

International Year Of Millets (IYM) - 2023: The Government Of India's First Step Towards Human Welfare

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Abstract:

According to the Indian constitution articles 47, 48, 48 (A), and 51(A), protection of nutrition security, agricultural security, environmental security, and natural resources. Why are studies of “International Year of Millets (IYM) - 2023: The Government of India's First Step towards Human Welfare”. The reason of the many problems in India. Like no-communicable diseases (NCDs), Sugar, nutrition security, poverty, hunger, and malnutrition in India. India's total number of Hungry people is the highest in the world, like 94.4 million people were a very dangerous situation in India during the periods 2016-18. The misfortune of this country is not to have two days meal, but in recent period, this problem has been decreasing in last 8th years. Other hand 1.3 billion people live in multidimensional poverty in the world, and India's national poverty line has increased from 21.9 % during the period 2007 to 2018, and the PPP of \$ 1.90 a day is 21.2% during the period 2007-17. About 422 million people worldwide have diabetes, the majority living in low-and middle-income countries, and 1.5 million deaths are directly attributed to diabetes each year. In India, there are estimated 77 million people above the age of 18 years are suffering from diabetes (type 2), and nearly 25 million are prediabetics. The main aim of this research paper is to provide food security to the people of the country by using millets, and to get rid of these chemicals in food. The United Nations General Assembly at its 75th session in March 2021 declared 2023 the International Year of Millets (IYM). The reason for the many nutrition problems in the world. Its purpose is the people of the world, it is try to provide nutrient security through millets. The IYM 2023 is an opportunity to raise consciousness of, and direct policy attention to the nutritional, and health benefits of millets, and their suitability for cultivation under adverse, and changing climatic conditions. India is the top producer of millets (80 %) followed by world, for the years 2000, and 2009. In India, 8th millets species like that Sorghum, Pearl millet, Finger millet, Foxtail millet, Kodo millet, Proso millet, Barnyard millet, and Little millet are commonly cultivated under rain fed conditions. In India's ancient Vedic literature Abhijnan Shakuntalam, Yajurveda, Ramdhanya Charitra, Kautilyas Arthashastra, abul Fazl book 'ain-e- Akbari mentioned the benefit of millets.as a result his life expectancy was more. Unfortunately for us, we have a fond alternative to western culture. The world should thank the Indian government because India has taken the first initiative in the international mallets year 2023. This shows that India is on the way to becoming a world guru, and you can call it to second form of homecoming (Ghar Wapsi).

Keywords: Dietary fiber, Antioxidant Diabetes, Health benefit, hunger, production

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I. Introduction:

According to the Indian constitution articles 14 & 16 protection of the equality of law & equality of opportunity for all human beings. Also in this constitution articles 47, 48, 48 (A), and 51(A), protection of nutrition security, agricultural security, environmental security, and natural resources. Why are studies of International Year of Millets (IYM) - 2023: The Government of India's First Step towards Human Welfare. The reason of the many problems in the India, like diabetes (Sugar), nutrition security, poverty, hunger, and malnutrition. The United Nations General Assembly at its 75th session in March 2021 declared 2023 the International Year of Millets (IYM). The IYM 2023 is an opportunity to raise the consciousness of, and direct policy attention to the nutritional, and health benefits of millet in world. Other IYM 2023 aims to contribute to the UN 2030 Agenda for Sustainable Development, particularly Zero Hunger (SDG2), good health of humanity,

and well-being (SDG3), responsible consumption to poor people, and increasing production (SDG12), positive climate action (SDG13), and life on land (SDG15). It will also contribute to FAO's Strategic Framework 2022-31, particularly FAO, Innovation for sustainable agriculture production (BP1), Healthy diets for all human (BN1), Nutrition for the most vulnerable (BN2), and Climate change mitigating, and adapted. The International Year of Millets is being launched at FAO headquarters at 12.30 CET on 6 December 2022. The Government of India has proposed United Nations to declare 2023, as International Year of Millets (IYM). The proposal of India was supported by 72 countries, and The United Nations General Assembly (UNGA) declared 2023 as the International Year of Millets on 5th March, 2021.

What are millets?

“Millets are often called “Nutri-Cereals” due to their high nutritional content compared to commonly grown cereals like Coarse Grains or grass family (In Hindi Mota Anaj or Gariboka Anaj).” For example Millets means encompass a diverse group of cereals including pearl, proso, foxtail, barnyard, little, kodo, brown top, finger, and Guinea millets as well as fonio, sorghum (or great millet), and teff”. IYM 2023 is an opportunity to highlight the benefits of millets for better food security, better opportunity, better agricultural security, better nutrition security, better environment security, and better life for whole people in the world .

Objectives of Study:

- 1) To Study the human beings in India.
- 2) To Study the millets of productions in India.
- 3) To study the health benefits of millet.
- 4) Improvement in the solution of social & economic problems in India.

Literature Review:

FAO, WHO, GOI, OECD, (2023), et al. research study on “International Year Of Millets (IYM)- 2023: The Government Of India's First Step Towards Human Welfare” concluded that the global food system faces many complex challenges, including hunger, malnutrition, and diet-related diseases, an ever-growing global population that needs sufficient, healthy food, the climate emergency, and the depletion of natural resources. We need to unlock the great potential millets hold as an affordable nutritious food, a worthy component for global healthy diets, and a crop that can withstand climate change.

Methodology:

The present research paper is a study of “International Year Of Millets (IYM)- 2023: The Government Of India's First Step Towards Human Welfare ” based on secondary data collected from the published research paper, economic survey, report, and individuals in India.

Kind of millets in India

India is the top most producers of millets in the world. In India, eight millets species (Sorghum, Pearl millet, Finger millet, Foxtail millet, Kodo millet, Proso millet, Barnyard millet, and Little millet) are commonly cultivated under rain-fed conditions.

Sorghum

“The word “sorghum” typically refers to cultivated sorghum (*Sorghum bicolor* [L.] Moench subsp. *bicolor*), a member of the grass family Poaceae, tribe Andropogoneae, and subtribe Sorghinae that is grown for its grain (grain sorghum), its sugary sap (sweet sorghum) or as a forage (forage sorghum) . A variety of common names are used in different regions to refer to cultivated sorghum, including great millet, guinea corn, broomcorn, kaffir corn, durra, mtama, milo, jowar or kaoliang, shalu, cholam, jonna, and jola .” Sorghum grain is a staple food for millions of people in the semiarid regions of Africa, and Asia where it is used to make food products such as tortillas, breads, cakes, noodles, couscous, beer, and porridge.



Finger Millet

Finger millet (*Eleusine coracana*) is a cereal grass grown mostly for its grain, and the a robust, tufted, tillering annual grass, up to 170 cm high. The inflorescence is a panicle with 4-19 finger-like spikes that resembles a fist when mature, hence the name finger millet. The spikes bear up to 70 alternate spikelets, carrying 4 to 7 small seeds. Finger millet is also used to make liquor (arake or areki in Ethiopia), and beer, which yields by-products used for livestock feeding. It is also useful for migraines, control blood pressure, liver disorders, asthma, heart weakness, depression, and insomnia.



Pearl Millet

Pearl millet (*Pennisetum glaucum*) is a tall cereal grass. It was introduced into the Western state in the 1850's, and became established as minor forage in the Southeast, and Gulf Coast states. The plant was probably domesticated as a food crop some 4000 to 5,000 years ago along the Southern margins of the Central highlands of the Sahara. Pearl millet has ovoid grains of 3–4 millimeter's ($\frac{1}{8}$ – $\frac{5}{32}$ in) length, the largest kernels of all varieties of millet (not including sorghum). These can be nearly white, yellow, brown, grey, slate blue, or purple. The 1000-seed weight can be anything from 2.5 to 14 g with a mean of 8 g. It is also useful for maintaining our health like that helps with weight loss, control your diabetes, and easy digestion. Also, you can use it as flour to make flatbreads or dosa, poha, and upma.



Proso Millet

Proso millet (*Panicum miliaceum* (L.)) is an annual grass, growing from seed each year. Its origin goes back in history at least as far as 2000 B.C. *Panicum miliaceum* is a grain crop with many common names, including proso millet, broomcorn millet, common millet, hog millet, Kashfi millet, red millet, and white millet. Archaeobotanical evidence suggests millet was first domesticated about 10,000 BP in Northern China. Proso millet (*Panicum miliaceum*) is an introduced, warm-season annual grass that grows 1–3½ ft tall. Stem are light green, erect, sometimes branched at the base, and grow 20–60 in (0.5–1.5 m) tall. Leaves alternate along the stem, and are covered with short, stiff hairs. Proso millets are a rich source of vitamins (niacin, B-complex vitamins, and folic acid) minerals (PCa, Zn), essential amino acids (methionine, and cysteine), and starch. You can making bread, flour, pastas, and the many other foods.

Kodo Millet

Kodo millet (*Paspalum* distributed in damp habitats across world. It is an indigenous cereal of Pradesh in the North and Kerala, and also known as varagu, haraka, and dietary nutritional requirements. It fat (4.2%), and very high fiber easy to digest, it contains a high



scrobiculatum (L.)) is widely the tropics, and subtropics of the India, and is grown today in Uttar Tamilnadu in the South. This cereal is arakalu. It forms the main stay of the has high protein content (11%), low content (14.3%). Kodo millet is very amount of lecithin, and is excellent

for strengthening the nervous system. Kodo millets are rich in B vitamins, especially niacin, B6, and folic acid, as well as minerals such as calcium, iron, potassium, magnesium, and zinc. It is estimated to have been domesticated in India 3,000 years ago.



Foxtail Millet

Foxtail millet (*Setaria italica* (L.) P. Beauvois) is regarded as a native of China, it is one of the world's oldest cultivated crops. Foxtail millet ranks second in the total world production of millets, and continues to have an important place in world agriculture providing approximately six million tons of food to millions of people, mainstay on poor or marginal soils in southern Europe, and in temperate, subtropical, and tropical Asia. It will grow in altitudes from sea level to 2000 m.

The oldest evidence of foxtail millet cultivation was found along the ancient course of the Yellow River in Cishan, China, carbon dated to be from around 8,000 years before present.



Barnyard Millet

Barnyard millet (*Echinochloa crusgalli* (L.) P. Beauvois) is a multi-purpose crop that is cultivated for food, and fodder. It is also called by several other names viz., Japanese barnyard millet, ooda, oodalu, sawan, sanwa and sanwank. Nutritionally too, it is a good source of protein, which is highly digestible, and is an excellent source of dietary fiber.



Little Millet

Little millet (*Panicum sumatrense*) was domesticated in India. It has grown throughout India to a limited extent up to altitudes of 2100 m, but is of little importance elsewhere. It is an annual herbaceous plant, which grows straight or with folded blades to a height of 30 cm to 1 m. The leaves are linear, sometimes with hairy

lamina, and membranous hairy ligules. The panicles are from 4 to 15 cm in length with 2 to 3.5 mm long awn. The grain is rounds, and smooth, 1.8 to 1.9 mm long. It can withstand both drought, and waterlogging.



Proximate Principles and Dietary Fibre

Proximate principles analysis is used for the estimation of the quantities of food, and food substances including moisture, crude protein, total fat, total carbohydrate, and dietary fiber. Dietary fiber is found in wholegrain cereals, fruit, and vegetables. This is shown in the table 1 below.

Table 1.

Food Name	Moisture	Protein	Ash	Total Fat	Dietary Fiber			Carbohydrate E	Energy
	WATER	PROTCN T	Ash	FATCE	Total	Insoluble	Soluble		
					FIBTG	FIBINS F	FIBSOL	CHOAVLDF	ENERC
Foxtail Millet		12.30		4.30				60.09	331
Barnyard Millet		6.20		2.20				65.56	307
Bajra (Pennisetum typhoideum)	8.97±0.60	10.96±0.26	1.37±0.17	5.43±0.64	11.49±0.62	9.14±0.58	2.34±0.42	61.78±0.85	1456±18
Barley (Hordeum vulgare)	9.77±0.38	10.94±0.51	1.06±0.22	1.30±0.20	15.64±0.64	9.98±0.62	5.66±0.68	61.29±0.77	1321±19
5 Jowar (Sorghum vulgare)	9.01±0.77	9.97±0.43	1.39±0.34	1.73±0.31	10.22±0.49	8.49±0.40	1.73±0.40	67.68±1.03	1398±13
Ragi (Eleusine coracana)	10.89±0.61	7.16±0.63	2.04±0.34	1.92±0.14	11.18±1.14	9.51±0.65	1.67±0.55	66.82±0.73	1342±10
Samai (Panicum miliare)	11.36±0.19	10.13±0.45	1.34±0.16	3.89±0.35	7.72±0.92	5.45±0.48	2.27±0.52	65.55±1.29	1449±19
Varagu (Setaria italica)	14.23±0.45	8.92±1.09	1.72±0.2	2.55±0.13	6.39±0.60	4.29±0.82	2.11±0.34	66.19±1.19	1388±10

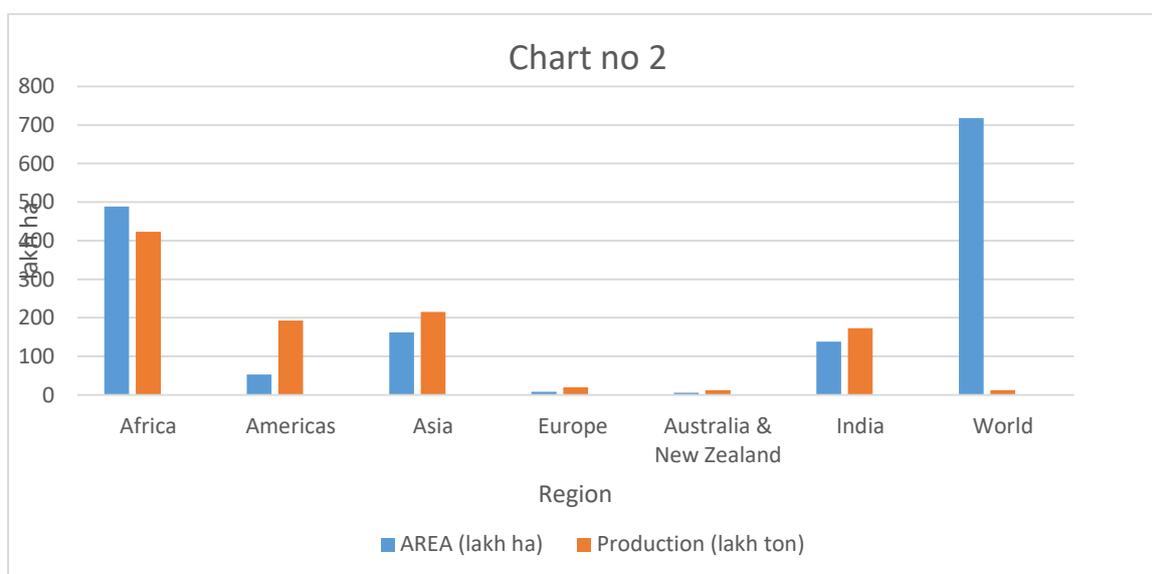
GOI, (2017), Indian Food Composition Tables, 2017.

Table 1, show that Millet is low in simple carbohydrates, and higher in complex carbohydrates, making it a low-glycemic index (GI) food. This means millet takes longer to digest than standard wheat flour. Low-GI foods can help keep your blood sugar from spiking after eating, which allows people with diabetes to manage their blood sugar levels more easily. The proximate components include moisture, protein, total fat, ash, and carbohydrates. The Difference between 100, and the sum of proximate components including total dietary fiber represents carbohydrate 'by difference'. Foxtail millets have highest protein 12.30 % while fat is also high but good for human well-being, good other millets like that 7 millets .

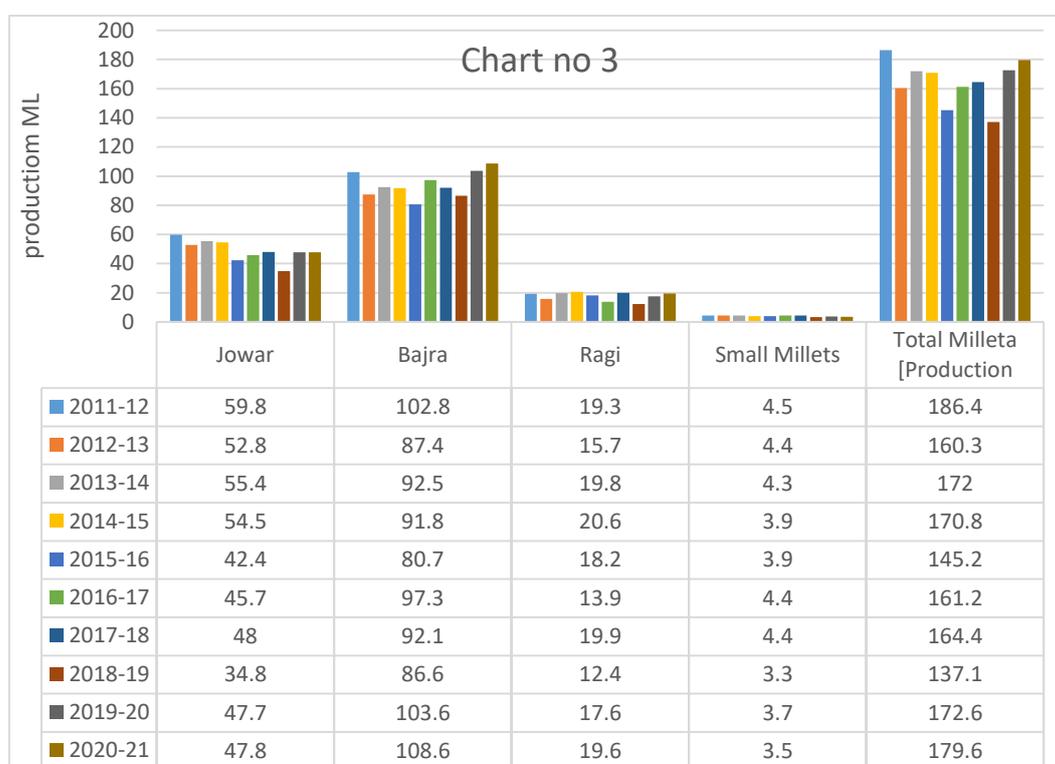
Millets area and Production region wise (2019)

The below chart 2 shows that India is the top most producers of millet followed by another regions for the year 2019. In India, total area is 138 lakh hectares, and in production 173 lakh tons highest in the (80% of

Asia's & 20% of global production Global average yield is 1229 kg/ha, India (1239 kg/ha) world. The eight millet species are commonly cultivated under rain-fed conditions (areas). Further, in each of the millet growing areas at least 4 to 5 species are cultivated either as primary or allied crops in combination with the pulses, oilseeds, spices, and condiments.



Sources: FAO, IFAD, UNICEF, WFP and WHO. (2019) “The State of Food Security and Nutrition in the World 2019”



Sources: GOI, (2023), International Year Of Millets: India Leading The Way, 2023.

Chart no 3, shows that India produces more than 50.9 million tons (as per fourth advance estimate) of millet which accounts for 80 percent of Asia's and 20 percent of global production. The global average yield is 1229 kg/ha, whereas India has a higher average yield is 1239 kg/ha. In India, millets are primarily a Kharif crop mostly grown in rain-fed conditions (Areas), requiring less water and agricultural inputs than other staple crops.

State Wise Millet Production

(Area (A) In Lakh Ha, Production (P) In Lakh Tons and Yield (Y) In Kg/Ha)

Crop: Jowar

Millets are mainly grown in poor agro climatic regions, particularly rain fed areas of the country. In the year 2011-12, Maharashtra, jowar production the high 26.93 LT of millets, but in the years 2020-21 there was a slight decreased jowar produced to 17.47 LT .If India as a whole is considered, the production of millets does not show much decline . it is hoped that the government of India will provide financial assistance, irrigation facilities, and high price production increase to millets.

Table No 2

State	2011-12			2015-16			2020-21		
	A	P	Y	A	P	Y	A	P	Y
Andhra Pardes	1.48	3.07	2071	1.74	3.57	2052	1.20	4.11	3428
Bihar	0.02	0.02	1064	0.02	0.02	1063	0.01	0.01	1067
Gujarat	1.24	1.39	1121	1.03	1.38	1340	0.41	0.57	1398
Karnataka	11.42	11.66	1021	11.04	9.55	865	7.50	9.04	1205
Madhya Pardesh	3.95	6.15	1558	2.05	4.00	1951	1.12	2.17	1938
Maharashtra	32.79	26.93	821	32.18	13.52	420	20.79	17.47	840
All India	62.45	59.79	957	60.77	42.38	697	43.78	48.12	1099
Bajra									
State	2011-12			2015-16			2020-21		
	A	P	Y	A	P	Y	A	P	Y
Andhra Pardes	0.32	0.51	1598	0.36	0.65	1806	0.31	0.71	2281
Bihar	0.05	0.05	1113	0.04	0.05	1133	0.04	0.05	1134
Gujarat	8.67	12.30	1419	3.93	7.88	2004	4.60	10.09	2192
Karnataka	2.86	2.78	972	1.66	1.45	875	2.22	2.76	1241
Madhya Pardesh	1.79	3.44	1924	2.67	6.18	2315	3.27	7.38	2256
Maharashtra	8.38	8.23	982	8.01	3.33	416	6.88	6.57	955
All India	87.77	102.76	1171	71.29	80.67	1132	76.52	108.63	23238
Ragi									
State	2011-12			2015-16			2020-21		
	A	P	Y	A	P	Y	A	P	Y
Andhra Pardes	0.42	0.40	952	0.32	0.34	1063	0.33	0.40	1197
Bihar	0.08	0.09	1213	0.07	0.10	1429	0.03	0.03	934
Gujarat	0.16	0.13	813	0.19	0.15	789	0.10	0.13	1205
Karnataka	6.80	12.72	1871	7.05	11.88	1685	7.85	13.70	1745
Madhya Pardesh	0.00	0.00	333	0.01	0.01	1000	0.00	0.00	0
Maharashtra	1.30	1.38	1062	0.92	0.93	1011	0.82	0.94	1151
All india	11.76	19.29	1641	11.38	18.22	1601	11.59	19.98	1724
Small Millets									
State	2011-12			2015-16			2020-21		
	A	P	Y	A	P	Y	A	P	Y
Andhra Pardes	0.29	0.29	1000	0.51	0.49	961	0.22	0.19	864
Bihar	0.06	0.04	761	0.02	0.01	756	0.02	0.02	753
Gujarat	0.69	0.64	928	0.18	0.20	1111	0.08	0.13	1541
Karnataka	0.24	0.12	500	0.28	0.10	357	0.26	0.20	778
Madhya Pardesh	2.49	0.82	331	1.80	0.73	407	0.78	0.69	890
Maharashtra	0.67	0.34	507	0.76	0.31	408	0.37	0.17	452
All India	7.99	4.52	565	6.50	3.91	602	4.44	3.47	781

Sources: Directorate of Millets development, Jaipur, Note: A=Area, P=Production and Y=Yield

Nutritional & Health benefits

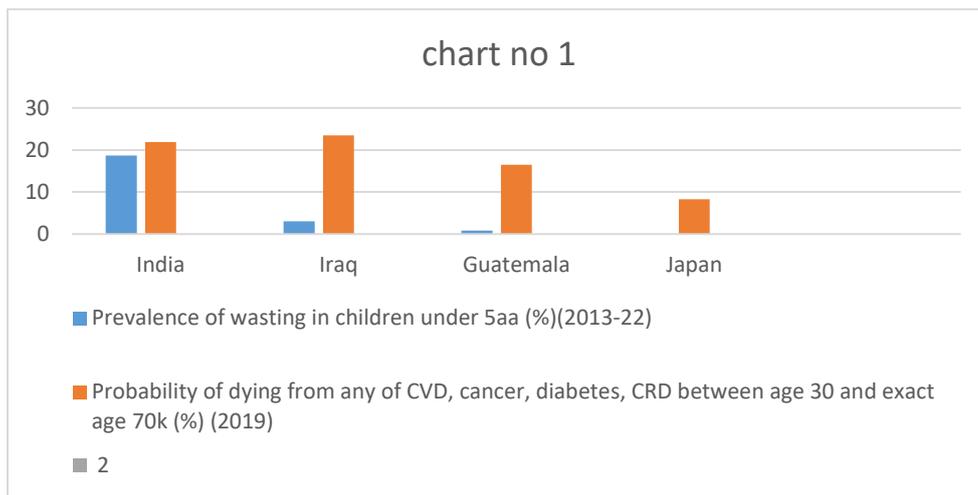
In India's ancient Vedic literature Abhijnan Shakuntalam, Yajurveda,Ramdhanya Charitra,Kautilyas Arthashastra,Abul Fazl book Ain-e- Akbari mentioned the benefit of millets.as a result his life expectancy was more. Unfortunately for us, we have the fond alternative to Western culture.

Millets are nutri-cereals that highly nutritious, and are known to have high nutrient content which includes protein, essential fatty acids, dietary fiber, B-vitamins, vitamins B3 or niacin, reduce heart disease,lower oxidative stress, minerals such as calcium, iron, zinc, potassium, and magnesium. They help in rendering health benefits like reduction in blood sugar level (diabetes), blood pressure regulation, thyroid, cardiovascular, and celiac diseases. However, the direct consumption millet as food has significantly declined over the past three

decades. The major reasons is decrease in consumption of millet .It because of low productivity, and no irrigation facilities in India. Millet is rich in dietary fiber, both soluble, and insoluble. The insoluble fiber in millet is known as a “prebiotic,” which means it supports good bacteria in your digestive system. This type of fiber is also important for adding bulk to stools, which helps keep you regular, and reduces your risk of cancer.

World health statistics 2023 –

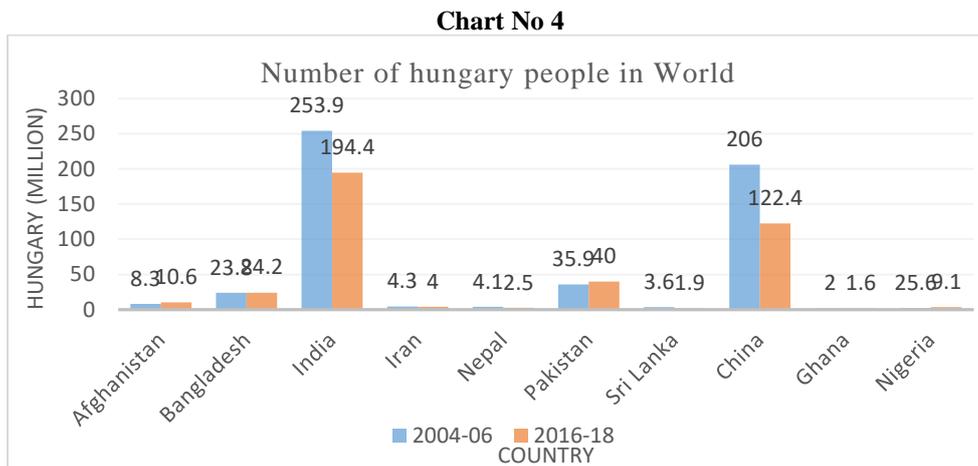
Chart 1, shows that no-communicable (NCDs) diseases are very dangerous, and affected people from all walks of life, and in all parts of the world. The impact of NCDs grew from causing 61% of global deaths in the year 2000, and total consumption was 5.5 liters of pure alcohol per capita in 2019. The global age-standardized prevalence of hypertension among adults aged 30–79 years has been rising since 1990 before peaking around 2009; it declined thereafter to 33.1% (UI: 31.5–34.8%) in 2019. According to the Sixth Assessment Report of the Intergovernmental Panel (ARIP) on Climate Change estimates that up to 3.6 billion people around the globe live in contexts that are highly vulnerable to the impacts of climate change. Approximately 2 billion people lack access to safe drinking water (see section 2.4 on Environmental risks). Furthermore, there are some 600 million cases of foodborne illness globally. Children under 5 years of age carry 40% of the burden of foodborne diseases, resulting in 125,000 child deaths every year.



Sources: World health statistics 2023.

Hungary People in Selected Counties :

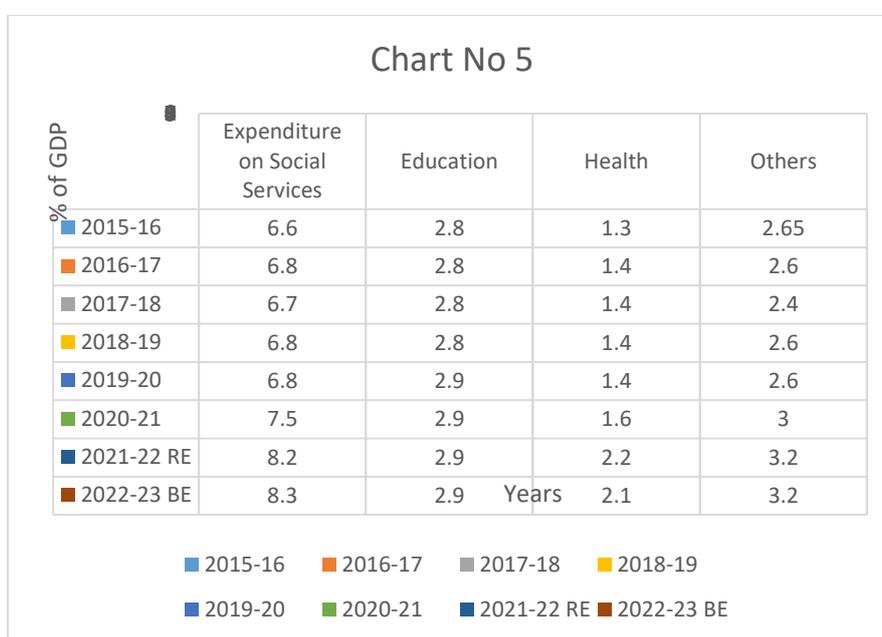
“Hungry is a feeling an uneasy or painful sensation from lack of food”. More than 820 million people in the world are still hungry today, underscoring the immense challenge of achieving the Zero Hunger target by 2030. Another disturbing fact is that about 2 billion people in the world experience moderate or severe food insecurity. India’s total number of hungry people is the highest in the world for this reason 194.4 million people are very dangerous situation in India during the period 2016-18. This reason of the people in the country are not aware of the fundamental duty. The hungry people are as the follows Chart No 4.



Sources: FAO, (2019), Food Security Report, Rome.

Government social services expenditure (As % of Gross Domestic product -GDP)

The below chart no 5 show that government expenditure on social services as a % of GDP in the year 2015-16 was 6.6% ,and increased to 8.3% in the years 2022-23. Similarly, the government expenditure on education, health, and others as a % of GDP in the years was 2.8 %, 1.3%, and 2.65%, increased to 2.9%, 2.1%, and 3.2% share of expenditure on health in the total expenditure on social services, has increased from 21 per cent in FY19 to 26 per cent in FY23 (BE). Also, the Fifteenth Finance Commission, in its report, had recommended that public health expenditure of Unions, and States together should be increased progressively manner to reach 2.5 percent of GDP by 2025. From this it can be seen that if the consumption of millets increases, there will be definitely an improvement in social services.



II. Conclusions

India's total number of Hungary people is the highest in the world for the reason that 194.4 million people are a very dangerous situation in India during the period 2016-18. The misfortune of this country is not to have two days a meal, but in recent periods, this problems is being decreasing in the last 8th years. Other hand 1.3 billion people live in multidimensional poverty in the world, and India's national poverty line has increased from 21.9 % during the period 2007 to 2018, and the PPP of \$ 1.90 a day is 21.2% during the periods 2007-17. About 422 million people worldwide have diabetes, the majority living in low-and middle-income countries, and 1.5 million deaths are directly attributed to diabetes each year. In India, there are estimated 77 million people above the age of 18 years are suffering from diabetes. If India as a whole is considered, the production of millets does not show much decline. In India. The total area is 138 lakh hectares, and in production 173 lakh tons highest in the (80% of Asia's & 20% of global production Global average yield is 1229 kg/ha, India (1239 kg/ha) world. it is hoped that the government of India will provide financial assistance, irrigation facilities, and high price production to increase the production of millets. The considering all the above matters, the idea of the Indian government regarding the millets is the world's savior. Because in this era of globalization, we are facing many diseases by eating food containing chemicals.To overcome this problem, we have to turn again to millets. Although the yield per hectares of millets is decreasing, the government must provide more guaranteed prices to the farmers. The private, and public sectors should invest in the sustainable production of millets by facilitating access to credit or other financial support, millet-specific training, a strategy to convey the benefit of millets through the media in their mother tongue,direct communication with the farmers from "Man Ki Bat" regarding millets, government's effective policy to increase life expectancy guaranteed high prices of MSP (Minimum support Price), farming equipment, and new technologies that improve the handling of millets, and thus their quality.

References:

- [1]. FAO, (2023), "International Year Of Millets (IYM 2023)". Published By, Food And Agriculture Organization, Rome.
- [2]. WHO, (2023), "World Health Statistics 2023", Published By World Health Organization, Geneva.
- [3]. GOI, (2023), "International Year Of Millets: India Leading The Way 2023", Published By Ministry Of Agriculture And Farmer's Welfare) March 18, 2023.

- [4]. GOI, (2023), "Economic Survey 2022-23", Published By Government Of India Ministry Of Finance Department Of Economic Affairs Economic Division, North Block, And New Delhi-110001 January, 2023.
- [5]. GOI, (2022), "International Year Of Millets (IYM 2023)". Published By, Ministry Of Agriculture & Farmers Welfare, New Delhi, India.
- [6]. FAO, IFAD, UNICEF, WFP And WHO. (2022), "The State Of Food Security And Nutrition In The World 2022". Published By, Food And Agriculture Organization, Rome.
- [7]. WEF, (2020), "The Global Social Mobility Report 2020 Equality, Opportunity And A New Economic Imperative" Published By World Economic Forum, Geneva Switzerland.
- [8]. FAO, IFAD, UNICEF, WFP And WHO. (2019) "The State Of Food Security And Nutrition In The World 2019". Published By, Food And Agriculture Organization, Rome.
- [9]. OECD (2017), "Sorghum (Sorghum Bicolor)", In Safety Assessment Of Transgenic Organisms In The Environment, Volume 7: OECD Consensus Documents, OECD Publishing, Paris.
- [10]. Government Of India, (2017), 'Indian Food Composition Tables', Published By National Institute Of Nutrition Indian Council Of Medical Research Department Of Health Research Ministry Of Health And Family Welfare, Government Of India Jamai Osmania (PO), Hyderabad , Telangana, India
- [11]. GOI, (2014), "Indian Constitution 2014", Published By Law And Judiciary Department, Government Of India 2014 New Delhi.
- [12]. "Kodo Millet". International Crop Research Institute For The Semi-Arid Tropics. (December 4, 2013). [Http://Www.Icrisat.Org/Crop-Kodomillet.Htm](http://www.icrisat.org/Crop-Kodomillet.htm) Archived 2013-12-11 At The Way Back Machine
- [13]. USDA, (2014), "PROSO MILLET *Panicum Miliaceum* L. Plant Symbol = PAMI2", Published By U.S. Department Of Agriculture , USA
- [14]. B. Dayakar Rao K. Et.Al, (2017), "Nutritional And Health Benefits Of Millets", ICAR – INDIAN INSTITUTE OF MILLETS RESEARCH (IIMR) Rajendranagar. Hyderabad – 500030, Telangana, India.
- [15]. Manning K, Pelling R, Higham T, Et Al. (2011). "4500-Year-Old Domesticated Pearl Millet (*Pennisetum Glaucum*) From The Tilemsi Valley, Mali: New Insights Into An Alternative Cereal Domestication Pathway". *Journal Of Archaeological Science*. 38 (2): 312–322. Doi:10.1016/J.Jas.2010.09.007. ISSN 0305-4403.
- [16]. FAO (2012). Grassland Index. A Searchable Catalogue Of Grass And Forage Legumes. FAO, Rome, Italy.
- [17]. Purugganan, Michael D.; Fuller, Dorian Q. (2009). "The Nature Of Selection During Plant Domestication". *Nature. Nature Research*. 457 (7231): 843–848. Bibcode:2009Natur.457..843P. Doi:10.1038/Nature07895. ISSN 0028-0836. PMID 19212403. S2CID 205216444.
- [18]. Lu, H.; Zhang, J.; Liu, K.-B.; Wu, N.; Li, Y.; Zhou, K.; Ye, M.; Zhang, T.; Zhang, H.; Yang, X.; Shen, L.; Xu, D.; Li, Q. (21 April 2009). "Earliest Domestication Of Common Millet (*Panicum Miliaceum*) In East Asia Extended To 10,000 Years Ago". *Proceedings Of The National Academy Of Sciences*. 106 (18): 7367–7372. Bibcode:2009PNAS..106.7367L.
- [19]. De Wet, J.M.J., (2006) "Plant Resources Of Tropical Africa", Published By Ressources Végétales De l'Afrique tropicale, Wageningen, Netherlands.
- [20]. Fuller, D.Q. (2003). "African Crops In Prehistoric South Asia: A Critical Review". In Neumann K, Butler A, Kahlheber S (Eds.). *Food, Fuel And Fields: Progress In Africa Archaeobotany*. Africa Praehistorica. Vol. 15. Cologne: Heinrich-Barth-Institut. Pp. 239–271. ISBN 3-927688-20-7.
- [21]. FAO, (1995), "Sorghum And Millet In Human Nutrition", Published By, Food And Agriculture Organization, Rome.
- [22]. https://agritech.tnau.ac.in/Agriculture/Millets_Kudiraivali.html
- [23]. <https://www.who.int/news-room/fact-sheets/detail/diabetes>.
- [24]. <https://www.who.int/india/health-topics/mobile-technology-for-preventing-ncds>
- [25]. https://apeda.gov.in/milletportal/files/statistics_report.pdf
- [26]. <https://www.webmd.com/diet/ingredients-guide>
- [27]. www.abplive.com/Agriculture/Iyom2023.