



“Campaign for creating awareness on Lifestyle For Environment (LiFE), Promote Millets and Backyard Kitchen Gardens among students, farmers and BMC Members”

Organised by

M.S. Swaminathan Research Foundation in collaboration

And

National Biodiversity Authority & Ministry of Environment, Forest and Climate Change, (MoEFCC), Government of India

28th April 2023

at

MS. Swaminathan Research Foundation

Chennai- 600 113

Report on the NBA LiFE program

The event *Organised by*

M.S. Swaminathan Research Foundation in collaboration with

National Biodiversity Authority & Ministry of Environment, Forest and Climate Change, (MoEFCC), Government of India

Title : “Campaign for creating awareness on Lifestyle For Environment (LiFE), Promote Millets and Backyard Kitchen Gardens among students, farmers and BMC Members” on 28th April 2023 at MSSRF, Chennai.

Concept note:

The following concept note was prepared and a proposal to conduct a half A day event on the above mentioned titled was submitted by M.S. Swaminathan Research Foundation to National Biodiversity Authority, Chennai. The proposal was sanctioned with a budget of Rs3.50 Lakhs.

Background note

The United Nations with the aim to create awareness and increase production and consumption of millets, at the behest of the Government of India, declared 2023 the International Year of Millets. To commemorate this, Government of India is hosting various interactive activities around Millets and invites various stakeholders of millets value-chain to come forward and join hands to revive the forgotten glory of ‘Miracle Millets’ through the grand celebration of International Year of Millets - 2023.

Millets’ are small-grained, annual, warm-weather cereals belonging to the Poaceae (grass) family and were the first crops to be domesticated with several evidence of its consumption during the Indus valley civilization. Being grown in more than 130 countries at present, millets are considered traditional food for more than half a billion people across Asia and Africa, and have been an integral part of our diet for centuries. Millets encompass a diverse group of cereals including major millets such as Sorghum {*Sorghum bicolor* (Jowar)}; Pearl Millet {*Pennisetum glaucum* (Bajra)}; Ragi {*Eleusine coracana* (Finger millet)}; and small millets such as Proso (*Setaria italica* Cheena); Kodo (Kodra, Arikelu); Fox tail millet {*Setaria italica* (Kangni/Korra)}; *Echinochloa crus-galli* (Barnyard Varai, Sawa); little millet {*Panicum sumatrense* (Kutki)} etc. cultivated in in sub-Saharan Africa and Asia and is an important source of nourishment for millions of people. Consumption of millets is deeply rooted in Indigenous Peoples’ culture and traditions and help guarantee food security in areas where they are culturally relevant. Rich in B vitamins like niacin and thiamine, millet is a nutrient dense alternative to rice. One cup of cooked millet contains 12 percent of the recommended daily allowance of protein and is loaded with minerals manganese and phosphorous. Millet is also low glycemic and gluten-free. In addition to a plethora of health benefits, millets are also good for the environment with low water and input requirement.

The Lifestyle For Environment (LiFE), was introduced by Prime Minister Narendra Modi at COP 26 in Glasgow in November 2021. Later, on the occasion of World Environment Day, on 5th June 2022, India furthered the vision of LiFE by launching the LiFE Global Movement. This movement envisions a circular economy by making mindful choices every day and in

everyday activities and promotes a sustainable way of living which may impact the environment less, and promote a balance between the needs of the present generation with that of the future.

M.S. Swaminathan Research Foundation initiated millet Research and Development work in mid-nineties in the Eastern Ghats. The activities involve a holistic value chain approach from 'farm to fork', addressing highly interconnected aspects of conservation, cultivation, consumption and marketing of millets. Farmers were encouraged to conserve and cultivate diverse landraces of millets belonging to different species (Finger millet, little millet, Foxtail Millets, Proso millet and Kodo millet) under different cropping systems and through a wise blend of traditional and modern practices. MSSRF have helped farmer's organizations and self-help groups to establish locally suited processing millet and provided training on Value addition to millets and attempted to link it with value chain. Such initiatives were successful in Kolli Hills of Tamil Nadu, Koraput of Odisha, Mandla and Dindori region of Madhya Pradesh. MSSRF shared the best practices with Constituency partners in similar ecological region in the country to conserve and promote Nutritious crops. In the recent years Millets have been identified as a strategic crop to addresses issues related to Nutrition Poverty and valorized as "Nutricereals". Millets are also considered as vital crop for its climate resilient properties and recommended in rain fed agriculture systems and hill agriculture. The United Nation has also announced the year 2023 as International Year of Millets.

As part of the LiFE mission, M.S. Swaminathan Research Foundation and National Biodiversity Authority of India (NBA) in conjunction with the Ministry of Environment, Forest and Climate Change (MoEFCC) is organising programmes for college students, Farmers and Biodiversity Management Committee members to enhance awareness on the nutritional benefits of millets, and to ensue nutritional security.

Program invitation



The program started with the Tamizh Thai Vazhthu

Dr G N Hariharan, Executive Director, MSSRF welcomed the dignitaries as well the participants of the event. He said that the year 2023 has been announced as the International Year of Millets – 2023". He emphasised on the need to promote the production and consumption of millets and use of medicinal plants among farmers, student and BMC members.

Dr J Radha Krishan, IAS Additional Chief Secretary Cooperation, Food and Consumer Protection Department, Govt of Tamil Nadu highlighted the need to bring change in the attitude of common man towards environment. The LiFE style initiative plays a vital role in preventing food insecurity and preventing zoonotic diseases. He pointed out that the concept of Lifestyle for environment is important to prevent disease, food insecurity and for biodiversity. Major constraint in millet consumption is procurement and production to meet the requirements of all the districts. So the major focus of this campaign is (i) to bring small changes at household level and working together with other stakeholders to bring the necessary changes and conserve environment, (ii) to create awareness to promote traditional breeding practices and protect native germplasm. He also said that the government of Tamil Nadu has given importance to millet and so have decided to provide Ragi in Nilgiris and Dharmapuri through Public Distribution System (PDS) from May 2023. Peak demand for electricity occurs during the month of summer and so he focuses on saving electricity. He highlighted the importance of protecting natural breads and native crops for achieving sustainable goals.

Dr E D Israel Oliver King, Director - Biodiversity, MSSRF highlighted the need to promote millets diversity and nutri cereals. He briefed about MSSRF various initiatives in millet promotion in Kolli hills, Tamil Nadur, Koraput and Malkangiri and Rayagada, Odisha, Gujarat North Eastern states and in Madhya Pradesh. Millets are traditionally consumed in Tamil Nadu Two major benefits are (i) nutritional property and (ii) climate resilience crop - which can greatly help to sustain livelihood of the farmers. The main focus of the MSSRF is to work with women from poorest of the poor and in tribal areas in order to ensure Nutritional food security.

He spoke about the 4C model (i) Conservation-providing quality seeds to revive millet cultivation, popularise and distribute to farmers, (ii) Cultivation-productivity enhancement. Reaching out the science to community, (iii) Commerce-building successful marketing channels and (iv) Consumption-promote consumption.

Tamil Nadu is enriched with wide variety of millets but the major challenge is in millet processing which is laborious and involves intense labour, and also lack of processing facility (simplified processing mills) which impacts cultivation and consumption. He also highlighted the need to focus on traditional knowledge and take steps to bring it back to the community. Promote custodian farmers, creation of community based seed bank so that farmers can save and share seed to farmers. Once local food system is established, farmers will become independent and will have the required seeds suitable to their agro-ecology. Developing customised technology for post-harvest processing along with

empowering women through skill development and finally creation of branding to build and strengthen local supply chain

Dr Shekar Kumar Niraj, Secretary, Tamil Nadu Biodiversity Board

He quoted that millets are a future food of India as it is the instrument for improving biodiversity, malnutrition, Food security and environment. Wild varieties that are collected from biodiversity rich area is very important from the angle of preservation and to get cues from isolating those genes and to be used for cultivation of other crops.

He also said that millets are water resilient crops that need minimal amount of water to grow and can be cultivated in arid and semi-arid areas. Stake holders need to come together towards promoting sustainable environment. He also states that Biodiversity Board has tried to extract very important biomolecules from important species to look at the characteristics that has medicinal value and to explore and understand the molecular pathway behind it. He also highlighted the need to establish state level DNA data base for millets to carry out further intensive research on millets. BMC has to enhance the link at the marketing aspect. He also highlighted the need to strategies national policy.

We should take action to prevent losing our own harvest to the national market as a result of neglect as most local crops are lost to global marketing. He also stated China as an example country as it lost its Sorghum in national market.

Dr B Balaji, Secretary, NBA

NBA and MSSRF together join hands for conducting campaign among farmers and students for LiFE Programme in order to bring sustainable development in the environment. He also stressed out that 20% of the Global Warming crises will declined if 1 billion people out of 8 billion people have the determination towards protecting the environment. He gave few advises towards sustainable environment like waste disposal after segregating them into bio-degradable and non-bio-degradable, Adjusting the Air Conditioner temperature above 25^o C and reusing the kitchen food waste as a feed for livestock's within 12 hours. He also stressed to adopt zero waste and practices for developing a sustainable clean environment.

He also emphasized on practising Terrace gardening and also disposing E wastes to the companies that recycles E wastes. He motivated students to be ambassador to improve Life style environment. He stated that during earlier times millets was poor man's food while rice and wheat was affordable only by the rich people, but now the condition has reversed as millets became expensive than rice and hence is affordable only by the rich while rice, and wheat become poor man's food.

Shri Achalender Reddy, Chairman, National Biodiversity Authority, Chennai

He highlighted the facts about millets and pseudo millets. He explained about the SDGs highlighting some of the actionable points under bio diversity conservation. Some constraints in millet cultivation as stated by him are (i). average yield is less (ii). high Processing cost (iii) lack of millet processing machines are costly and availability. (iv) Cost of cooking for millets is high as compared to cooking of rice. The advantages in millet

cultivation are: (i) short life cycle - 4 months (ii) the nutritive value of millets with simple as well as complex carbohydrates

India is the major millet producing country contributing to 40% of the global production. . That is developing food safety and standards for all millets that are available in our country Framing Regulatory policy is equally important

Standards are developed by FSSAI and will be implemented from September of this year

He also stated an example. In Madhya Pradesh, a tribal man has saved a rare variety of pearl millet which was thought of being extinct 40 years ago. It was recently discovered only through a local fair

Dr Soumya Swaminathan, Chairperson, MSSRF

She highlighted the existing burden of undernutrition and increasing burden of over nutrition such as overweight, obesity, diabetes, hypertension etc. And the most important of all is the increasing burden of non-communicable diseases among poor people.

She also stated the importance of preventive measures for disease prevention and health rather than focusing on increasing the number of the hospitals. She also highlighted that less than 10% are consuming adequate fruits and vegetables.it could be due to lack of awareness and need a massive programme to bring behavioural changes. She also highlighted the need to include in school meals and Anganwadi centre and in tribal schools. Finally, keeping the health of the people in mind, along with promotion of well-being in order to develop and become economic superpower

Thiru R Sakkarapani, Honourable Minister for Food and Civil Supplies, Consumer Protection and Price Control, Govt of Tamil Nadu

He highlighted the current plans of TN government for promotion of food and nutritional security. He also highlighted the changed dietary and lifestyle pattern and insisted everyone to start following our traditional practice to effectively address diet related non communicable diseases such as diabetes, high BP and etc. Some of the initiatives stated,

Distribution of 2kg of Ragi by reducing 2kg of rice in order to promote millets consumption. From May 3rd, 2kg of ragi will be distributed to all card holders. Millets distribution though PDS is implemented only in two districts of Tamil Nadu mainly due to less production of ragi in Tamil Nadu. Even for these two districts, TN govt. procures ragi from Karnataka govt. for provision of ragi to Tamil Nadu

Tamil Nadu govt. has decided to distribute breakfast scheme from June 3rd for all schools. At present the construction work for building the facilities is taking place. In that atleast once a millet based food will be distributed. Similarly, govt. also has plans to distribute millet based food items once a week in noon meal programme as well to boost the consumption.

Govt. also has plans to substitute palm oil to coconut oil or groundnut oil to benefit farmers and promote better health. Govt. has also decided to provide subsidy for setting up the millet processing machine. At last, he stated that production is not sufficient to

distribute for all the districts. And Govt has plans to conduct awareness program at different levels to increase both production as well as consumption

Technical session

Dr M Vetriventhan, Senior Scientist (Genetic Resources), Genebank, ICRISAT

Highlighted that India is rich in wide variety of millets. He gave in-depth information on plant genetic resources, conservation methods, global status of species available for millets, genes and species biodiversity of millets

Dr Shobhana Shanmugam, Senior Scientist & Head, Department of Diabetes Food Technology, Madras Diabetes Research Foundation (MDRF), Chennai

Highlighted the difference between major and minor millets, status of millet production in India, the nutritional benefits of millets from photochemical and nutraceutical and functional foods point of view.

She stated that out of the commonly available millet varieties, pearl millet is rich in protein (16%), and ragi rich in calcium and so on. She stated that nutritional security is the major issue in India in market, though the consumption of millets is gaining importance, people must be made aware of the benefits of polished and unpolished millets. In market, polished millets are mostly available because of longer shelf life, but have limited nutrition as compared to unpolished one.

Some of the facts stated: India is the largest producer of millets and 5th largest exporter of millets. India is rich in intraspecific diversity and she also insisted the need to explore nutraceuticals in millets

Dr Raghuram, Technical Officer (Benefit Sharing), NBA

He taught the gallery gathering about the time period each different plastic article takes to get decomposed for example like, beer bottle takes 1000 years to get decomposed, one time use plastic will never get decomposed and baby diapers take 500 years to get decomposed. He stated that LIFE aims to nudge individuals and communities to practice a lifestyle that is synchronous with nature and does not harm it. Mission LIFE envisions three core shifts towards sustainability in a phase manner Phase I – Change in Demand, Phase II – Change in supply and Phase III- Change in Policy.

He spoke about circular economy which starts from Reduce-Recycle-Reuse-Regenerate-and Rotate. He highlighted the mission of LIFE as “within India at least 80% of all villages and urban local bodies are aimed to become environment friendly by 2028”.

He also addresses the gathering about the 75 Action plan for 75th Independence of India which can be achieved by changing individual lifestyle. He gave importance for saving energy, saving water, reducing food waste and encouraging tree plantation to be a Pro Planet People.

Dr G N Hariharan, Executive Director, MSSRF

He addresses the gathering about the importance of nutrition gardens and its necessity towards reducing malnutrition in India.

He insisted to promote the growth of locally available perineal crops that are rich in iron (moringa tree) to prevent Anemia as 53% of womens between 15 to 46 years of age were found to be Anemia in India.

Details of participants

A total of 360 participants participated in the event, with a total of 230 students from 13 colleges, Biodiversity management committee members, scientist and staff from NBA and MSSRF staff.

List of colleges

S. No	Name of the College	No of students	No of faculty
1	Anna University	20	-
2	Dr Ambedkar Government Arts College	32	2
3	Womens Christian College	10	-
4	Government Arts College for Men, Nandanam	5	-
5	Presidency College	28	1
6	Gurunanak College, Velacherry	38	5
7	Queen Marys College	7	-
8	CAS Botany, University of Madras, Guindy	25	2
9	National Institute of Siddha	17	2
10	SRM Institute of Science & Technology, Kattankulathur	6	1
11	Jeppiar Engineering College	23	2
12	Ethiraj College for Women	3	-
13	Sir Theagaraya College	1	-
		215	15

Transport

Transport facility was organised to pick and drop the students as well the faulty from their respective colleges

Awareness on the millet products

Two stalls with millet products was displayed for sale of millet value added products like processed millet grains of (i) Kelvaraghu, (ii) Samai, (iii) Varaghu and (iv) Thenai and other value added products.

Millet based lunch

The participants of the program were also provided millet based sack (Thenai Adhirasam- 3 piece each), and lunch of mixed millet based chapatti, Sami payasam and Varaghu curd rice. The students enjoyed the delicious millet food.

Participation Certificates

Certificate of participation was issued to the all the participants including the students, faculties and BMC members

Media coverage

- <https://www.thehindu.com/news/national/tamil-nadu/ration-cardholders-in-nilgiris-and-dharmapuri-to-get-ragi-through-pds/article66790412.ece>
- <http://dhakshinscreen.blogspot.com/2023/04/two-kgs-of-ragi-for-nilgiris-and.html?m=1#.ZEYzGEZFUUg.twitter>
- <https://www.maalaimalar.com/news/district/minister-sakkarapani-says-two-kg-ragi-for-ration-card-holders-in-nilgiri-and-dharmapuri-districts-from-may-602634?infinite-scroll=1>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1920618>
- <https://planet.outlookindia.com/news/a-life-initiative-to-create-awareness-and-promote-millets-among-students-and-farmers-news-415179>

April 2023

Championing the intake of millets for better nutrition

The M S Swaminathan Research Foundation joins hands with government bodies to revive the popularity of the nutrient-dense millets, varieties of which are known to have been cultivated even during the Indus Valley Civilisation

A campaign under the Life-style for Environment and back yard Kitchen millets among students, farmers and biodiversity management committee members, was recently inaugurated at the M S Swaminathan Research Foundation (MSSRF), Chennai. The programme was organised by the National Biodiversity Authority (NBA) in collaboration with MSSRF. The LIFE initiative was introduced by Prime Minister Narendra Modi at COP 26 in Glasgow in November 2021, a press release from the MSSRF said.

Dr Soumya Swaminathan, chairperson, MSSRF, spoke about the increasing undernutrition, obesity, and as non-communicable diseases like diabetes, hypertension, etc, among urban and rural populations in India. Emphasising the importance of a balanced diet, she said a recent survey by the National Institute of Nutrition showed that only around 10 per cent of Indians eat the recommended amount of fruits and vegetables. "The problem of inadequate diet is not only relevant to the poor, but also to the middle and upper classes of society, and therefore massive programmes on food and nutrition awareness are required to bring about behavioural change," she noted.

Tamil Nadu Minister for Food and Civil Supplies, Consumer Protection and Price Control, who inaugurated the campaign, highlighted the government's initiatives to ensure food and nutritional security by introducing two kgs of Finger millet (ragi) in the public distribution system (PDS) from May 2023, in the Nilgiris and Dharmapuri

Districts. "We will now plan to include at least one millet-based meal per week under the ICDS, mid-day, school and breakfast scheme," he added.

NBA Chairperson Achalender Reddy IFS (retd) enumerated the nutritional properties of millets and pseudo millets, and stressed that biological conservation is essential to prevent not just biodiversity loss, but also to protect food species (especially millets) from disappearing in India.

On the occasion of World Environment Day, on 5th June 2022, India furthered the vision of LIFE by launching the LIFE Global Movement, envisioning a circular economy by making mindful choices in everyday activities, and promoting a sustainable way of living to balance the needs of the present generation with those of the future. Also, the United Nations, at the behest of the MSSRF-initiated research and development work on millets in the mid-1990s in the

(Kharai, Sawa) and Little millet (Kutki).

Millets are grown in over 130 countries at present and are considered traditional food for more than half a billion people across Asia and Africa. They are deeply rooted in indigenous peoples' culture and traditions and help guarantee food security. Rich in B vitamins like niacin and thiamine, millets are a nutrient dense alternative to rice. One cup of cooked millet contains 12 percent of the recommended daily allowance of protein and is loaded with manganese and phosphorus. Millets are also low glycemic and gluten-free. In addition to a plethora of health benefits, millets are also good for the environment as they have low water and input requirements. They are valued for their climate resilience and are recommended in rain-fed agriculture systems and hill agriculture.

The MSSRF-initiated research and development work on millets in the mid-1990s in the Eastern Ghats, the press release said. Activities involve a holistic value chain approach from farm to fork, addressing interconnected aspects of conservation, cultivation, consumption and marketing of millets. Farmers were encouraged to conserve and cultivate diverse landraces of millets under different cropping systems and through a blend of traditional and modern practices.

MSSRF has helped farmers' organisations and self-help groups to establish locally suitable processing initiatives, and also provided training on value-addition to millets in the Kollu Hills of Tamil Nadu, Koruput of Odisha, and the Mandla and Dindori regions of Madhya Pradesh. It has also shared the best practices with constituency partners in similar ecological regions in the country to conserve and promote nutritious crops.

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(Courtesy: MSSRF)

From paddy to palm oil...

(Continued from page 6)

apet and other parts of Telangana mostly use their wells to irrigate their oil palm fields. Thakker said that the government needs to regulate the use of groundwater resources like wells and tubewells to make the farming sustainable.

Whenever there is availability of groundwater, there is an increase in the number of tube wells and mills. It is a slow poison and it takes time to show alarming impacts. The groundwater use needs to be regulated at the local level. There needs to be more groundwater recharge. The better way for the government is to go for decentralised rain water harvesting systems. Since the rainfall is good in Telangana, this is a much better option."

Ramamanyulu G.V., an agricultural scientist at the Hyderabad-based Centre for Sustainable Agriculture said that Andhra Pradesh tops the list of oil palm production in the country due to the favourable conditions it offers, unlike Telangana. "If you see Andhra, most of the

oil palm plantations are spread in coastal belts of the state because it requires moisture. In Telangana which is an arid region, there is less moisture and dry weather. In such conditions, the yields are likely to be lower and also in future the farmers could face problems due to low yield in case of other problems like lack of water for irrigation. As these are long gestation period crops, this could harm the state more than benefiting it," he said.

Ramamanyulu added, "Two years back the same thrust was given by the government for farmers on increasing paddy cultivation when irrigation in the state increased and now the focus has shifted towards oil palm. State should not push for a particular crop and let the farmers make their own choice. When the state pushes, it is the seed suppliers who make more incomes than farmers. It happens all over."

(Courtesy: Anandhy India)

Photo: MSSRF

A millet lunch on display from the farmers of Kollu Hills, Tamil Nadu.

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Inaugural session



Visit to the stall exhibit with different types of millet



Millet lunch

