



MILLET NETWORK OF INDIA

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November 18, 2011

Dear Honourable sir,

Sub: Vote for Millets to be a part of the definition of food grains in the Food Security Bill & decentralized PDS

As Indian Nation is on the threshold of passing a landmark legislation in the form of the National Food Security Bill, we wish to draw your attention to some of the key provisions of the Bill that need your urgent and vigorous attention.

Rediscovering Millets in the Indian Food System:

It is a great joy for us millet-activists that the draft Food Security Bill makes an important mention in relation to millets in PDS. Since its inception, PDS has been based entirely on rice and wheat, to the exclusion of millets. While PDS has served the nation well by providing the poor with the much needed food grains, it has suffered from two serious flaws, the affects of which are being felt only now. As you would be aware, **India despite being one of the emerging tiger economies is ranked a lowly 128 among the malnourished nations**; a rank that is lower than that enjoyed by some of the sub-Saharan African countries. A recent study has further indicated that almost 20% of all Diabetes cases in India are owing to the PDS rice.

On the other hand, it has been scientifically proven that millets are miles ahead of rice and wheat in terms of nutritional content. For instance, millets contain 10.6 grams of protein per kilogram, as against rice which contains only 6.8 grams. Similarly, millets are also richer in fiber (1.3 grams to 10.1 grams), minerals (1.9 grams to 4.4 grams) and calcium (31 mg to 344 mg), in comparison to rice and wheat. All these characteristics make millets the ideal solution for the climate crisis that is looming ahead of India. On the other hand, the ability of rice and wheat to survive climate crisis is suspect. Studies indicate that a change of 2 degree Celsius in the temperature of Earth would render wheat incapable of growing, as wheat is a highly thermal sensitive crop. Rice, which requires stagnant water to grow (a kilo gram of rice needs 4000 liters of water), would also be unsuitable in the face of global warming as rice fields emanate methane, which is a greenhouse gas.

Furthermore, millets are crops that can survive the harshest and the most vagarious of climatic conditions. It has been shown that millets can grow in conditions of low rainfall—requiring as little as 300 to 350 mm of rainfall, depending on the type of millet—and in poor and heavily degraded soils; which are the characteristic traits of the arid and semi-arid regions, and of the hilly regions of India. Please peruse the enclosures to know more about millets. All these characteristics make millets the ideal solution for the climate crisis that is looming ahead of India. On the other hand, the ability of rice and wheat to survive climate crisis is suspect. Studies indicate that a change of 2 degree Celsius in the temperature of Earth would render wheat incapable of growing, as wheat is a highly thermal sensitive crop. Rice, which requires stagnant water to grow (a kilo gram of rice needs 4000 liters of water), would also be unsuitable in the face of global warming as rice fields emanate methane, which is a greenhouse gas.

Perhaps the greatest significance of millets is that while rice and wheat might provide only food security, millets provide multiple securities—of food, fodder, health, nutrition, livelihood and ecological— to rural households; making them the crops of agricultural security.

Local Production, Local Procurement and Local Consumption:

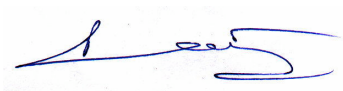
The National Food Security Bill, in Chapter VII, wisely mentions the need for procuring food grains from within a radius of 10 kilometers, thus laying the foundations of a truly decentralized PDS.

We would like to argue that this would be the most critical aspect of the New PDS. Unless the PDS is totally decentralized, all the farmers from all parts of the country cannot benefit from this extremely pro-people. Already a number of corporate houses both Indian and transnational, are eagerly eyeing the possibility of capturing Indian food markets. With the universalization of PDS and increased allocation to poor families there will be an enormous market which these corporate houses will rush in to grab. If this is not avoided, a disaster awaits this country. Once corporate houses become the providers of food to the Indian masses, we will have to accept whatever they provide; whether it is genetically engineered or produced in the most toxic fashion, we will not be able to say no to them. If we want to avoid this situation, **local production and local procurement will have to become the central tenets of the new PDS.** Farmers all over the country will greatly benefit from this policy and there will be a great fillip to food production from all corners of the country.

Both the provisions mentioned above—of introducing millets in PDS and of adopting localized procurement—would help the millet farmers greatly. Most of them are small holder farmers, a majority belonging to adivasis, dalits and such marginalized communities. Their agriculture and food production will bloom if the government pursues this policy.

We sincerely plead with you to kindly take both these major points on your brief when the Parliament discusses the Food Security Bill and help India move beyond food security and become truly food sovereign.

With Warmest Regards and Respects,



[p v satheesh]
National Convenor, Millet Network of India
Director, Deccan Development Society

Annexures:

1. Why Millets?
2. Nutritional Value of Millets
3. Status of Millets in India

Annexure 1: Why Millets?

Millets comprise of a range of crops that include Sorghum (*Jowar*), Pearl Millet (*Bajra*), Finger Millet (*Ragi*), Kodo Millet (*Kodon*), Foxtail Millet (*Kakum*), Little Millet (*Kutki*), Proso Millet (*Barri*) and Barnyard Millet (*Sanwe*). As we at Deccan Development Society and Millet Network of India like to say, *millets are not mere crops; they are an entire concept*. Across the country, we have seen that millets never grown alone, and always in combination with a host of other crops that include other millets, pulses, oilseeds, vegetables, and a host of other crops—each with different cropping cycles and different uses. For instance, the *Pannandu Pantalu* system followed by Medak district is a system wherein 12 different types of crops are grown on each site. The number and the permutation of crops may vary depending on factors prevailing on each site. Nevertheless, each site comprises of a host of millets like Jowar, Bajra, Ragi, et.al; pulses comprising of red gram, black gram, horse gram, et.al; vegetables like tomato, okra, sorrel, etc; and oil seeds like sesame. These crops, sown at around the same time come up for harvesting at different points of time, and meet most of the food needs of the communities in question. In short, they provide a complete package of health and nutrition to the households; in addition to acting as an ATM from time to time, from which to draw some cash, for crops like pulses are highly priced and can fetch a decent price to the farmers when needed. Such systems prevail in different parts of the country—*baraah anaaj* in Uttarakhand and *Saat Dhaan* in Rajasthan; to name a few. It has been observed that millets grow very successfully on the harsh uplands, of which Dalits and Adivasis own large tracts. Not only can these crops flourish in degraded soils, they also need very little water (sometimes growing on soil moisture alone). Is it any wonder then, that these crops have been nurtured for generations by some of the poorest and most marginalized communities! Cultivation of millets is also deeply rooted in the ethos of being one with nature. As has been seen in the case of many of the Dalit and Adivasi communities, millet cultivation is perceived as an eco-friendly practice, and thus, as a way of paying homage to Nature, and as a means of living in a state of equilibrium with the various natural elements. In a nutshell, the reasons why millets are important for India, and why MINI pays attention to these crops are:

- 1 They are the crops of food security for a vast majority of Indian people
- 2 Alongside food security, they can offer multiple securities such as fodder security, health and nutritional security and livelihood security.
- 3 For a variety of reasons nearly 30-40 million hectares of these lands have been left fallow by farmers. If they can be brought under cultivation they can create a minimum of 10-15 million livelihoods in the most impoverished parts of India.
- 4 Millets represent the cultural rights of the marginalized people of Dryland India which constitutes 65% of the Indian agricultural geography. These are the grains that people use in dozens of rites of worship and to celebrate births, weddings, and deaths and other rituals.

- 5 Millet represent a great tradition of knowledge-based agriculture. Women are the reservoirs of this knowledge. And hence the promotion of millets is promotion of women's knowledge
- 6 Since they demand no irrigation, in a water starved country such as India, they are the crops that the poor can cultivate without any problem.
- 7 They are a storehouse of nutrition and can be an effective solution where mal-nutrition plagues the poor and the marginalized remorselessly.
- 8 Considering the thermal sensitivity of wheat and the propensity of paddy fields to emit large quantities of methane (a greenhouse gas); millets, which can survive in low-water regimes, are an ideal solution to meet climate change.

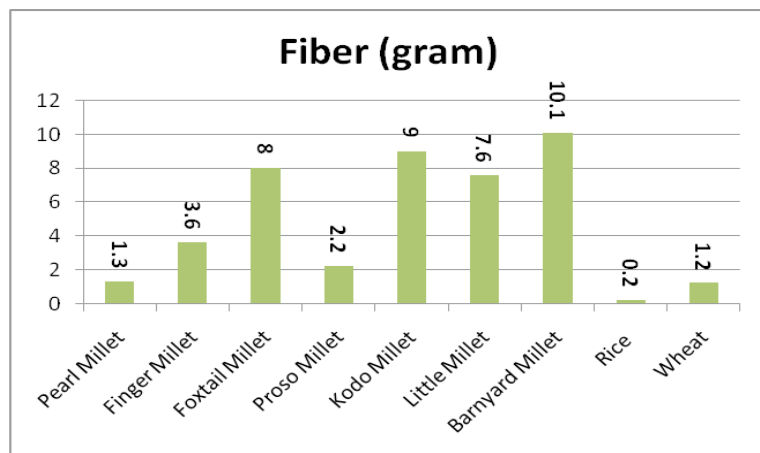
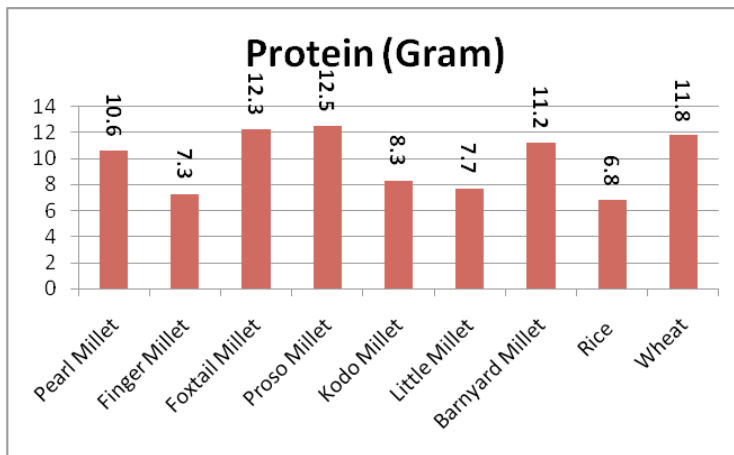
Owing to the low-input agricultural regime that millets function under, they are a major source of security to the lives and livelihoods of some of the poorest communities in our country. The cash-cropped based high-input regime that has been followed in the wake of Green Revolution, which has take a toll of more than 150,000 farmers over the last decade or so, presents a stark picture in contrast.

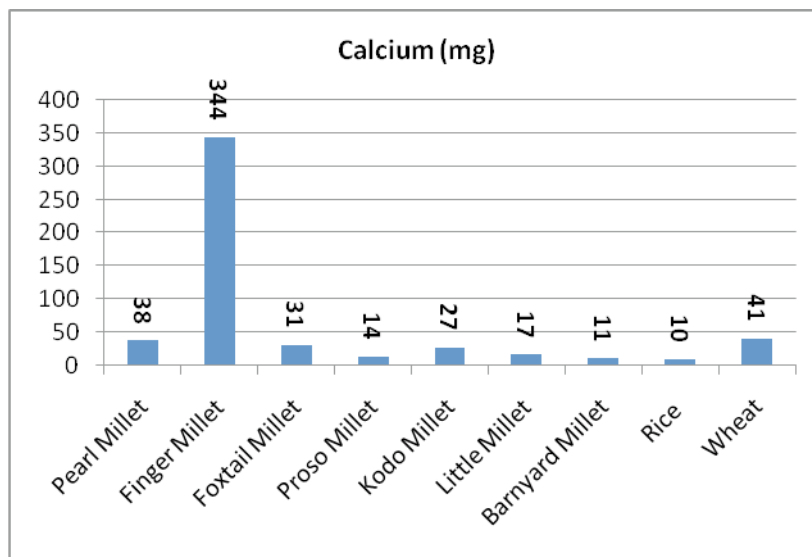
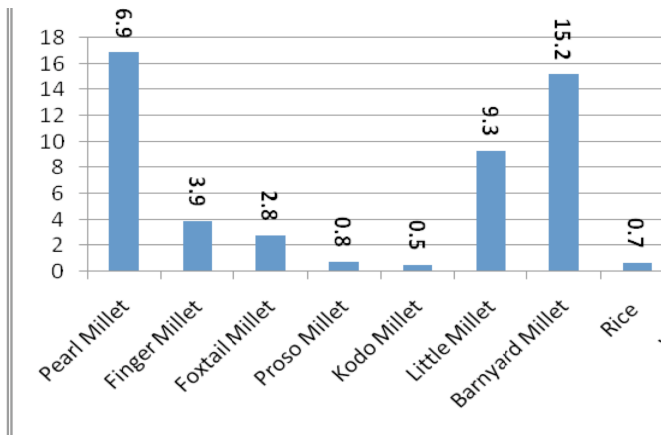
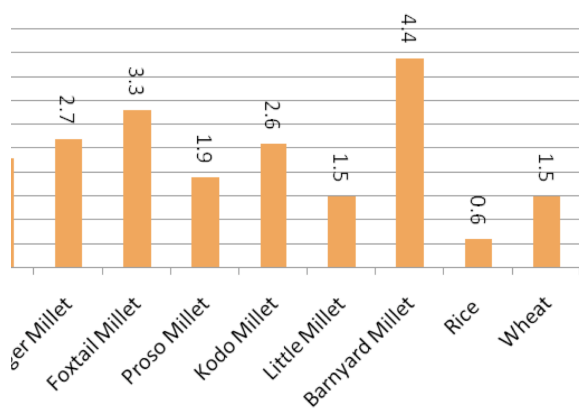
Annexure 2: Nutritional Value of Millets

1. Nutritional Details of Millets, rice and wheat

Crop	Protein (gram)	Fiber (gram)	Minerals (gram)	Iron (Mg)	Calcium (mg)
Pearl Millet	10.6	1.3	2.3	16.9	38
Finger Millet	7.3	3.6	2.7	3.9	344
Foxtail Millet	12.3	8	3.3	2.8	31
Proso Millet	12.5	2.2	1.9	0.8	14
Kodo Millet	8.3	9	2.6	0.5	27
Little Millet	7.7	7.6	1.5	9.3	17
Barnyard Millet	11.2	10.1	4.4	15.2	11
Rice	6.8	0.2	0.6	0.7	10
Wheat	11.8	1.2	1.5	5.3	41

2. Comparative Analysis of Nutrients in Millets and rice and wheat





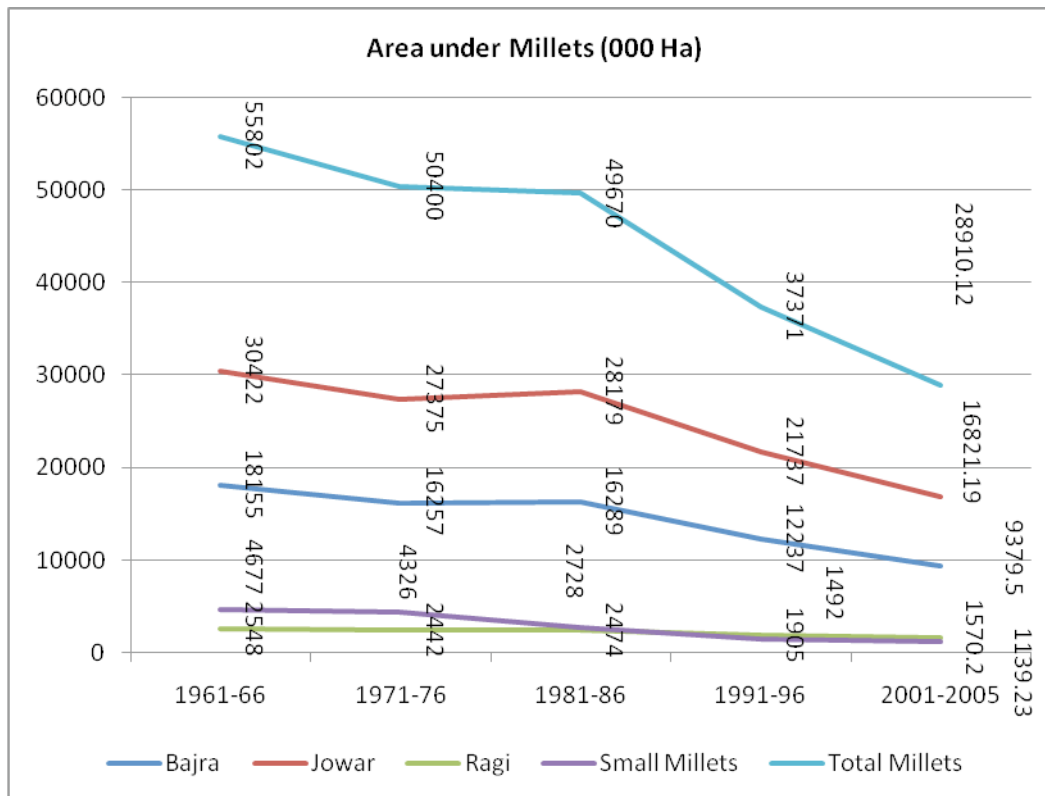
The table and the graphs given above indicate that millets are head and shoulders above rice and wheat, which are the staple under the current PDS, in terms of nutrition. Whether it is in terms of proteins or fiber or in terms of various minerals, millets score over the other two food grains. If millets are made a part of the PDS and of other government food programs like Mid-Day Meal Scheme and ICDS, which is what the draft Food Security Bill to be placed on the floor of the parliament envisages, they hold potential to comprehensively address the nutritional crisis that is affecting many parts of the country; and are an answer to the incidences of mal-nutrition that have been brought to light in the recent past and have shamed the nation.

Annexure 3: Status of Millets

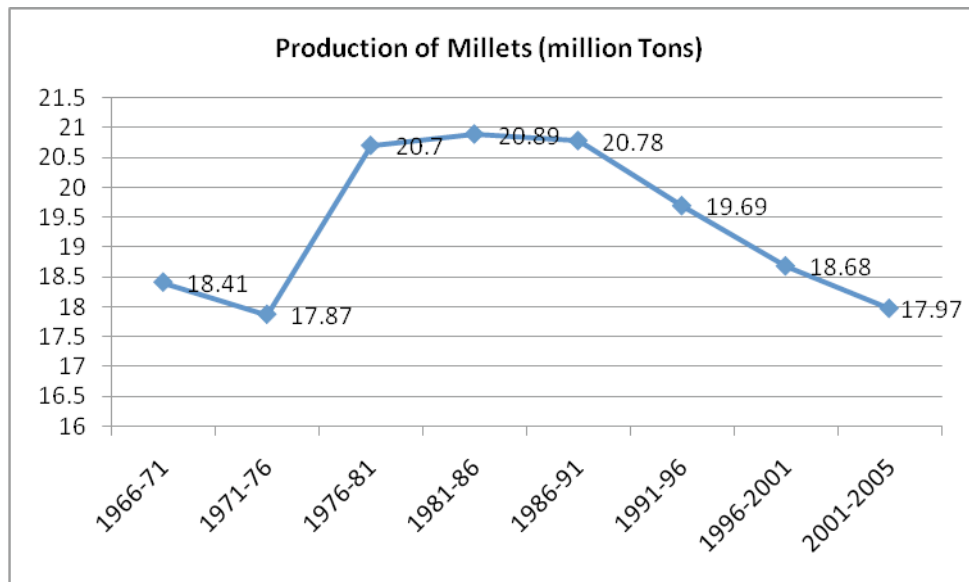
1. Area under Millets

Area under Millets-- 000 hectares					
	1961-66	1971-76	1981-86	1991-96	2001-2005
Bajra	18155	16257	16289	12237	9379.5
Jowar	30422	27375	28179	21737	16821.19
Ragi	2548	2442	2474	1905	1570.2
Small Millets	4677	4326	2728	1492	1139.23
Total Millets	55802	50400	49670	37371	28910.12

A nearly 50% decline has been seen in the area under millets. In the case of bajra, the decline is to the extent of 48%, while in the case of Bajra, a 44% decline has been seen. Ragi saw a decline of 38% and, most worryingly, small millets comprising of Foxtail millet, little millet, proso millet, kodo millet and barnyard millets, saw a massive decline of 76%.



2. Production of Millets



The production of millets witnessed a decline of about 3% since 1966. While this may appear to be a small number, one needs to consider that the decline has been to the tune of nearly 3 million tons.