

MILLETS IN DEFENCE OF INDIA'S FOOD SECURITY

~~ *by p v satheesh, director, deccan development society,
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It is no more a secret. India is a country of acute hunger. In the global hunger scale it occupies 65th rank. On the malnutrition index its record is even more dreadful. Many sub-Saharan countries, which are described as home to intense poverty, are several notches above India both in hunger and malnutrition. As per the United Nations, more than 200 million people in India are malnourished. The National Family Health Survey-III 2005-06 indicated that 49% of the children in India were malnourished. NFHS-III also pointed out alarming incidences of underweight children and anaemic adolescent girls. All these figures run counter to the dominant narrative of an economic tiger that is India fifth among the countries that have highest number of billionaires in the world surpassing the industrialised countries such as UK, Japan and Canada. The reasons for this alarming reality are many. But we attribute a major reason for India's acute hunger and malnutrition to the systematic marginalisation of millets in the Indian food and farming systems

That this marginalisation has happened counter to the food and farming realities of India is another unfathomable X Factor in the country's food sociology, history and politics. Consider these facts:

- India is the largest producer of millets in the world.
- Globally, it is also the largest consumer of millets.
- It accounts for more than 40% of the world millet consumption.

These irrefutable truths should have propelled millets to the top of the food and farming policy table of the country. But what has actually happened is completely to the contrary. Millet cultivation area in India has suffered a great crash while wheat cultivation, piggybacking on the Green Revolution [read chemical] technology, has exploded while rice has held its ground. As the era of economic neoliberalism swept into India in the '90s, agriculture followed suit to tune into cultivation of commodity crops such as cotton and sugarcane. Thus Indian farming policy was being shaped in order to earn money instead of creating a billion+ food secure homes. This policy push towards total monetisation of Indian agriculture was to make it compatible with other sectors of Indian economy whose primary aim is to contribute to growth in GDP. This has taken the soul away from agriculture and instead of cultivating life, poison farming has become the norm. No matter what happens to the food quality and safety.

Millets which had contributed enormously to both these factors of

agriculture with a soul, have taken a beating in the emerging militaristic farming environment. The decline of millet farming that symbolised agriculture that was controlled by the poor and the marginalised, women and the excluded communities [read dalits and indigenous farmers], is giving way to corporate farming slowly and steadily. Though the situation has not reached alarming proportions, the signs are increasingly becoming clear.

But one cannot still doomsay that everything is completely lost. The resilience that characterises millet farming and farmers [read dalits, indigenous populations and very smallholder peasants] have in their own silent way kept the millet flame burning. They have continued to feed 40% of the Indian population in the face of a very hostile policy and media environment. A majority of them not only continue to grow millets but also continue to nourish the biodiverse farming environment that characterises millet farming. The future of India's food and nutritional security lies in supporting and enhancing this resilience of peasant farmers mainly dalits and indigenous. It also is the road to reclaiming India's food and social justice.

This is the challenge confronted by the Deccan Development Society, a grassroots organisation working for over 25 years with nearly 5000 very small dalit women farmers in the Zaheerabad region of Medak District in the South Indian state of Andhra Pradesh. The Society is focused on creating a sovereign community of the poor in order to produce a new dignity and self reliance for themselves. This is strategised through producing a cycle of autonomies [marked by autonomous food and seed production systems, autonomous healthcare, autonomous market and autonomous media], a major initiative of the society in this creation of dignity and self esteem for the poor is manifested in its work of reclaiming millets in the farmscapes and food systems of the dalit women. In doing so, more than 100 traditional landraces of food crops have been brought back under wide cultivation, and more than 5000 women farmers of the region banished hunger from their homes and communities [and were awarded by the International Federation of Red Cross for this unique achievement] and demonstrated what food and seed sovereignty can do for the excluded people.

This agenda of food sovereignty and the practical steps of achieving it had to be taken beyond the DDS communities and the region where the Society works geographically. This prompted DDS to create a couple of Food Sovereignty networks in order to see if the strategy of the DDS women could work for other communities. These networks which began around the year 2002 took the shape of the Millet Network of

India [MINI] the first ever network which had chosen to work exclusively on millets.

The choice was critical. Because we in DDS and the MINI have always seen millets not just as crops but as a concept which encompasses a whole range of complex issues such as biodiversity, climate crisis compliance, a cropping system that can be easily controlled by the most marginal farming population etc. In the year of *International Family Farming* millets stand out as the most symbolic farming system that is the hallmark of family farmers. As a matter of fact, in DDS, our conviction in millets springs from the fact that this is a profound lesson that was taught to us by the amazing dalit women farmers with whom we have been working for nearly three decades.

These women, who are owners of tiny pieces of rainfed land, not exceeding 2-3 acres, are the most ardent conservers of biodiversity on their farms. Most of their crops are millet anchored. None of them grows less than ten crops on every single acre of their farm. The more progressive of them grow upto 25 crop varieties per acre. Seed saving and exchange is a tradition in them. Similarly farm yard manuring is something they have practiced for centuries making their agriculture completely ecological and free from any kind of external input. In recent years, they have also become experts in backyard biofertiliser production. As their farms sport a breathtaking biodiversity, their rituals and celebrations mirror their reverence to biodiversity. What was once a household tradition to save seeds has been now institutionalised by the DDS sanghams [village level voluntary organisations of women] in the form of community seed banks of traditional landraces. This not only marks their food and seed sovereign but also signals a dignity not seen in most farming communities which are external input dependent.

It is this consciousness of their sovereign seed and farming systems that spurred the communities of DDS to initiate India's first Community led, Community managed PDS as far back as in 1997. Under this, the women of DDS decided that the tyranny of rice and wheat based PDS was a political subjugation of their agriculture. And they decided that they will fight against it and install a community based local PDS.

This PDS was based on the principles of Local Production, Local Storage and Local Distribution. The vision was to develop a PDS that not only shuns outside support but also becomes totally decentralised in total contrast to the highly centralised PDS that offers no participation or decision making powers to the local communities. Within one year, the

women, through retrieval of cultivable fallows in their communities were able to produce over 15000 kgs of extra grains in each of their 32 communities. This initiative would spread to over 55 of their communities and over 120 communities outside of their region in the years to come. The farmers who were helped financially to cultivate and retrieve their fallows would return the loan in the form of grains to their community PDS managers. These women managers would store the returned grain in their traditional ecological methods.

What followed was a fascinating example of participatory democracy lead by the lowest echelons of rural society: dalit peasant women who had not been allowed to play any leadership roles within or outside of their communities. The women sat down in the village square, drew maps of all the households in their village, discussed and debated what criteria they would follow to decide the level of poverty in each of their households and finally marked each household with a specific colour to denote its level of poverty. This was done in a scale of five. Different colours denoted a certain level of poverty: dark blue for the destitutes, red for the hard core poor, green for the poor, Yellow for less poor and white for the non poor. Every household thus marked was given an entitlement to draw a certain quantity of jowar from their community grain fund at a price approximately 30% lower than the prevailing market price. Each such household was given a jowar ration card that depicted the colour marked for that household In this fashion, the first ever localised, local community controlled PDS was born in India.

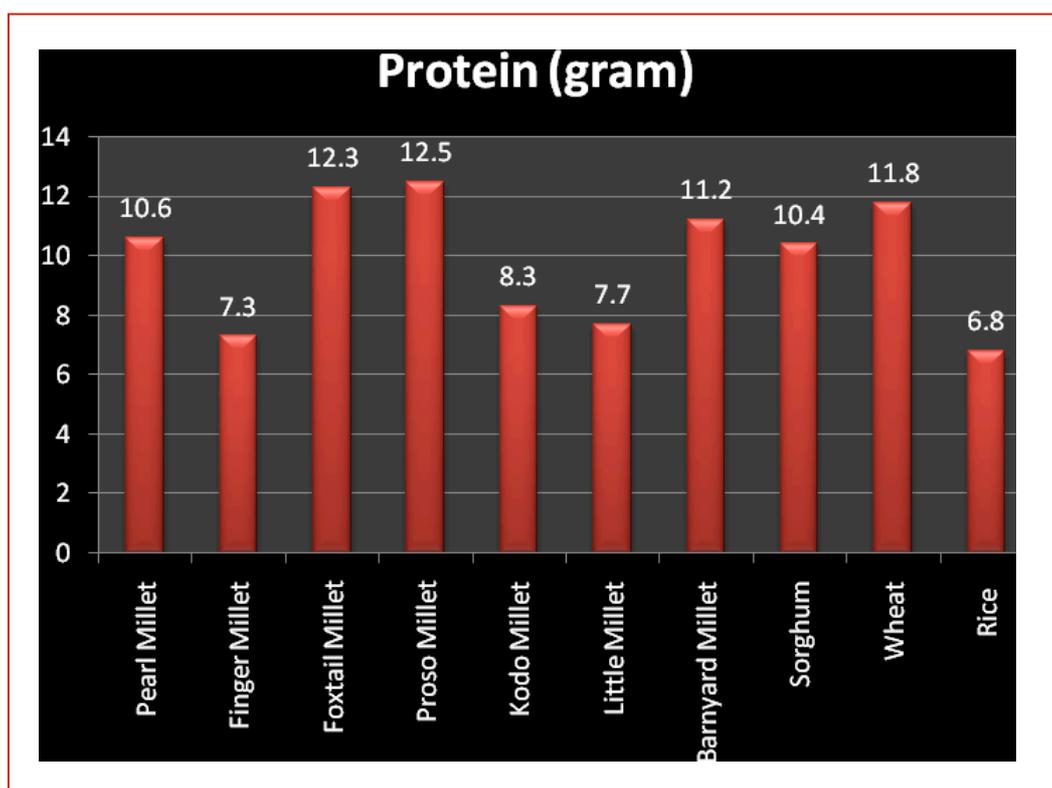
Within a couple of years, over 50000 persons were covered by this Alternative PDS. Apart from producing highly nutritious grains, this initiative also was producing fodder security for their communities. Each community was able to produce enough fodder to support 200 extra cattle, nearly 7500 extra wages for the landless. Thus apart from ensuring community food security, this programme also was able to provide multiple securities: food, fodder, fibre, health, nutrition and livelihood securities.

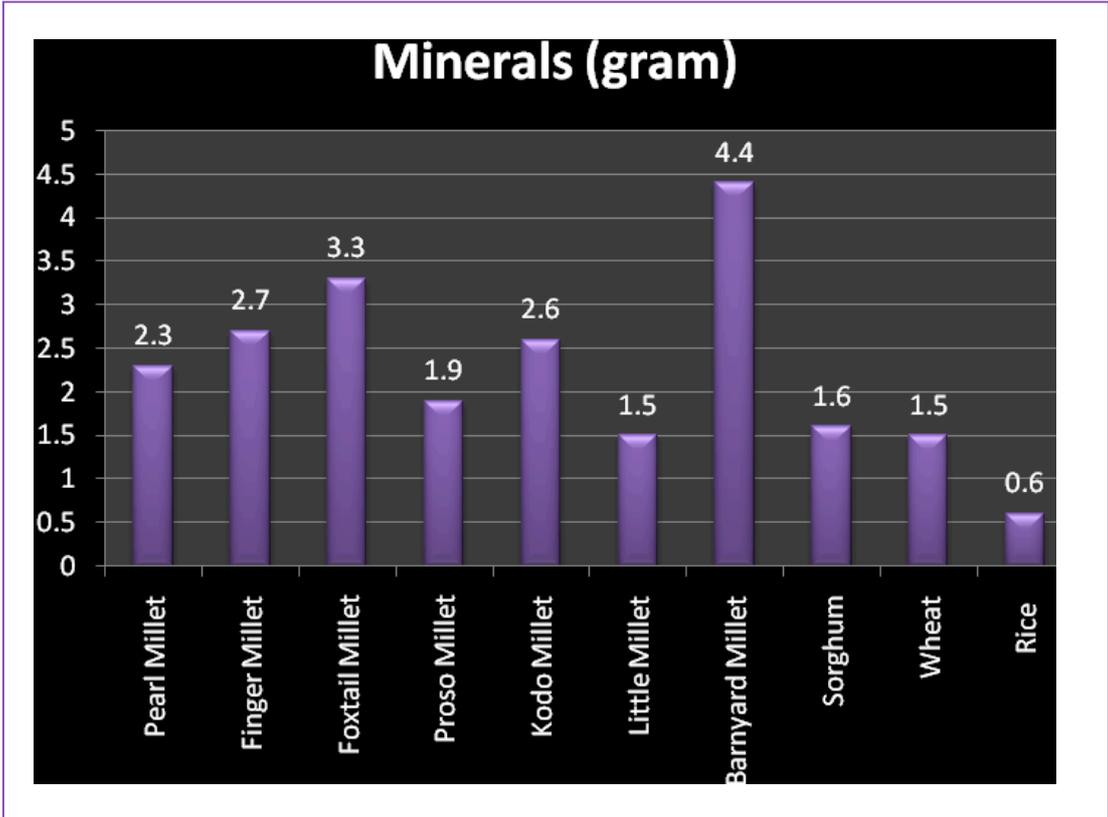
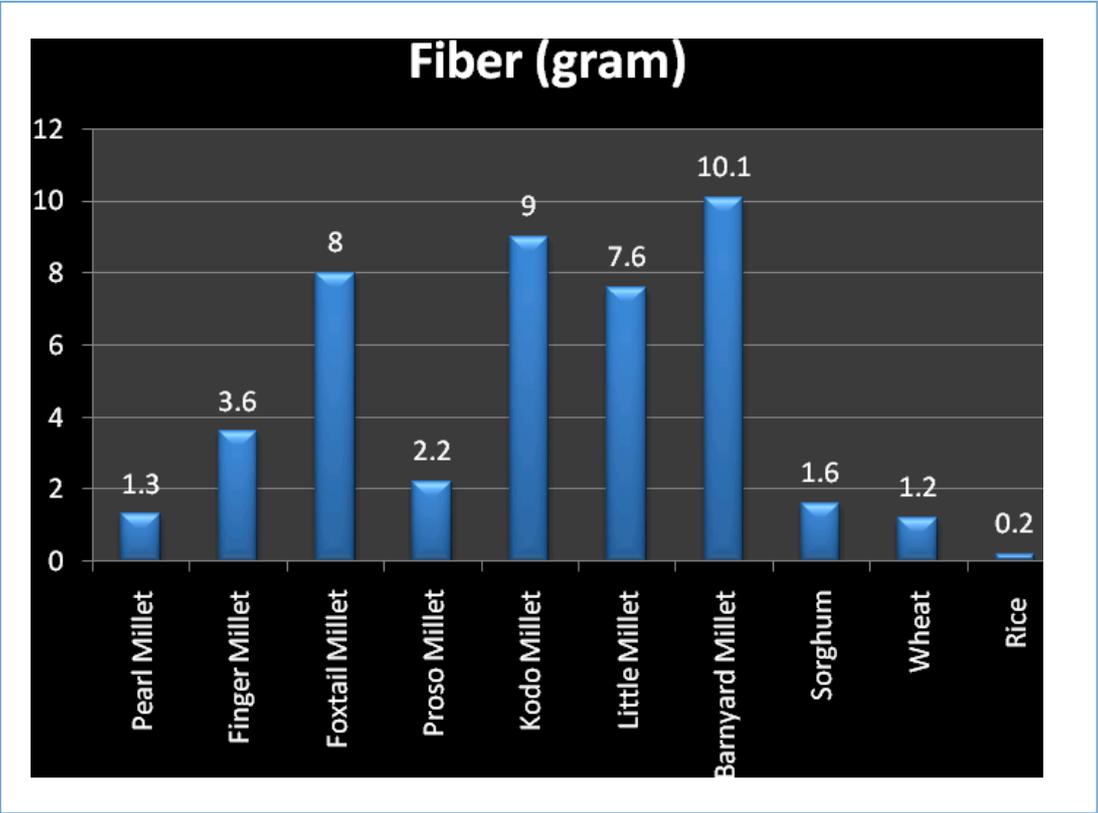
Therefore we argue that what was possible for a group of marginalised peasant women from dalit communities should be possible for the entire nation. As a matter of fact, MINI, the Millet Network of India which was born out of the inspiration provided by the women fo DDS struggled for over 10 years to shape a new national food policy which ultimately recognised the importance of millets In the Indian public food system. The inclusion of millets in the PDS by the National Food Security Act is the most important manifestation of this reinvention of millets.

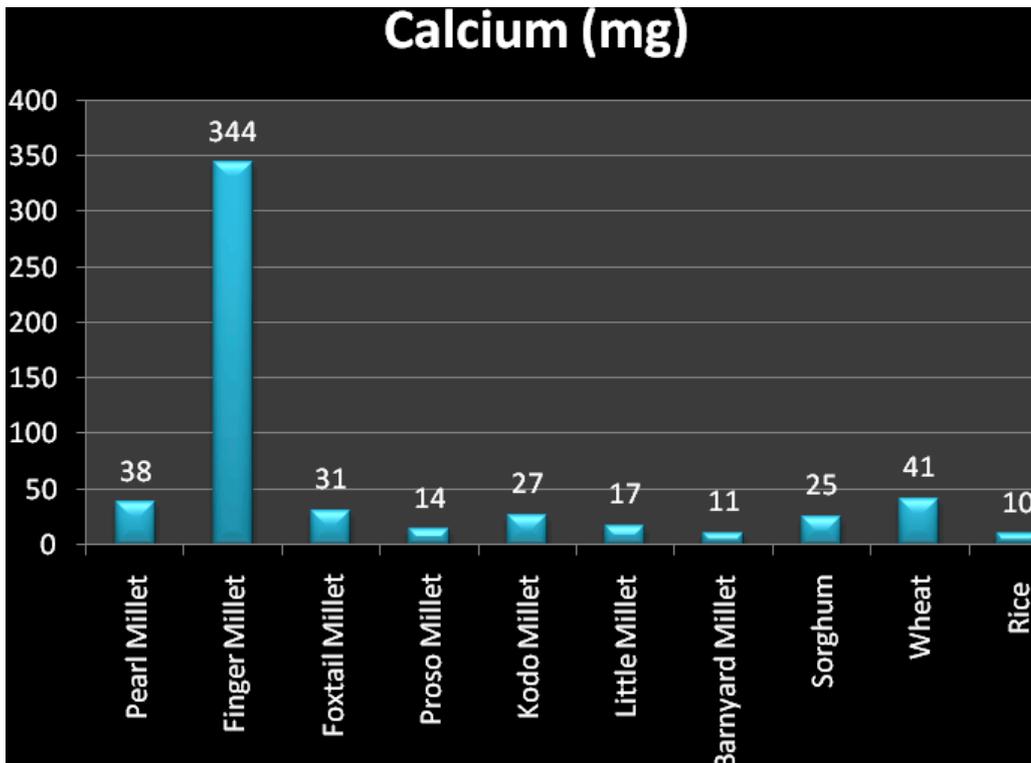
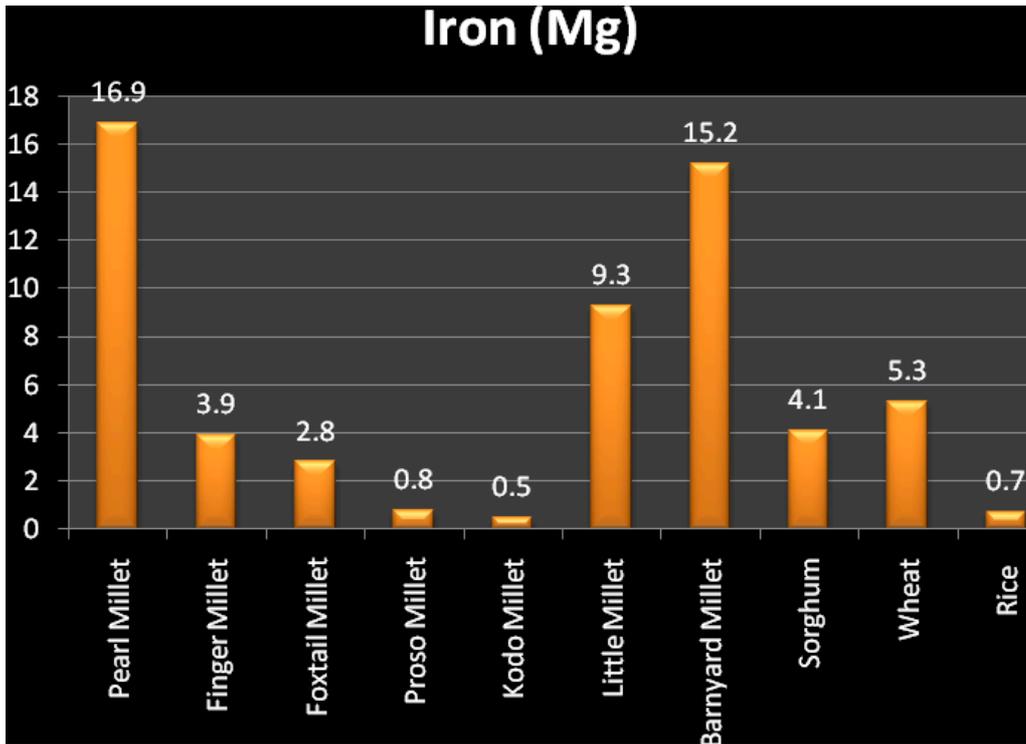
Why such an importance for millets? The answer is very simple. They are the future of food and farming in India. In the context of the

shameful position of India at 128th in the Global Malnutrition Index, the need for India to look for nutritional security is paramount. Millets with their superior nutritional quality will be a major answer for this situation.

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
Sorghum	10.4	1.6	1.6	4.1	25
Wheat	11.8	1.2	1.5	5.3	41
Rice	6.8	0.2	0.6	0.7	10







This table is a clear damnation of the PDS policy followed by the Indian Government for four decades. As the table indicates, on all parameters of nutrition, rice occupies the last place in the table

Therefore our discourse on agricultural productivity must make a paradigm shift. It must now stop asking how much does an acre of land produce. Rather the question should be **how much nutrition** is an acre of land is producing. For a country that is 128th in the malnutrition index of the world this is the only road to salvation. And here millets lead the way all the way. They are, as the above table shows, not only leaders in all the major nutrients, but also top the list of micronutrients which the food specialists are now discovering is a major problem in India. We struggle to find our Bt Carotene in pharmaceutical capsules such as Spirulina. But are tragically unaware of the fact that most millets are storehouses of micronutrients like Bt Carotene, Niacine, Thiamine, Riboflavine, Folic Acid etc. Incidentally the last named Folic Acid is a compulsory feed in the Indian ICDS system for pregnant mothers. But this is in the form of Iron and Folic Acid tablets. If the same deficiency is plugged by making available millets which are replete with both these nutrients in their natural form to these women, it would be an integrated food and nutrition solution instead of seeking the pharma solution for this purpose.. For eg. Pearl millet [Bajra] has nearly 12 times more Iron than rice and eight times more Folic Acid than rice. Sorghum [Jwar] has six times more Iron and 2.5 times more Folic Acid than rice. Therefore it would be an act of common sense to offer these grains as food to people. But isn't it said that Common Sense is the most uncommon thing in people? Particularly in the policy formulators?

Look at the following nutrition table to find the micronutrients that millets flaunt:

MICRONUTRIENT CONTENT FOR 100 G OF FOOD GRAIN

S n o	Nutrient	Rice Vari	Pearl millet Sajjalu	Foxtail millet Korralu	Sorghum Jonnalu	Finger millet Taidalu	Little millet Samalu	Kodemillet Argulu
1	Carotene ug	0	132	32	47	42	0	0
2	Thiamin mg	0.06	0.33	0.59	0.37	0.42	0.30	0.33
3	Riboflavin mg	0.06	0.25	0.11	0.13	0.19	0.09	0.10
4	Niacin mg	1.9	2.3	3.2	3.1	1.1	3.2	4.2
5	Folic acid mg	8.0	45.5	15.0	20.0	18.3	9.0	-

Ref: NUTRITIVE VALUE OF INDIAN FOODS, NIN, ICMR, HYDEARBAD,

Besides being nutrient rich, almost all millets also sport medicinal properties, both preventive and curative. Foxtail millet has sulphur, which is good for high BP. Finger millet [Mandua] is a boon for diabetics. Most millets, being high in fibre release sugar very slowly and thereby

help diabetics absorb this sugar comfortably unlike rice which creates a surge in sugar that the bloodstream finds it difficult to absorb. This fibre content also helps the heart disease afflicted. If we accept the principle upheld by Ayurveda that our food is our medicine, millets are the best bet for the food, nutritional and health security for the aam people of India.

Millets for Climate Crisis

Millets are very hardy crops that can fight climate change. Traditionally, they are largely grown in a biodiverse environment [along with many pulses and oilseeds] and can be a strong answer for the low carbon economy demanded by climate change. Some of the predictions for the coming decades of climate crisis say that global warming is bound to increase from 2 degree centigrade to 5 degree centigrade by 2050. As and when this happens, we should be ready for extended droughts, unreliable rainfall and very high malnutrition. It is predicted that 70% of India will suffer from severe malnutrition.

Even if temperatures rise by 2 degree centigrade, wheat may disappear from Indian farming since it is highly thermal sensitive. Thus one crop on which we excessively depend for India's food security becomes unavailable. As simple as that. The way we grow rice for our PDS is a disaster already creating soil salination, leaching. Some places such as the Tungabhadra basin in Karnataka are already turning into deserts because of the uncontrolled water use and chemical fertilisers. If we continue to grow the Green Revolution model rice in India with 2" standing water and tonnes of nitrogenous fertilisers, the green house gases emanating from paddies will exacerbate global warming to severe extents. In the face of this challenge, rice farming might be forced to take a backseat.

In the event of the disappearance of our principal PDS grains our only alternative will be millets which will be central to Indian food and farming. Thus they will be the defenders of India's food security. Millets can grow on some of the poorest soils in the country. They can withstand high heats. They do not need irrigation. They can grow under rainfed conditions. The traditional millet farming has always insured risks of excessive rainfall, low rainfall and erratic rainfall. Therefore under the climate crisis conditions, millets can survive strongly. Above all they are, as argued earlier, are extremely nutritious and can be the main tool to fight the malnutrition, especially among the poor who cannot compensate for the low nutrition grains such as rice. Thus millets do become central to the food and nutritional and health security of India.

Besides, millets are not just food grains but also represent the entire gamut of oppressed food systems in the world. By bringing them into the PDS, government has taken the first step to reverse the socio economic marginalisation that millets, millet farmers and millet farmscapes have suffered for decades in this country. The peasant farming revival can speedily take place if this agenda is pursued further.

A key to this agenda is a decentralised procurement system for millets for PDS. Thus all the grains, particularly millets, needed for PDS are grown in the same geographical area where it is consumed it will herald a new model of food governance. If every village is confident of producing all the food it consumes, we will be returning to Mahatma Gandhi's concept of Gram Swaraj. Besides it will reenergise India's over 30 million hectares of millet farms and farmers thus paving way for regeneration of local economy and will result in a resurgence of farming, economy and ecology in dryland India. Thus making millets a solution to an enduring food security for the country will have multiple beneficial effects for India .

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