

Millets Production and Consumption in India

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Background of the Millets in India

The year of 2023 will be observed as the International Year of Millets after India's proposal to the Food and Agricultural Organization (FAO) was approved. In the last six decades, millets have seen a drop in area despite green evolution in the 1960s; however, the productivity seems to go up with the help of high-yield varieties and better technologies. Millets are one of the oldest foods; they are small-seeded hardy crops that grow well in dry regions or rain-fed regions under weak soil fertility and moisture conditions. Millets are grown on low-fertile soil, tribal communities, rain-fed places, and hilly areas. Millets develop from seeds and are ready-to-harvest in roughly 70 days. This extremely useful feature of millets is critical in densely inhabited areas across the world. Millets can be kept correctly for two years or more. Millets can not only grow in poor climatic or soil conditions and provide nutritious grain as well as fodder, but these can also very well fit into multiple cropping systems under irrigation as well as dryland farming due to their short growing season. The prolonged and easy storability of millets under ordinary conditions has given them the status of Famine Reserves and this feature is of great importance for India, as the agriculture of our country suffers from unexpected changes in monsoon. Millets are group of small seeded annual grasses that are grown as grain crops, primarily on marginal land in dry areas of temperate, sub-tropical and tropical regions.

Millets (common name)	Scientific name
Pearl millet(Bajra)	<i>Pennisetum glaucum</i>
Foxtail millet(kangni)	<i>Setaria italica</i>
Barnyard millet(jhangora)	<i>Echinochloa esculenta</i>
Finger millet(ragi)	<i>Eleusine coracana</i>
Proso millet(barri)	<i>Panicum miliaceum</i>
Kodo millet(kodara)	<i>Paspalum scrobiculatum</i>
Sorghum(jowar)	<i>Sorghum bicolor</i>
Little millet (kutki)	<i>Panicum sumatrense</i>



India's position of millets in the world

REGIONS	AREA (Lakh ha)	PRODUCTION (Lakh ton)
ASIA	162	215
AFRICA	489	423
AUSTRALIA & NZ	6	12
AMERICA	53	193
EUROPE	8	20

INDIA	138	173
WORLD	718	863

Source: FAO stat 2021(data for the year 2019)

Sorghum and Pearl millet are the major millet crops grown, constituting above 90% of the world millets production followed by Finger millet, Foxtail millet, Proso millet, Barnyard, Little millet and Kodo millet. Sorghum and Pearl millet are the major millet crops grown, constituting above 90% of the world millets production followed by Finger millet, Foxtail millet, Proso millet, Barnyard, Little millet and Kodo millet. Sorghum is the major millet grown globally constituting 65% of total millets. India contributes about more than 20% of the total world production of millets in the world and approximate 20% of the total area under cultivation of millets in the world.

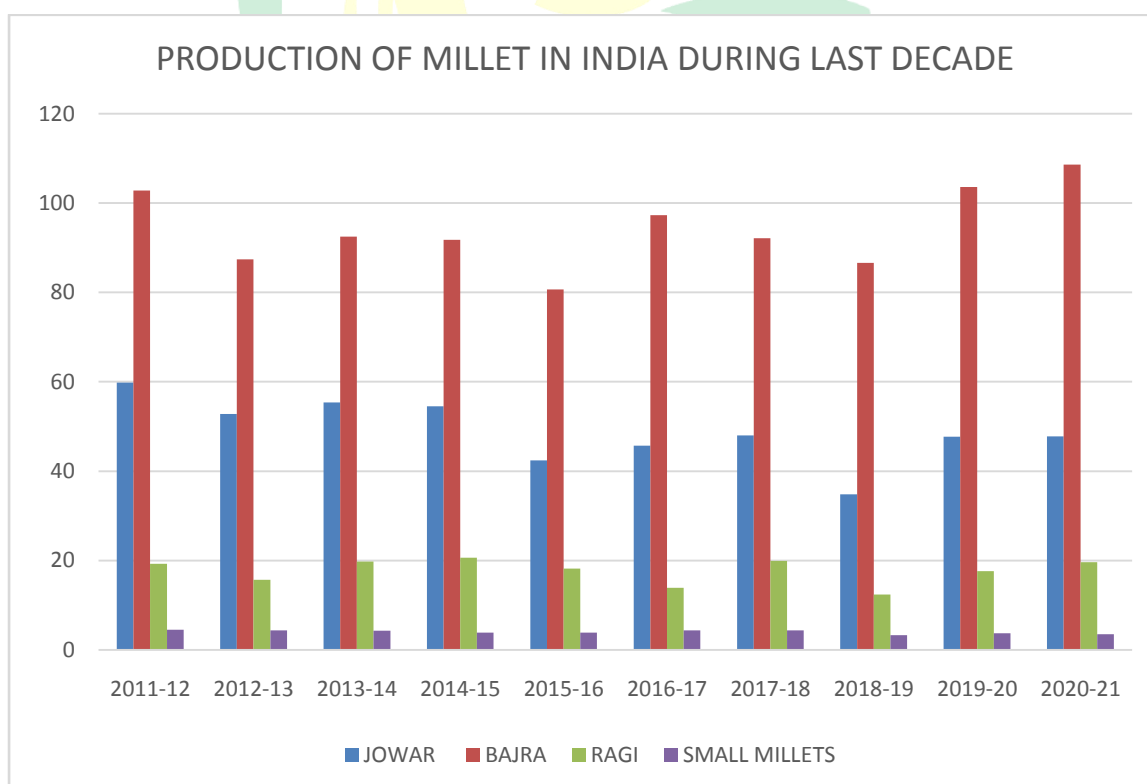
Production of Millets in India



India is the world's largest producer of millets. Millets are cultivated in around 21 Indian states. Rajasthan, Maharashtra, Karnataka, Andhra Pradesh, Tamil Nadu, Kerala, Telangana, Uttarakhand, Jharkhand, Madhya Pradesh, Haryana, and Gujarat is leading the way. Millets are grown over an area of 13.8 million hectares in India, yielding 17.3 million tonnes at a yield of 1247 kg/ha. It is interesting to note that, India is the topmost producer of Barnyard (99.9%), Finger (53.3%), Kodo (100%), Little millet (100%) and pearl millet (44.5%), producing about 12.46 million metric tonnes from an area of 8.87 million ha.

Rajasthan has the highest area under millets cultivation (29.05%) followed by Maharashtra (20.67%), Karnataka (13.46%), Uttar Pradesh (8.06%), Madhya Pradesh (6.11%), Gujarat (3.94%) and Tamil Nadu (3.74%). The states of Gujarat and Madhya Pradesh have increased their area under millets over the recent years. However, the highest yields were recorded in Andhra Pradesh (2626.58 kg/ha), Tamil Nadu (2153.22 kg/ha), Haryana (1906.78 kg/ha), Gujarat (1762.05 kg/ha) and Madhya Pradesh (1729.70 kg/ha). The states like Gujarat and Andhra Pradesh have shown better productivity levels as compared to their counterparts.

Production scenario of millets during last decade in India



MILLETS	TOP THREE STATES		
	AREA	PRODUCTION	PRODUCTIVITY
BAJRA	Rajasthan	Rajasthan	Gujarat
	Uttar Pradesh	Uttar Pradesh	Tamil Nadu
	Maharashtra	Gujarat	Madhya Pradesh
JOWAR	Maharashtra	Maharashtra	Madhya Pradesh
	Karnataka	Karnataka	Andhra Pradesh
	Rajasthan	Rajasthan	Gujarat
RAGI	Karnataka	Karnataka	Tamil Nadu
	Uttarakhand	Tamil Nadu	Karnataka
	Maharashtra	Uttarakhand	Uttarakhand
SMALL MILLETS	Madhya Pradesh	Madhya Pradesh	Uttarakhand
	Chhattisgarh	Uttarakhand	Tamil Nadu
	Uttarakhand	Tamil Nadu	Gujarat

Table 1: Top three states of India in area, production and productivity

State	Area ('000 Hectares)	Production ('000 Tonnes)	Yield (Kg per Ha)
Andhra Pradesh	25.00	58.20	2,328.00
Bihar	3.16	3.58	1,134.00
Gujarat	435.25	913.15	2,098.00
Haryana	492.80	1,019.11	2,068.00
Jammu & Kashmir	9.78	5.82	595.00
Jharkhand	0.29	0.20	711.00
Karnataka	322.00	367.08	1,140.00
Madhya Pradesh	295.89	656.58	2,219.00
Maharashtra	672.78	511.99	761.00
Odisha	1.87	1.16	620.00

Table-2: Pearl Millet production(2019-20).....[source: IIMR]

State	Area ('000 Hectares)	Production ('000 Tonnes)	Yield (Kg per Ha)
Andhra Pradesh	155.00	389.11	2,510.39
Bihar	0.63	0.67	1,067.00
Gujarat			
Gujarat	48.92	67.16	1,372.83
Haryana	29.90	15.79	528.00
Jammu & Kashmir	0.00	0.00	
Jharkhand	1.80	1.35	751.00
Karnataka	826.60	986.98	1,194.03
Madhya Pradesh	108.00	165.13	1,529.00
Maharashtra	2,290.58	1,807.51	789.11

Table-3: Sorghum Production (2019-20)[source: IIMR]

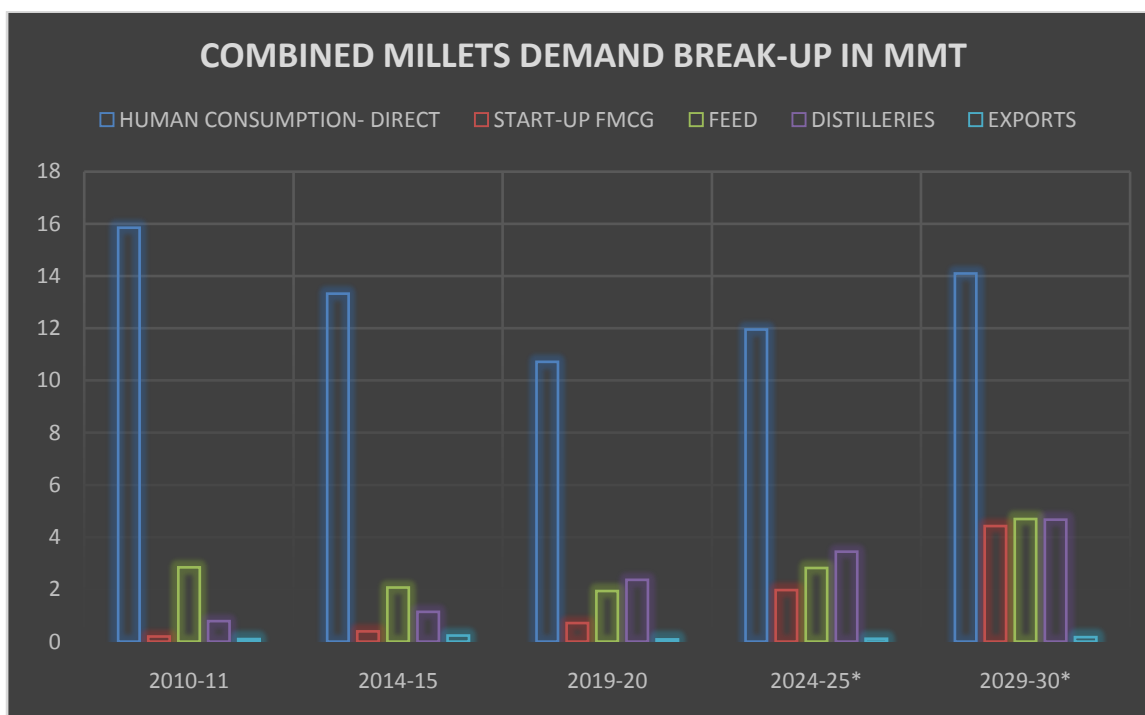
State	Area ('000 Hectares)	Production ('000 Tonnes)	Yield (Kg per Ha)
Andhra Pradesh	34.00	44.88	1,320.00
Bihar	2.76	2.19	796.00
Gujarat	11.61	10.01	862.00
Jammu & Kashmir	0.00	0.00	
Jharkhand	14.58	12.76	875.00
Karnataka	641.00	1,164.06	1,816.00
Madhya Pradesh	0.00	0.00	
Maharashtra	82.22	87.24	1,061.00
Odisha	35.89	26.24	731.00
Tamil Nadu	84.54	274.50	3,247.00

Table-4: Finger millet(Ragi) Production (2019-20) [source: IIMR]

Consumption of Millets in India

- 1. At Farm Level:** The pattern of millet use was evaluated by ICAR-IIMR, and the results revealed that about three-fourths of sorghum output is moving towards self-consumption, which means it is directly consumed by humans. Sorghum is also used as animal feed to the tune of 12%, with the remaining 8% being processed into value-added goods to make FMCGs. Sorghum, as a crop for alcohol production, uses it to the tune of 5%. The remaining sorghum is exported in the form of grains and value-added goods. Similarly, in the case of bajra (pearl millet), roughly 70% is utilised for direct human consumption, while the remaining 15% is used as animal feed and 10% is used in breweries to produce alcohol. Approximately 5% of bajra is used for processing toward value addition. Approximately 1% of bajra is used as seed material for seed production and multiplication. However, with regard to utilization of ragi for direct consumption, it is similar to sorghum with about three fourth of the production being directly consumed by humans. Nearly 13 per cent of ragi is used as animal feed with a limited utilization of 1 per cent towards exports. (ASSOCHAM, 2022)
- 2. At Industry Level:** Maize is one of the cheapest sources of energy used in production of animal feed or compound feed compared to other grains. Despite this, the picture may change in the next years as maize output grows slower than its demand in the animal feed category. Furthermore, compound feed production is expected to expand at a CAGR of 5.6%, putting additional strain on local maize demand. This rise in demand and scarcity of supply would eventually drive-up prices and attract cheaper imports. To some extent, alternative feed grains, notably millets like as bajra, sorghum, and ragi, may help to fill this expected gap in the future.
- 3. Others:-** Jowar is used in the manufacturing of liquor in distilleries. During 2010-11, the majority of millets were consumed as food, with just a minor percentage utilised for animal feed and other purposes. Over the year, the fraction of millets utilised as direct food for human consumption has steadily decreased to 10.72 MMT by 2019-20. From 2010-11 to 2019-20, it declined at a CAGR of 2.45%. This might be ascribed to changes in population dietary preferences, particularly in rural regions. However, over 50% of Indian urban millet consumption is in value-added goods, with e-commerce/online retailers serving as the primary distribution route.

- 4. Ethanol Blending:-** India has preponed the target of achieving 20% ethanol-blending with petrol by five years i.e. from 2030 to 2025 as it looks to cut dependence on costly oil imports. The govt wants to use excess food grain supplies including millets to achieve this target. Taking this policy change into account, we are projecting usage of millets in distilleries to grow by a CAGR of 7.05% for the duration 2019-20 till 2029-30. (ASSOCHAM 2022)



Source: ASSOCHAM, 2022

Steps taken for promoting millets (since 2018)

- ❖ Millets included under Poshan Mission Abhiyan by Ministry of Women & Child Development.
- ❖ “Sub Mission on Millets” under National Food Security Mission since 2018.
- ❖ ICAR released one variety Quinoa (Him Shakti).
- ❖ Quinoa – A new crop: ICAR has been referred to suggest for declaring Nutri-cereals.
- ❖ The year 2018 declared as National year for millets.
- ❖ Export of Millets increased from \$ 24 million (2017) to \$ 26 million (2020).

Conclusion

Millets are a type of grain that provides various health benefits to the body by containing vitamins and minerals. Also, it is rich in dietary fibre, which helps to keep the



digestive system healthy. It can also be used as a good substitute for rice and wheat. This is why it is considered as one of the best grains for weight loss in India. Initially, millets were thought to be inferior to other cereals such as wheat or rice because they contain less gluten and are considered easy to digest. But some studies show that millets are beneficial as they contain essential nutrients such as proteins, amino acids, insoluble fibre etc that leads to better health and weight loss.

