locally termed as Rala (Bhadli/Sawa/Kangani-small/green), China (Wari), Kodo,Kutki, Bhagar (Savaan/Buchi)etal.
3. Pseudo Millets: - Royal gain Amaranth, Red/Green amaranth (rajgira, lal/hirva math). Kuddu, Chichaseed, Wattleseed, Breadnut, Pitseed, Gujfulseed, Karhen millet, Sabjaseeds, etal

#### **Benefits of secondary millets and psendo millets :**

1. Good market rates
2. Present cultivation area is too less, hence good opportunity
3. Good substitute for Soyabean and cotton in Kharif season and for gram and wheat in Rabi season.
4. Best alternate for rotational crops.
5. High nutrition value.
6. Less requirement of seed material for sowing.
7. Saving in cost of seed material and fertilizer/pesticides requirement.
8. Least prone to pests, germs and like diseases.
9. Assured yield even with only 1or 2 irrigation cycles.

#### **Important facts/features :**

1. Millets seed material, being small in size need bullock-driven sowing machine like ‘tifani’. In hilly areas sowing is done by hand throwing, which is unscientific.
2. In order to have proper/desired distance in crops, sand, wood dust, vermicompost, cowdung compost or ash, is mixed with seed material in proportion of 1:1, 1:4, 1:9.

#### **Cultivation method:**

1. In traditional way of sowing, seed is dispensed with thumb and first finger with sand in proportion of 1:1
2. If 3 fingers are used for sowing, seed and sand proportion is kept as 1:4
3. In case all fingers and thumb are used for sowing the proportion should be 1:9(i.e., one part seed and nine-part sand properly mixed)
4. Shallow sowing (i.e., not more than 1.5 to 3cm deep in soil/ field) to be done.
5. Levelling of field is to be done before sowing.
6. Sowing to be done after rains are over, so to ensure that ‘seeds’ are not embedded in deep soil or not drained with water.

7. To prepare seed material, use fresh cowdung, cow urine, tamarind powder and wood-ash. Properly dried/ sun-dried seed material be taken for sowing.

#### **Methods of cultivation-croptype wise:**

Crop...Sowing time...Quantity of seed material required (kg/pre acre) ...Sowing depth in cms...Distance (in cms) ...pesticides requirement(kg/acre) ...Duration of crop...Type...Yield(quintal/acre)

##### **1) Ragi/Nachani:**

May to July---3.5 to 4 kg for sowing, replanting: 2 kg---2 to 3 cm---22.5 to 30 cm by 7.5 to 10 cm- --20:20:10 kg per acre. 10 kg N at the time of sowing and remaining 10 kg N 25-30 days after sowing---110 to 130 days --- Gautami, Padmavati, Nirmal, Kalyani, Sharda, Godavari, VL-101, VL-110, VR-708, VL - 149, Dapoli - 1, Phule Nachani, Dapoli Safed, Phule Kasari, Bhairavi, DPL-1, GPU - 45, GPU-67 --- Olit 8 to 10, Kordwahu 3 to 4.5

##### **2) Rala/ Sawa:**

First fortnight of June to second fortnight of July---4-5 kg---2-3 cm---22.5 to 30 cm by 7.5 to 10 cm---20: 20:20 kg--- 80-100 days ---Arjuna, Nagthana, Chitra, H-1, H-2, CO-2, CO-4, PS-4, AIA-326, AIA 3085, AIA 3088- -- Wet: 6 to 8, dry That 4

##### **3) Variety:**

Last week of June to first week of July---Sowing: 4 to 5 kg, Replanting: 3 kg---2-3 cm---22.5 to 30 cm by 7.5 to 10 cm --- 10:10:0 kg per acre---90 to 100days---Ramchina, Shamchina, AIA 336, MS-4884, Varhada, Barhada--- Olit : 6 to 7 quintals, Kordwahu : 3 to Quintal

##### **4) Kodro:**

Mid-June to Mid-July---Sowing: 4 to 6 kg---2 to 3 cm---22.5 to 30 cm by 7.5 to 10 cm---40:20: 20. 20 Kg per acre. 20 kg N at the time of sowing, remaining 20 kg N 25 to 30 days after sowing---150 to 180 days --- Kodra-1, Dindori-73, Niwas-1, Pali-1, PSC 1, PSC 2, IPS 147-1, JPK 3, JPK 13, JPK 65, JK 41, JK76, JK 42, JK 55---Olit : 4-6 quintals, Kordwahu :2-3 quintals

##### **5) Bhagar / Vari:**

July 1st Pandharwada---4 to 6kg---3 to 4 cm---20 to 25 cm by 7.5 to 10 cm---16:12:8kg/ acre, 8 kg N at sowing, 8 kg N 25 to 30 days after sowing. ---90 to 100 days --- Anurag, RAU 3, VL 1, VL 2929, ECC 7, VL 203, Phule Ekadashi--- 6 to Quintal.

##### **6) Kutki:**

June last eighth to July first eighth---Perni 3 to 3.5 kg---2 to 3 cm---22.5 cm by 7.5 cm---10:10:10 kg---80 to 100 days---Vari 1, Dindori 1, Dindori 2, PRC 3, K 1, GPUP 8, GPUP 21, K 1, K 2, CO 2, CO 3, CO 4 ---4 That's 5 quintals.

#### **Pseudomillets (Non-Cereal Millets) :**

##### **1) Kuttu:**

October to November---Sowing 8 kg---4 to 6 cm---30 cm by 10 cm---8:4:4 kg---90 days Koto,Mankan--- 4.5 to 6 quintals

**2) Rajgira:**

October 15 to November 7---400 to 500gms---1 to 1.5 cm---45 cm by 15 to 20 cm---  
24:16:8 kg---9 Day---Annapurna, Suvarna, Phule Kartik, GA 1---Pane: 4-5 tons, grain- 4 - 5  
quintals

**3) Chiacid:**

October to November---1 to 1.5 kg---1.5cm---45 cm by 15 to 20 cm---115 to 120 days-  
5-6 quintals

**Conclusion:**

Year 2023 declared as “International Millets Year”, and hence concession / priority is given for rail transportation of millets, by Railway authority and IRCTC. Recently special train “Vande Bharat Express” from CSMT, Mumbai to Sai Nagar -Shirdi Express is asked to serve passengers with food prepared from sorghum(jowar), Amaranth (rajgira). finger millets (nachani).

It is pertinent to note that more than 40%of millets production in the world, is in India alone. Much aftercare is not necessary for crop and thus requirement of pesticides, fertilizer is also low. In order to promote, export of millets, the Central Govt has organized 16 International Exhibitions, which will provide agriculturist farmers to export their produce, involving traders in the process. If the millets are regularly grown/ cultivated, the soil status will also improve. The crop produce is liked by birds/animals. Millets are of many varieties. About 16 types of millets are grown in India.

In 2023 itself, millets are exported to 13 countries. In F.Y. 2021-22 alone, India could export millets to the tune of 34.32million dollars. The various embassies in foreign countries are given responsibility of branding and advertisement of millets. The major production of millets in India is in the states of Rajasthan, Maharashtra, Karnataka, Gujrat, and Madhya Pradesh. Needless to say, great opportunity is available for production and export of millets from India.

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