

Introduction

The COVID-19 pandemic had spread rapidly and extensively across the world since later part of 2019 had significant implications for food and nutrition security. The crisis as it unfolded had affected food systems and threatened people's livelihoods, limited access to food due to limited income opportunities. A largescale disruption of food supply due to extensive lockdowns imposed by various governments fearing the global health crisis, has led to global economic slowdown. These snowballing effects stalled the global efforts to meet the “Zero Hunger” slogan as part of Sustainable Development Goal 2. Most health analysts predict that this virus will continue to circulate for a least one or two more years thus, the food and nutrition security concerns continue for virus is contained and sometime beyond 2 years until economic, livelihood and health recoveries are possible. It is vital that the global community continue to monitor the situation closely, respond in necessary ways to avert the worst outcomes with respect to food security and nutrition, and carefully consider how to build more resilient food systems and ensure the right to food, in order to achieve SDG 2.

Over the last 3 decades, we have been witnessing the global warming and the scientists working on the global warming are predicting the impacts on food and nutrition security. While there has been a significant impact on the food production as the temperature rises and other related environmental parameters (such as water availability, frequent flood and drought, sea level raise etc.) also impact food production, nutrition requirements of the human and livestock, ultimately leading to crises of food and nutrition. The pandemic may raise the risk of funding priority from climate change and environmental concerns such as biodiversity loss, which can affect longer-term sustainability in the food system. The longer-term viability of food systems is also affected by the social and economic losses, the shift in production modalities and the loss of jobs and livelihoods that resulted from the pandemic. Thus, there is serious threat looming large both on human health systems and natural ecosystems as well. Therefore, in the context of COVID-19 pandemic and environmental change both impacting the food and nutrition security, we need a holistic view on how the dual problems needs to be addressed.

In this background, this consultation is organized to understand the impacts of COVID-19 Pandemic and environmental change and attempt to find food and nutrition security concerns addressing human livelihoods aspects. There is an immediate need to address policy and practices aiming to improve the human health and ecosystem health. We take a view that conservation and review of wild and forgotten foods; improving fruit and vegetables (both in wild and domestic settings); various underutilized cereals and millet; other non-conventional food sources; marine and fisheries sources etc., can aid improving human health and nutrition. Such measures may be more economical in terms of production and in addition may have less carbon footprints tackling global environmental change. Through these deliberations, we aim to address diverse food and animal sources to improve food and nutrition security to improve human health. The consultation is directed at problem solving approaches involving researchers of national and international repute developing consensus on the policy and practice of improving food and nutrition security in the wake of COVID-19 pandemic and climate change.

PROGRAM SCHEDULE

AUGUST 6, 2021

Session 1: Opening Session

11:00–11:03	Tamil Thai Vazhthu	
11:03–11:06	Welcome Address	Dr Madhura Swaminathan Chairperson, MSSRF
11:06–11:10	MSSRF Annual Report Presentation	Dr K S Murali Executive Director, MSSRF
11:10–11:13	Presidential Address	Prof M S Swaminathan Founder Chairman, MSSRF
11:13–11:21	Felicitations	Mr Gernot Laganda Chief of Climate Disaster Risk Reduction Program, United Nations-World Food Program Bangkok Dr Soumya Swaminathan Chief Scientist, World Health Organization Geneva, Switzerland Dr Jacqueline d'Arros Hughes Director-General, International Crops Research Institute for the Semi-Arid Tropics, Hyderabad Mr N Ram Chairman, The Hindu Group Former Trustee, MSSRF
11:21–11:41	Inaugural Address & Release of 2020-21 Annual Report	Thiru M K Stalin Honourable Chief Minister of Tamil Nadu
11:41–11:43	Vote of Thanks	Dr R Rengalakshmi Director, Ecotechnology, MSSRF
11:43–11:45	National Anthem	
11:45	High Tea	

AUGUST 9, 2021

9:30 am – 11:00 am	Session 2: Climate Change and Nutrition Security – Emerging Challenges
<p>While there is a significant body of knowledge on climate change and food production in India, much less is known of the impact of climate change and climate extremes on nutrition. Policy making is made more complex by the uncritical import of frameworks from other contexts, that do not address the socio-economic realities of the Indian setting, notably the continued prevalence of hunger and under-nutrition, the co-existence of under and over nutrition, and the severely low levels of animal protein consumption. From the perspective of equity what should be our response to this global debate? Given the right of developing countries to differentiation with respect to climate change mitigation, what should be the Indian response to this global climate policy debate on diets? Has nutrition policy in India been driven by a misplaced emphasis on cereals and non-flesh food sources of proteins, albeit for apparently scientific reasons? If so, how can this be set right, at a time when sustainability concerns have heightened the pressure on curtailing the production of flesh food? What is the role of the ocean as one of the elements of food security? While some answers to these questions may be available, what are the important questions and challenges, in theory and in practical implementation, that we need to act upon as we go ahead? These questions will be explored in this thematic session.</p>	
<p>Chair:</p> <p>Prof B Venkateswarlu Former Vice-Chancellor V N Marathwada Agricultural University, Parbani Member, GEAC, MoEFCC Co-Chair DBT 'Task Force' (TEC) on Agri Biotechnology</p> <p>Session Coordinators:</p> <p>Dr T Jayaraman Dr R Ramasubramanian Dr S Velvizhi</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr Revati Phalkey Health and Climate Change Unit, Public Health, England & Prof Kathryn Bowen Deputy Director, Melb Climate Futures, Law Division • Dr Sylvia Karpagam Public Health Doctor • Dr Sreeja Jaiswal Climate Change, MSSRF • Ms Julia Goette Agriculture, Policy and Food and Nutrition Security GIZ, Bonn, Germany
11:30 am- 12:30 pm	Special Lecture: Food Security of Coastal Communities by Sustainably Managing Ecology of Coastal Areas
<p>Chair:</p> <p>Dr Madhura Swaminathan Chairperson, MSSRF</p>	<p>Speaker:</p> <p>Dr Shakuntala Haraksingh Thilsted World Fish, World Food Prize Laureate 2021</p>
1:30 pm – 3:00 pm	Session 3: Contributions of Fisheries in providing Food and Nutrition Security
<p>The fisheries and aquaculture sector are one of the very important sectors providing highly nutritive and affordable food besides being a foreign exchange earner in many countries. Globally about 60 million people are directly involved in this sector and most importantly, it is the source of livelihood for a large section of economically vulnerable communities. In addition, this sector also provides large employment opportunity in the allied sectors like aquaculture feed production, shell fish and fin hatchery, processing,</p>	

transport and marketing. Fisher women play a significant role throughout the fish value chain. Fish and fish products are some of the healthiest foods on the planet and also as some of the least impactful on the natural environment. For these reasons, they are vital for national, regional and global food security and nutrition strategies, and have a big part to play in transforming food systems and eliminating hunger and malnutrition. The issues such as discharge of untreated pollutants, unsustainable harvest of fisheries and the impacts of climate change will have a huge impact on both the fishers as well as the consumers in the years to come. This session will highlight the issues of this sector and provide some of the viable technical as well as policy options to overcome the crisis.

<p>Chair:</p> <p>Dr A G Ponniah Former Director Indian Council of Agricultural Research-Central Institute of Brackishwater Aquaculture</p> <p>Session Coordinators:</p> <p>Dr R Ramasubramanian Dr S Velvizhi Dr T Jayaraman</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr S Velvizhi Principal Scientist, MSSRF • Dr Rohana Subasinghe Senior Consultant, World Fish Centre • Dr Imelda Joseph Head, Mariculture Division, Central Marine Fisheries Research Institute • Dr Nikita Gopal Principal Scientist, Central Institute of Fisheries Technology
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3:30 pm – 5:00 pm	Session 4: Food and Nutrition Security in the Context of COVID-19
<p>Since the first incidence in March 2020, the COVID-19 Pandemic in India and various other countries has worsened food and nutrition security and reversed the trend of improvement over the last few decades. The impact of COVID-19 is expected to continue for a few more years in many parts of the world. Food insecurity worsened as livelihoods collapsed. There were direct effects too as food supply chains were disrupted affecting food availability and prices. This session will explore the ways in which food and nutrition insecurity have worsened, bringing out inequalities in the impact of the pandemic. The experts will also discuss measures needed in the short, medium and long term to address the observed food insecurity among the most vulnerable.</p>	

<p>Chair:</p> <p>Dr Madhura Swaminathan Chairperson, MSSRF</p> <p>Session Coordinators:</p> <p>Dr E D Israel Oliver King Dr R Gopinath</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr Maximo Torero Cullen Chief Economist, Food and Agriculture Organization, Rome, Italy • Dr Truong Tuyet Mai Vice-Director, National Institute of Nutrition, Vietnam • Dr Maria Isabel Andrade World Food Laureate, International Potato Centre, Peru • Dr R Ramakumar Professor, Tata Institute of Social Sciences, Mumbai
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UN INDIGENOUS DAY SESSION

5:30 pm – 7:00 pm	Session 5: Expanding Sustainable Food System for promoting Biodiversity, Dietary Diversity, Nutritional Security and Cultural Heritage
<p>The aspects of culture, dietary diversity, and diversity of crops are critical in the era for developing COVID-19 food systems that ensures healthy diets, better nutrition, environmental security and sustainable livelihoods. The linkage between nutrition and immunity and the role of healthy food and sustainable environment for a healthy life has suddenly been recognized in global pandemic time. Food is the best example of linking nutrition, health and environment. Worldwide, there are over 30,000 plant species including fruits and vegetables known to human societies, but most of these species remain neglected under-utilized (NUS). MSSRF's studies in Wayanad in Kerala, Koraput region of Odisha and Kolli hills of Tamil Nadu have shown there are over 500 species of plants used by local and tribal people as food. MSSRF have live collections of many wild foods in its Botanic Gardens. Wild food is an excellent candidate for developing functional health value cuisines. Unfortunately, biodiversity and the culture heritage in the dietary diversity has not been recognized or valued. There is an immense potential for developing NUS/Wild foods as naturally bio-fortified foods for addressing malnutrition. Although, developing sustainable value chain for the mainstream foods is popular, similar efforts for wild food or under-utilized fruits and vegetables is challenging one. In this session, Global thought leaders, Scientists and Practitioners discusses the challenges, opportunities and processes needed for promoting NUS of tropical wild foods, fruits and vegetables. The science, practices and policies of developing a sustainable food system model will be discussed thus attract policy attention.</p>	
<p>Chair:</p> <p>Dr Vincent Darlong Vice-Chancellor, Martin Luther King Christian University, Shillong, Meghalaya</p> <p>Session Coordinators:</p> <p>Dr E D Israel Oliver King Dr V Shakeela</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr N Anil Kumar Senior Director, MSSRF, Kalpetta, Wayanad, Kerala • Dr Teresa Borelli Programme Specialist, Bioversity International and International Center for Tropical Agriculture and Member of the International Year of Fruits and Vegetables 2021 Board & Dr Danny Hunter Senior Scientist, Bioversity International and International Center for Tropical Agriculture • Dr Ramakrishnan M Nair Regional Director, South and Central Asia, World Vegetable Centre • Dr Bharati Kulkarni Head of Department (Clinical Division), National Institute of Nutrition, Hyderabad • Dr Pharang Roy Coordinator, Indigenous Partnership, Rome

AUGUST 10, 2021

9:30 am – 11:00 am	Session 6: Policies to Nutrition Security of Women and Children
<p>Supplementary Nutrition Programme under the Integrated Child Development Services (ICDS) and Mid Day Meal Scheme are important programmes in providing nutrition to women and children. These programmes are largest of their kind globally in terms of numbers catered to and are legal entitlements following the enactment of the National Food Security Act in 2013. The SNP target protein and micronutrient deficiency. With both ICDS centres and schools closed since the declaration of lockdown, this source of one nutritious meal to children has been affected. It is expected that nutrition status of children will be badly affected as a result. This session analyses the importance and role of SNP during the pandemic at global, national and regional level.</p>	

<p>Chair:</p> <p>Dr Bishow Parajuli Country Director, World Food Program, India</p> <p>Session Coordinators:</p> <p>Dr R Gopinath Dr R Rengalakshmi</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr Donald Bundy Professor, London School of Hygiene and Tropical Medicine, & Director, Global Research Consortium for School Health and Nutrition • Dr Reetika Khera Associate Professor, Indian Institute of Technology, Delhi • Dr Shariqua Yunus Khan Head, Nutrition and Health, World Food Program, India • Dr Arlene Mitchell Executive Director, Global Child Nutrition Foundation, USA • Thiru Shambhu Kallollikar, IAS Principal Secretary, Department of Social Welfare and Women Empowerment, Government of Tamil Nadu
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11:30 am - 01:00 pm	Session 7: Needed Policy Changes for India and South Asia to improve Nutritional status of Children and Women
<p>According to the United Nations, there has been a dramatic worsening of world hunger in 2020 due to the COVID-19 pandemic, the impacts of which are yet to be fully understood. A recent joint report by many global agencies suggest that around a tenth of the global population were undernourished last year. Hence, the effort to honour the pledge to end hunger by 2030 becoming much more challenging. A multi-level policy framework of action is necessary to ensure optimal nutrition intake during the pandemic. This will ensure the respective national government's state of preparedness. The speakers of this session will share their experience and learnings to develop needed policy changes for India to improve nutritional status of children and women.</p>	

<p>Chair:</p> <p>Dr Soumya Swaminathan Chief Scientist, World Health Organization, Geneva, Switzerland</p> <p>Session Coordinator:</p> <p>Dr G N Hariharan</p>	<p>Speakers:</p> <ul style="list-style-type: none"> • Dr Renu Swarup Secretary, Department of Biotechnology, Government of India, New Delhi • Dr Vinod K Paul Member, Niti Aayog, Government of India, New Delhi • Dr Gagandeep Kang Professor of Microbiology, Christian Medical College, Vellore, Tamil Nadu • Dr Kaosar Afsana Professor, BRAC James P Grant School of Public Health, BRAC University, Bangladesh
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	<ul style="list-style-type: none"> • Mr Zitouni Ould-Dada Deputy Director, Food and Agriculture Organization, Rome, Italy • Mr Arjan De Wagt Chief of Nutrition, United Nations International Children's Emergency Fund, India
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2:00 pm – 3:30 pm	Session8: Panel Discussion on Nutrition Security and Gender Equality
<p>The COVID-19 pandemic has changed women's lives in many areas, and adverse impacts are observed specifically in the areas of agriculture, employment, income, access to markets, health care, mental health, household maintenance, burden of childcare and other care work. The prolonged lockdown and restrictions on the movement of people have disrupted food production systems and value chains, with negative impacts on small holder livelihoods and household food and nutrition security. Although both men and women have been affected, women face greater barriers to recovery, given their lower access to productive resources and services including credit, land, knowledge, skills and information, alongside greater responsibilities for care at the household and societal levels as a result of the pandemic.</p> <p>In this context, to nurture the exchange of ideas between researchers and the media, and to ensure a reporting of rural realities, especially in the vernacular languages, the Mina Swaminathan Media Fellowship was established by the Foundation. The 2020 fellowships focused on the gendered impacts of COVID-19 in three states of India – Tamil Nadu, Kerala and Odisha.</p> <p>This session will highlight some of the insights captured by the fellows in their articles, with discussion and responses on these issues by policy-makers, researchers and development practitioners. We hope that the discussion will contribute to the development of strategies by policy makers and practitioners for strengthening women's voice and gender relations by ensuring livelihood, food and nutrition security among poor households.</p>	

<p>Chair:</p> <p>Mr N Ram Chairman, The Hindu Group</p> <p>Session Coordinators:</p> <p>Dr R Rengalakshmi Prof Nitya Rao</p>	<p>Introduction about the Fellowship: Dr R Rengalakshmi</p> <p>Field Stories from Media Fellows:</p> <ul style="list-style-type: none"> • Ms Nandhini Vellaisamy Tamil Nadu • Ms Jomol Jose Kerala • Mr Shreekanta Sahoo Odisha <p>Panel Members:</p> <ul style="list-style-type: none"> • Dr Ravula Padmaja Senior Scientist, International Crops Research Institute for the Semi-Arid Tropics, Hyderabad • Ms Anu Garg, IAS Principal Secretary to the Government of Odisha, Department of Women and Child Development and Mission Shakthi • Ms Reema Nanavaty Executive Director, Self-Employed Women's Association, Ahmedabad • Prof Nitya Rao Gender and Development, University of East Anglia, UK
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4:00 pm – 6:30 pm	Concluding Session
<p>Chair:</p> <p>Dr Madhura Swaminathan Chairperson, MSSRF</p> <p>Session Coordinators:</p> <p>Dr M M Hossain Dr N Parasuraman</p>	<p>Plenary - Presentation of Conclusion from 8 Sessions: Dr K S Murali</p> <p>Speakers:</p> <ul style="list-style-type: none">• Tmt Supriya Sahu, IAS Principal Secretary to the Government of Tamil Nadu, Department of Environment, Climate Change and Forests• Thiru C Samayamoorthy, IAS Agricultural Production Commissioner and Secretary to the Government of Tamil Nadu, Department of Agriculture and Farmers Welfare• Shri Raj Kumar Sharma, IAS Agricultural Production Commissioner-cum-Additional Chief Secretary to the Government of Odisha <p>Observations from Prof M S Swaminathan</p> <p>Vote of Thanks</p>



M S Swaminathan Research Foundation
3rd Cross Street, Taramani Institutional area
Taramani, Chennai- 600113
www.mssrf.org