

# SYNERGY

Quarterly publication from M S Swaminathan Research Foundation



## INSIDE

2



Focussed policies recommended for achieving food and nutrition security

2



Pakistan Agri University Honours Prof. M S Swaminathan

3



Discussing the Ethics and Politics of Science

3



MSSRF bags mBillionth South Asian award

4



Promotion of Single Women Collectives and Access to Productive Resources for Livelihoods

5



Cooking gas and bio fertilizer from household waste

6



Fighting Hunger - People's Action for Addressing Hunger and Undernutrition

7



A step ahead, to end hunger



Delegates at the inaugural session of IYFF 2014 release the MSSRF Annual Report 2013-14

## “Chennai Declaration” Calls for National Action Plans for “Zero-Hunger”

For every 8 people in the world, one person goes to bed hungry. However, it is not about statistics but about importance to every individual to ensure that we achieve the “Zero Hunger Challenge”.

Experts at the Asia-Pacific Consultation on “Family Farming” called for speedy launch of National Action Plans by countries in the region to rid the world of hunger, while issuing the “Chennai Declaration”. The “Asia-Pacific Consultation on Achieving the Zero Hunger Challenge” at M S Swaminathan Research Foundation, from August 7 – 10, brought together the largest gathering of ministerial delegates, diplomats and academicians from across the world, in recent times.

Speaking on the inaugural day, Thiru Agri S S Krishnamoorthy, Agriculture Minister, Government of Tamil Nadu shared the recent progress made by Tamil Nadu in agriculture. However, the agriculture share in GDP had declined to 21% from 34.8%. “There is crisis with regard to eradication of hunger and poverty and urgent need to raise the level of livelihood of our farmers.”

President IFAD (International Fund

Agriculture Development) Dr Kanayo Nwanze said, “There is need for policy makers to support family farming, policy changes to make family farming more attractive and secure and to recognize that farming on any scale, is a business.”

Ms Ertharin Cousin, Executive Director, World Food Programme, emphasized the hunger challenge and how over 550 million people go to bed, hungry across the world. Giving background information to the status of the role of women in agriculture, Dr Rebecca Travers, Regional Representative Asia-Pacific UN Women, said “Hunger deficit may be the greatest challenge of this era. Empowering women, including women family farmers to access their rights could go a long way in Just closing the gender gap alone, could feed 130 million people and help us move closer towards Freedom from Hunger.”

Dr H Konuma, Regional Representative, FAO (Food and Agricultural Organization), Asia-Pacific Region, appealed to countries in the region for their commitment to work towards the national action plans. “It is not about percentages any more but about the number of people in the 12% of Asia Pacific Region who are most vulnerable,”

said Dr Konuma.

Chairperson, MSSRF Dr Madhura Swaminathan reiterated this saying, “Individual well-being needs to be the focus.”

In his concluding remarks, Professor M S Swaminathan referred to the 5C approach in the Chennai Declaration. “Conservation, cultivation, consumption, commerce and communication in addition to the right combination of political will, determination and professional skill would help us further on the pathway towards the Zero Hunger Challenge. In addition, the family farmers should have technological, social and political empowerment.”

The Chennai Declaration was finalized in consultation with partners of the conference Food and Agriculture Organisation (FAO), International Fund for Agriculture Development (IFAD), International Development Research Centre (IDRC), Canada, World Food Programme (WFP), Department for International Development (DFID) UK, UN Women, Small Farmers’ Agribusiness Consortium other national and international agencies to facilitate national policy level changes towards achieving Zero Hunger.

## Addressing Gender inequality key to achieving development

When Pratishtha Prakash Bhare, woman farmer from Maharashtra spoke she needed a translator for the 300-plus international audience to understand. However, what she said about overcoming the challenge she faced in being a woman farmer, was however, the highlight of the session on “Gender Relations and Family Farming” during the Asia Pacific Consultation on Achieving the Zero Hunger Challenge, being held at MSSRF.

Pratishtha’s message on starting the change from within the family to create

a change in the community rang loud in a session that emphasized the importance of focusing on women as key agents of development in rural India. According to an IFAD report, agriculture and related sectors employ more than 90 per cent of the total female labour force.

Highlighting the need to address gender inequalities especially in the context of achieving food security, Dr Kanayo F Nwanze, President IFAD, said that “evidence clearly shows that when women have money, they spend a large proportion

of it on improving family nutrition and well-being - whether that means school fees, healthcare or adequate clothing.”

Emphasizing the role of women as agents of change, agents of development and their empowerment can contribute towards building a more equitable and secure world, said Professor M S Swaminathan who called for the need for a separate policy to address the rights of women farmers. “The physical labour of women has been noticed, but very often their intellectual ability or contribution goes unrecognized. There is need to recognize their intellectual contribution and address this inequality, to address food and nutrition security.”

Professor Nitya Rao, University of East Anglia and Gender expert, called for the need to bring out the 3 Rs in “Recognizing women and men as equal partners in family farming, Redistributing resources across genders, Representation and Voice in Decision making” ensuring gender equity.



Dr Kanayo Nwanze, President, IFAD speaks on gender at the IYFF Conference

Jean D’Cunha, UN Women spoke about the prevalence of violence against women across the region and its implications on the safety of women and on their ability to engage in economic activities or public life. Govind Kelkar, Landesa elaborated on the gender-specific barriers to women’s ownership of land and assets and on what could be done to reduce the gender differences in agricultural productivity. Kalpana Sharma, columnist and writer on gender issues moderated the panel, highlighting the need to not only sustain but ensure there was no dilution in carrying the gender agenda forward.



Farmer Pratishtha Prakash speaks during the panel discussion on Family Farming and Gender Relations at IYFF 14



## Focussed policies recommended for achieving food and nutrition security

Experts during consultation on “Alleviating Poverty and Malnutrition” project advocate for effective millet management in PDS



Delegates during the APM consultation on Nutrition Security at New Delhi

Sometimes the simplest of solutions can have the most effective results for nutrition. One such low-cost mechanism was use of pedal pumps for raising vegetable gardens among 400 small and marginal tribal farming communities in Odisha. These pumps were introduced as part of the Alleviating Poverty and Malnutrition (APM) Project in 2011, whose results are now visible. Seasonal vegetable production grew by 156%, household consumption of vegetables by 109% while reducing the time spent for irrigation by 40%. Moreover, the participation of women increased by 101% as drudgery-reduction attracted more of them into the activity.

This was one among various studies and research outcomes shared during the National Consultation on “New Opportunities for Nutritious Foods and Climate Smart Agriculture” in Delhi on August 21st during which stakeholders from Government, development and multilateral agencies participated.

APM (Alleviating Poverty and Malnutrition in Agri-Biodiversity Hotspots of India) project funded through IDRC-CRDI and DFATD in Canada is implemented jointly by M S Swaminathan Research Foundation (MSSRF) and the

University of Alberta. It aims to address issues related to small-holder and family farmers for moving towards food and nutritional security through sustainable agricultural practices. The project focus is on rural communities in three sites in India (Odisha, Tamil Nadu and Kerala) to apply knowledge gained in these three agrobiodiversity hotspots, more broadly across India and other regions.

Delivering the Inaugural Address at the consultation in New Delhi, Dr. Peter Kenmore, FAO Representative in India, spoke about the importance of traditional and local knowledge. “The local wisdom is as rich a source of scientific knowledge as that of researchers. We need to tap this traditional and local knowledge.”

Dr J S Sandhu, Agriculture Commissioner, Government of India, spoke about the waning interest in millets. “In spite of the prediction of deficit monsoon, the area under cultivation of millets is declining, though they require less water”. He spoke about various efforts being taken by Government of India in the area of millets under the Food Security Mission.

The APM project has been addressing the agriculture-nutrition disconnect, to recommend interventions for scaling up and for appropriate public policy. The research outcomes range from increasing farm productivity, enhancing food and nutrition security, enhancing farm livelihood diversification options and use of ICT for increasing development impact, to capacity building of community-based institutions for sustainability.

At the close of the consultation, the group came up with a set of recommendations for “pathways to food and nutrition”. These are:

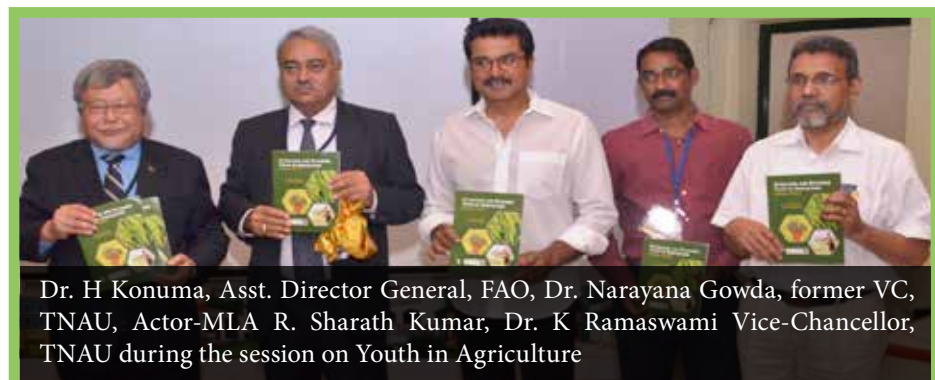
- Advocate for promotion of nutritious millets in the Public Distribution System (PDS) and among the general population for food and nutritional security.
- Ensure effective procurement and distribution of millets in the PDS
- Ensure effective extension in site-specific ways through public, civil society organizations and community-based institutions
- Identify and reduce gender, social and economic barriers related to productivity enhancing initiatives in agro biodiversity hotspots
- Recognize importance of agro-biodiversity in conditions of climate change and provide financial and other support to farmers for nutritious underutilized crops
- Ensure access to appropriate seeds for home gardens through PDS to ensure that home gardens with benefits nutrition function effectively
- Systematize regular and age-appropriate nutrition and gardening education through schools and through community-based adult education
- Promote and support better access to water including water harvesting systems to increase availability of vegetables and fruits
- Ensure appropriate nutrition training and education for service providers and communities and employ tools to assess key nutritional quality indicators
- Expand use of technology for community-specific agricultural information dissemination through public and civil society organizations
- Build a mechanism for community based organizations to work effectively with other organizations to problem solve, discuss and identify best practices

These recommendations will be taken up through focused discussions with specific Government departments concerned.

Dr. Sara Ahmed, Senior Programme Specialist, IDRC, Prof. Ellen Goddard, University of Alberta, Dr. Ajay Parida, Executive Director, MSSRF, Mr. M P Vasimalai, Executive Director, Dhan Foundation, Dr. Toben Due, Country Director, World Food Programme (WFP), India, participated and provided inputs during the consultation.



## Create a farmer in every home



Dr. H Konuma, Asst. Director General, FAO, Dr. Narayana Gowda, former VC, TNAU, Actor-MLA R. Sharath Kumar, Dr. K Ramaswami Vice-Chancellor, TNAU during the session on Youth in Agriculture

In a situation, where less than 20% of youth are involved in agriculture, making farming financially viable and attractive to youth, is the key to attracting them, said experts at a consultation during the IYFF conference at MSSRF. Receiving the first copy of the book “Attracting and Retaining Youth in Agriculture” actor Mr R Sarath Kumar, called for the need to bring about reverse migration from urban to rural India. “We need to create a farmer in every home, to make agriculture sustainable. Youth have to be attracted in a number of different ways and farming needs to be remunerative and sustainable. Let us also make agriculture colourful so everyone will be interested,” said the actor.

Dr H Konuma, Assistant Director General, FAO (Food Agriculture Organization), Asia who released the publication, said, “We expect a lot from the youth both in terms of production as well as research. They are going to be the future leaders of agriculture.”

Dr Ajay Parida, Executive Director said it was unfair to expect youth to enter

agriculture unless it was attractive to them. “We should not ask how to attract youth, but first we should do some ground work to make it attractive to them. We were taken aback when a young farmer asked us why can’t we make tractors air conditioned? A change in mindset is required. Each scientist should create a farmer, not just talk about it.”

The session was chaired by Vice Chancellor Tamil Nadu Agriculture University, Dr. K Ramasami. Prof. Dr. Narayan Gowda, Former Vice-Chancellor, was the lead speaker on the occasion while Abdul Rashid Hakimi, VC Afghanistan National Agriculture Sciences and Technology University, Afghanistan, Jeevan Karuppannan, Professor Malaysian Agriculture University also participated.

Speakers emphasized the importance of investing in rural areas and utilizing technology for dry lands where paddy or wheat need not be the only crop.

More than half of Tamil Nadu’s population of 7.2 crore people, is below the age of 30.

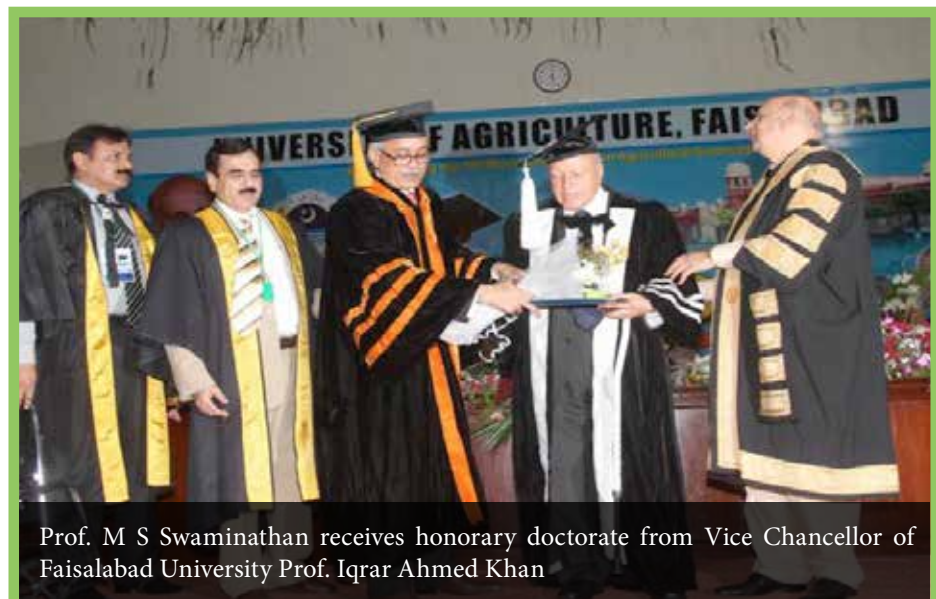
## Pakistan Agri University Honours Prof. M S Swaminathan

Prof. M S Swaminathan has been honored by the University Of Agriculture, Faisalabad, with a Science doctorate, for his contribution in farm research and allied areas of plant-breeding, genetics, biodiversity and ecological studies. University of Agriculture, Faisalabad, Pakistan, is the oldest agricultural university in the sub-continent and it has been ranked among the 100 top universities of the world.

While receiving the award, Prof. M S Swaminathan urged universities to promote an Evergreen Revolution in major crops. “By marrying political will and professional skill and farmer’s toil, we can meet successfully the Zero Hunger Challenge of the United Nations by 2025,” said Prof. Swaminathan. He

also emphasized the need for conducting programmes rooted in the principle of ecology, economics, gender and social equity, employment and energy.

Praising the Vice Chancellor Prof. Iqar Ahmed Khan who unveiled his vision 2030, Prof. Swaminathan said that “the vision will help Pakistan to make progress in achieving the Evergreen Revolution (i.e. increasing productivity in perpetuity without ecological harm) on the one hand and the nutrition sensitive agriculture, on the other. It will also enable the country to meet challenges arising from climate change through the Scientific Checkmating of the adverse impact of higher mean temperature, reduced and uncertain precipitation and higher sea level,” added Prof. Swaminathan.



Prof. M S Swaminathan receives honorary doctorate from Vice Chancellor of Faisalabad University Prof. Iqar Ahmed Khan



## Discussing the Ethics and Politics of Science



Union Minister for Urban Development and Parliamentary Affairs Shri. Venkaiah Naidu, releasing the book *The Ethics and Politics of Science* at New Delhi

M S Swaminathan, in conversation with Nitya Rao – *The Ethics and Politics of Science* explores the inter-relationship between science, humanity and policy through conversations between Professor M S Swaminathan and his daughter Dr Nitya Rao (Professor of Gender and Development, University of East Anglia, UK) in May 2014. Shri Venkaiah Naidu, Hon'ble Union Minister released the book at the India International Centre, New Delhi on 10th September 2014

The book traces the journey of India, from ship-to-mouth to achieving self-sufficiency in food production and passing of the India's Food Security Bill that gives legal right for access to food. The book touches upon from the practical experience of Prof. Swaminathan various pathways of politics and economics of seeds; social, demographic and gender dimensions of science and technology, changes in agricultural research strategies to scientific temper and shaping public

policy. Introspective, reminiscent, analytical and also historical – the book offers an insight into the core philosophy, thoughts and ideals that shaped the scientific and humanitarian journey of Professor M S Swaminathan.

Talking about the struggle of the early 1960s, with the threat of famine looming, Professor Swaminathan recalls the numerous trips and persuasive efforts required to enlist farmers into utilizing new quality seeds and others who supported these initiatives in the book. He opines “whether it was a student, a scientist, or a research assistant, it didn't matter. It was what I called a symphony, everybody had a role to play and they all came forward together and put their heart and soul into the work. Today when I look back, I don't know how it happened, but the fact remains that the success was because of the enormous enthusiasm of scientists and farmers, of students and staff.”

Professor Swaminathan goes on to

say “What we need is leadership at two levels, scientific leadership and political leadership supportive of science... We too need a positive attitude, the self-confidence and determination to confront the challenges facing us today.”

Focusing on strengthening public sector research Professor Swaminathan emphasises that “Rather than imitating the private sector, there should be a clear agenda for public good research, an agenda for small farmers, which identifies the challenges they face and responds to it. This social and ethical dimension should be ingrained in public good research. Unfortunately, this is by and large missing today.”

The book presents a rare and deep insight into one of the greatest minds of the era – of a person referred to after Gandhi and Tagore as one of the 3 most influential Indians of the 20th Century – and is a must-read for the loftiness of thought and vision that are articulated here.

## Prof. Swaminathan and Saina Nehwal named ICRISAT Ambassadors of Good Will

Prof. M S Swaminathan and Saina Nehwal, Badminton player and Olympic Medalist, has named The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Ambassadors of Goodwill. The recognition was conferred to by ICRISAT Director General Dr William D Dar in a momentous ceremony held at the ICRISAT global headquarters in Hyderabad,

As ICRISAT Ambassadors, Prof. Swaminathan and Ms Nehwal have agreed to champion the Institute's mission to make a difference by promoting science-based agricultural solutions in the fight against poverty, hunger, malnutrition and environmental degradation in the dryland tropics of the world. “Inclusive agriculture is the key to a prosperous, food secure and resilient dryland tropics,” said Prof Swaminathan. “By giving smallholder farmers access to technologies and connecting them to markets, they will have options for a more profitable and resilient agriculture towards achieving sustainable food, nutrition, economic and environmental security,” he continued.

“ICRISAT plays an important role in this through its inclusive market-oriented development strategy, particularly focusing on the need to empower resource-poor farmers in marginalized environments. I am therefore pleased and proud to be an Ambassador of Goodwill for the works and initiatives ICRISAT” said, Prof. M S Swaminathan during his acceptance speech.

## MSSRF celebrates Nutrition Week

MSSRF celebrated Nutrition Week (September 1-7) by screening three video films produced by the Foundation which take a look at various aspects of work related to nutrition implemented on the field. The videos that discuss issues such as nutrition literacy, value of wild food and local genetic diversity of food served as a visual treat to the audience.

One of the videos screened “Wild Edibles for Nutrition and Food Security”, a documentary in Odiya showcased the work done by the APM team, discussing local genetic diversity and nutritional value of species in rural Odisha. Dr Manjula C, who worked behind this documentary, said “it was an effort to educate the villagers about the nutritional value of different forms of wild edibles enriched in the soil and the need to add them into their diet, through a behavioural approach”.

Another video, “The Change” emphasized the need for nutrition education. Speaking about the Film Ms. Raghini B, Training Co-ordinator, MSSRF said, “The lack of nutritional literacy among the villagers in Odisha and Kolli hills was something we overcame with constant effort to educate

the villagers about the value of nutrition. We could find tremendous change in behaviour and knowledge of people through a small change in their practice.”

The Video “Farming System for Nutrition” spoke about the approach of the LANSa project in providing farming support to enhance the nutritive quality to address malnutrition and related diseases. “A significant decline in the number of farmers, especially women has been found in Vidharba and Koraput villages over the years. Providing agricultural knowledge based on technology and giving mental and financial aid to farmers is the need of the hour” said Ms. Bhavani R V, Project Manager LANSa. MSSRF staff including scientific and research team members, besides some external invitees participated in the programme.

LANSa, (Leveraging Agriculture for Nutrition in South Asia) the multi-country consortium led by MSSRF launched a Social Media Campaign on Twitter and Face book for nutrition week. Information on Nutrition, health, diets, recipes and value of nutrition were shared using #LANSANN14 on twitter.



## MSSRF bags mBillionth South Asian award



Nancy J Anabel, Director of IEC, MSSRF receives mBillionth Award along with Dr. S Velvizhi and Mr. J. Srinath, MSSRF

MSSRF added one more feather to its cap by winning the mBillionth award South Asia 2014, for its mobile application that endowed better livelihood for the fisher folk. The mobile app developed by MSSRF in partnership with Tata Consultancy Services and Supported by Qualcomm, had created a huge impact in the lives of fisherfolk in Tamil Nadu, Andhra Pradesh and Odisha, providing significant information on weather, schemes, potential catch and borders.

The mBillionth award is an initiative of Digital Empowerment Foundation to recognize innovators, who are socially empowering the lives of people through the use of ICT and digital media tools across South Asia. This year there were 300 entries for the award from the nine South Asian Countries.

Fisher Friend Mobile Application is a technology innovation for the

fisherfolk. It is developed in Tamil and Telugu on android and provides real time information on Potential Fishing Zone, Global Positioning System, Ocean State Forecast, Weather Forecast, Disaster Alert, market price, government schemes and News Alerts. These services help them reduce risks, mitigate livelihood asset loss and earn economic benefit.

Receiving the mBillionth award South Asia, along with the Principal Scientists at MSSRF, Dr. S. Velvizhi and Mr. J. Srinath, Ms. Nancy J Anabel, Director IEC, MSSRF said, “It is a significant recognition of team work and of the results we have seen. Through this journey of technology, over 40 fishermen have been rescued at sea as the Coast Guard was able to locate their exact position while adrift at sea.” MSSRF recently launched the Fisher Friend programme in six villages of Kerala.



## Villupuram farmers take ownership of new initiatives



Over 1300 farmers, a majority of them women farmers, gathered in Villupuram on September 29th, 2014, to take forward various new initiatives as part of their organization. The farmers’ producers’ organization “Nallavur” held its first general body meeting and presented their activity plan for 2014 – 15. New initiatives launched on the day included the Biovillage programme and Pulse Panchayat.

The name ‘biovillage’ denotes human-centered development, which is a job-led, environment-friendly initiative that involves the principles of ecology, economics, equity, energy efficiency, employment generation in a holistic manner. The process of converting every village into a Biovillage, was envisioned by Professor M S Swaminathan.

“Greener Village, Greener World” is a Bank of India (BOI) and MSSRF collaborative project under the Corporate Social Responsibility (CSR) of BOI, to replicate the Biovillage Model that has been found successful to improve the living standards of the rural communities. The Goal is to establish Bio-Villages to promote holistic and human centered development in 6 villages of Villupuram district, Tamil Nadu.

The proposed project area includes the villages of Nallamur, Chinnanergunam, Soliyasorkulam, Alagramam, Muppuli and Periyaandapattu in Villupuram district, Tamil Nadu. A procession of the farmers took place near the meeting venue and a number of stalls showcasing the community work were also put up on the occasion.

## IGNOU launches “agricultural study Centre” at MSSRF

Indira Gandhi Open University has recently launched a Programme Study Centre at the Fish For All Research and Training Centre of MSSRF, Poompuhar in Nagaipattinam District of Tamil Nadu. Two Academic Programmes -One year

Diploma in Fish Product Technology (DFPT) and Six Month Certificate Programmes in Poultry Farming (CPF) under the School Of Agriculture of IGNOU have been activated for offering with the effect from July 2014.

## Tree climbing training for village women



FoCT (Friends of Coconut Tree) is a joint training venture between MSSRF and Coconut Development Board that promotes skill building and women’s empowerment.

FoCT conducted 2 tree-climbing training programmes from September 18 to 27, 2014, in Pudukkottai and Athani, equipping

40 trainees including 14 women.

Dr. R.P. Gnanamalar, National Pulse Research Center Professor and Head, who presided over the inauguration appreciated the increasing uptake of this technology among rural women

who had plucked up courage to break gender stereotypes.

The programme covered other aspects like seed procurement and selection, nursery preparation, soil requirements, and planting methods. This is part of MSSRF’s vision of bringing gender into various themes of work.

## Foot and mouth disease vaccination camp

On September 11, a massive foot and mouth disease (FMD) vaccination camp was conducted at Sigampatti village by Onangudi VKC. 150 cows and calves were vaccinated. He explicated the symptoms, complications, and preventive measures concerning the disease. FMD is highly contagious and causes severe production losses among livestock.



## Promotion of Single Women Collectives and Access to Productive Resources for Livelihoods

Over 180 Single Women farmers and farm labourers from 40 villages of Deoli and Wardha blocks in Maharashtra participated in a consultative meet on 22nd and 23rd of August, 2014 in Wardha. The event was part of action research initiated by the Gender and Grassroots Institutions of MSSRF in June 2013. The research aims to study issues and needs of Single Women in the context of access to and control over land and other productive resources. The plan for empowerment of Single Women was started with focus of inclusion towards accessing schemes and entitlements which eventually form the basis for achieving social and livelihood security. Particularly in Vidarbha, the initiative supports and validates Single Women farmers’ and farm labourers’ in their efforts.

This consultative meet aimed at understanding the multi dimensional issues faced by Single Women and at organizing them in to Ekal Naari Sanghs

(Single Women collectives). Towards the end of the meet, two block level (Wardha and Deoli) ENS were evolved through which the community can push for collective action to meet their strategic needs. Group discussions, interactions with experts, experience sharing were the highlights of the event. The consultative meet was led by Smt. Mina Swaminathan while prominent legal experts Adv. Puja Jadhav and Adv. Bharathi Thackeray interacted with the participants on access to productive assets. Smt. Kirti Vora of Working Group for Women and Land Ownership (Gujarat) and Smt. Hansaben Thribhuvan Rathod of National Forum for Single Women Rights (New Delhi) shared the efforts of para legal volunteers in supporting issues of low income single women and the need to form collectives.

MSSRF is also strengthening these pilot initiatives and developing strategies for engaging with other organizations working in similar sectors to take Ekal Naari Sanghs to the next level.



## “Pattikaadu agriculture producer company” launched in Pudukkottai



The “Pattikaadu Agricultural Producer Company Ltd”, was launched by Dr Ajay Parida, Executive Director, MSSRF at Illupur, Pudukkottai, Tamil Nadu on 12th July. This is a joint venture by Producer organization (SVAPO) and Rural Women Entrepreneur Federation (RWEF). The producer company will help facilitate business linkages for greater profit for its members.

Dr. Ajay K Parida mentioned in his note that the central government announced this 2014 is the year of producer organisation and allocated 200 cores to the development of producer organisations across the country and it is the time to use this opportunity and establish grow the producer company.

Dr. Hopper, Director, Ecotechnology, Mr. Singaram, Joint Director, Department of Agriculture, Annavasal, Dr. Marimuthu, Assit. Professor, National Pulses Research Centre, Vamban, Dr. Kathiresan, Assit. Professor, KVK, Vamban, Dr. Paramasivam, Associate professor, National veterinary sciences research station, Pudukkottai, Mrs. Marikkannu Thangavel, President, Ennai Panchayat were delivered the felicitation note to the “Pattikaadu Agriculture Producer company”

The event ended with the vote of thanks by Mrs. Vidya, vice president of SVAPO. The package of vegetable seeds and trap crop seeds also were distributed to the participant members.

## Awareness on Direct Seeded Rice

September 16 : Athani VKC conducted an awareness programme on Direct Seeded Rice (DSR) Mr. N.Ponnaiyan, Assistant Director of Agriculture and an Agriculture Officer, shared knowledge on macro realities such as agriculture schemes and irrigation profiles of the village, and micro considerations such as methods of sowing, seed rate, machines in DSR, and reduced cost of cultivation.



# Cooking gas and bio fertilizer from household waste

the intervention of Biovillage Programme in Transforming Lives and Livelihood

‘Biogas is the key to change, is in my hands, and will never look back’ says Lakshmi.



Lakshmi feeding the bio-gas unit established on her terrace.

## The context

As a part of the post-cyclone Thane Rehabilitation, Sellipettu, Pillaiyarkuppam and Sorapet, the three badly affected villages by cyclone Thane in December 2011 in Puducherry, were identified by the Biovillage team Puducherry for rehabilitation. On recommendation by Biovillage, MSSRF Puducherry, NABARD selected these villages for the three year Village Development Programme (VDP), on building socio - economic capability and infrastructure through human development. One of the activities sponsored by NABARD, was installation of one Low Cost Biogas Units as demo unit in all the three villages, at sites proposed by Biovillage Puducherry, during the year 2011-12.

Biovillages aim to bring useful, pragmatic and appropriate technologies to villages for sustainable transformation of lives and livelihoods of the resource-poor communities, without endangering their long-term production potential. Thus Low Cost Biogas Unit was identified as a technology of relevance/use and was thus introduced. Biogas typically refers to a mixture of gases (largely methane with smaller portion of carbon-di-oxide) produced by the breakdown of organic matter in the absence of oxygen. This Low Cost Biogas can be produced from regionally available raw materials such as food and kitchen waste, decomposable waste, and human faecal matter. The units were also demonstrable examples that create awareness of renewable energy sources to the public. It is low-cost and affordable by all categories of people.

## Addressing energy deficiency

Lakshmi was facing emergency crises, with LPG (cooking gas cylinders)/kerosine not available due to the governmental policies. She couldn't cook food on time for the family, which affected the routine of family members like the children, who went to school late or without food. Since the consumption of usage of LPG in home was increasing day by day, the demand was also getting higher. She was badly in need of a substitute for LPG and wanted to

substitute by using induction stove. This also could not help her due to irregular power supply in the region.

## The Intervention

It was in the above context, a Biogas unit was established with NABARD's assistance in the three identified villages at a cost of Rs.24,000/- per unit.

The advantage of this biogas unit is its

"All my family/members, were making fun of me, when I was chosen for the installation of the demo unit, in the terrace of my home. But today, they are surprised, on seeing how far I have benefitted from it. It is 7 months, since I have booked an LPG. I have been making huge savings. Every month, I used to consume one cylinder, which would cost me Rs. 422/-. Further, the biodegradable household waste which used to be strewn around is now being the input for the unit and hence my house and the surroundings are spic and span earning me appreciation from my husband and family members. Further, the output from the unit like the slurry, is being used by me for my kitchen garden and my agricultural land as a biofertiliser and biopesticide, thereby enhancing the quality of the produce and also the quantity of the output. This dual benefit has ensured that my savings in terms of input cost for the nutrients has come down dramatically.

Seeing the success of the process, the entire family including my teenage children are completely involved in operating the unit thereby ensuring clean and neat energy is being utilized optimally without hampering the nature.

Lakshmi

mobility to be transported and transfixed anywhere and also the input required for smooth functioning of these units are the bio degradable wastes including

kitchen, human faecal matter etc., The gas produced from this unit can be utilized for diverse activities such as cooking; water heater; lighting home lamps and also for pest lamp to be utilized in the farm field. Further, the slurry which is emanating from the unit can be used as a fertilizer if diluted and as pesticide if undiluted. The unit is not only light weight and mobile but also consumes less space and could even be placed in open terrace without any problems.

Lakshmi, in whose open terrace in Pillaiyarkuppam village, the demo biogas unit was established.,

Her proudest moment was, when Dr Deepak Kumar, District Collector, Puducherry along with officials of NABARD and Indian Bank visited her house and discussed at length the usage and the effectiveness of the unit at personal level. This meeting was covered by the local media and she has now become a celebrity in her own way for her advocacy role in Renewable energy.

Subsequently, senior officials of RBI, UNDP, NABARD, GoI and GoP, SLBC, Indian Bank and representatives from various institutions and individuals visited and discussed with her at length about the usage and views on the unit and its function.

She, her family, her house, had a good media coverage highlighting her advocacy on bio fuel usage for alternate energy source at household level. Overnight, Lakshmi became a celebrity as a proponent of Biofuel. She said 'it was the proudest moments of my life. I am happy to be an example of how alternate fuels could be used from the readily available bio wastes in a household. I will cherish, every moment of it, till my death. People are recognizing me where ever I go'. She is praised by her group members/villagers for the bold initiative she had taken to support her family Needless to say due to the additional income provided by the unit as well as utilising the time effectively. Lakshmi now intends to produce and market handmade terracota

products, which are eco friendly. She has been trained by MSSRF in this concept too recently.

Lakshmi, feeds 5 kgs of organic waste + 5 litres of water. From which she gets 300 – 400gms of gas, which is sufficient for a day's cooking. She spends just 15 minutes, in preparation of the fermented waste. There is no social stigma attached, for she is using only kitchen waste, so far. Infact, she is the brand ambassador for the Company. Apart, from Lakshmi, there are 3 more units that are established, 2 – sponsored by NABARD and 1 – by a member, who runs a hotel.

## About the Technology

The biogas manufacturing and marketing

## Her profits include

Savings on LPG: Since 1 year, only 2 LPGs were booked. The average consumption in the previous last two years was 12 cylinders ( 1 cylinder per month). Savings of Rs. 4220/ in a year.

Savings on fertilizer for kitchen garden: the slurry is used both as a fertilizer and pesticide. Saves Rs. 500/ month.

Production from vegetables: various vegetables are cultivated in rotation. Bananas – Rs. 350/month, Turnips – Rs.12/ kg (harvested 15 kgs), Onions – Rs.40/kg (harvested 25kgs), tomatoes – Rs.15/kg (harvested 10 kg – home consumption), Chillies – Rs.24/ (harvested 25 kg – home consumption), Brinjal – Rs.12/ (harvested 10 kg – home consumption), Ladies Finger – Rs. 15/ (harvested 10 kg – home consumption)

company, Green India Energy Products is promoted by three young Engineering graduates from Pondicherry. Who undertook extensive research for nearly 4 years by developing nearly 20 models before successfully establishing the tradition based model. The important parts of the bio-gas plant are a digester tank, an inlet for feeding the waste, gas holder tank, an outlet for the digested slurry and the gas delivery pipe to use.

This encompasses the optimum usage of temperature within and outside the unit using the traditional knowledge of Temple Gopuram structure and the concept of Kaavi cloth. For a 5 kg feedstock/waste (takes 24 hrs to digest), with a Single burner, the gas produced, can be used for 3-4 hours. If its double burner, then its 1 – 2 hours. The gas, slurry/sludge are used as a treatment for seeds attacked by pests. This is certified by TNAU. Measuring the gas outputs - Volume wise – 1 metre cube. Cooking needs requirement is 0.3 metre cube for 1 person, for preparing 3 meals a day. On seeing Lakshmi's success, the Puduvali Bharatiyar Bank, Pondicherry is providing credit to the prospective beneficiaries for establishing biogas units in their households. The operational cost is Rs.24, 000/ with no subsidy.

Now, Innuyir Grama Sangam has taken steps to replicate it among the members by facilitating credit support through the federation as well as technical support for installation and management. This effort of Bio village stands as an example of the effective linkage in exploring the capacities of rural women as innovators and entrepreneurs, contributing to sustainable energy sources, renewable energy and above all to nutritional and food security.





## Fighting Hunger - People's Action for Addressing Hunger and Undernutrition



Farmers in Odisha during the CHF training

### Community Hunger Fighters - Koraput district of Odisha

Banuaguda, Bhatiguda, Disariguda Lachnanguda and Majhiuda - small villages /hamlets in the most backward district of Odisha, yet showing a silent revolution in demanding entitlements. In these villages 100% of pregnant and lactating mothers and about 80% of children between 7 – 36 months are availing the take-home supplement provided by the Anganwadi (child care) centre. When the Government of Odisha introduced the subsidized individual toilet scheme in September 2011 more than 65% of households applied for the same by March 2012. When 100% of households in Banuguda applied for the scheme, the Panchayat declared it as a 'model village'.

In India there are a plethora of programmes for addressing hunger and undernutrition across the life cycle, yet there has been only a marginal reduction in child under nutrition. The II and III National Family Health Survey (NFHS) reports have documented a prevalence of 51% and 45% of stunting (lower height for age) among children under three between '98 – 99 and 2005 – '06, indicating that the programmes are not making a dent in the existing scenario. About 35% of men and women have a lower Body Mass Index and more than 60% of women and adolescent girls are anaemic.

Says Professor Swaminathan, Founder, M S Swaminathan Research Foundation (MSSRF), "Since the Bengal famine in the 20th century, there has been tremendous effort to improve and augment food production, from all quarters. The Government, NGOs and the scientific

community have contributed their expertise and resources in mitigating hunger and undernutrition. Now it is the turn of the community to effectively demand and utilize these entitlements to fulfil their requirements and move towards freedom from all forms of under nutrition – protein calorie and hidden hunger undernutrition.

### Addressing Food and Nutrition Security

Household food security consists of three major dimensions - food availability and access to a balanced meal for every man, woman and child at the household level and clean drinking water and sanitation facility. All the three aspects need to be holistically addressed to achieve nutrition security. MSSRF undertakes participatory research with tribal communities to improve food production at the household and community level for alleviating poverty and under nutrition. Efforts to improve household food security along with an effective demand and utilization of entitlements will in the long run lead to food and nutrition security for everyone. Synergy within and between various stakeholders is essential to coordinate and channelize the developmental process.

### The intervention

Envisaged as an action education model, a team of scientists and development professionals under the leadership of Professor Swaminathan, are engaged in building the capacities of communities through training selected community representatives on all aspects of food and nutrition security. Five representatives from each village consisting of men and women and belonging to different castes

are selected by the village community as their representatives to undergo the capacity building exercises. Called as the "Community Hunger Fighters" (CHF) these representatives are exposed to residential training programmes consisting of themes such as balanced diet, protein calorie under nutrition, micro nutrient malnutrition, personal hygiene, sanitation issues and nutritional status assessment. They have been introduced to about 20 key food and nutrition security entitlements implemented by the Central and State Governments. They are helped to understand and analyze the social processes such as caste, class and gender dimensions which affect nutritional status. They are also taken on exposure visits to successful endeavours undertaken by communities in other areas, both near and far to help understand that collective action is a doable proposition and it brings sustainable improvements to living conditions.

The CHFs are encouraged to identify key messages and spread it informally among their own communities either through songs, slogans or simply share through SHGs, or at the work place. It is expected that by emulating them the communities would be energized for action. Implemented since October 2011, the intervention is currently operational in 18 villages, in Kundra and Boipariguda blocks of Koraput district of Odisha.



A woman farmer attending the CHF training at Odisha

### Impact Assessment

Though more time will be required to undertake impact assessment, so far about 90 CHFs have been trained, who have reached approximately 1700 households in 18 villages.

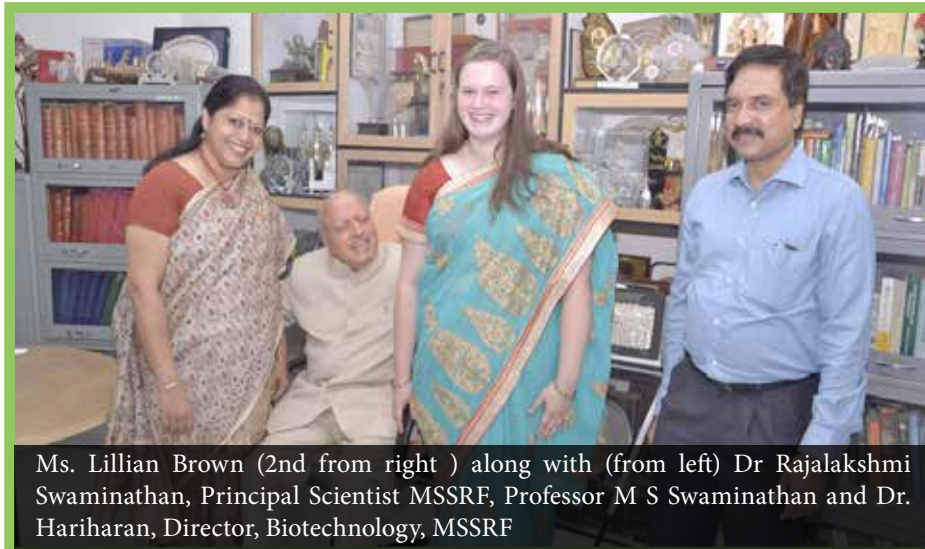
There has been increased participation of men and women in palli Sabha and Gram Sabha meetings. The social status of some CHFs has been elevated with one woman CHF elected as a ward member and a male CHF being made the Gram Sathi for the MGNREGS. Encouraged by the Collector of Koraput District, the Community Hunger Fighters along with fellow villagers prepared a village action plan for eliminating Hunger and Undernutrition. The Secretary of the Tribal Development Agency was appointed as the nodal officer to co-ordinate with all concerned Government Departments by the Collector. The demands submitted so far have ranged from agricultural operations, to infrastructure facilities for drinking water and sanitation, anganwadi buildings, road and common bathrooms. Several farm ponds, dug wells, tube wells and piped water supply have been sanctioned so far.

### Challenges

When compared to men, women have more constraints over time, lack mobility and have lesser voice in influencing social norms. Though male CHFs have been articulate in demanding anganwadi services, child feeding is still seen as a woman's domain. As one male CHF puts it 'for those of us belonging to the backward community it is a challenge to assume a leadership role. When we want to convene meetings we have to call people several times, while when the upper caste men call, there is quicker response'. Such observations only reiterate the need for intensifying interventions for the marginalized sections.

## A step ahead, to end hunger

### The World Food Prize Borlaug-Ruan Summer Internship Program



Ms. Lillian Brown (2nd from right ) along with (from left) Dr Rajalakshmi Swaminathan, Principal Scientist MSSRF, Professor M S Swaminathan and Dr. Hariharan, Director, Biotechnology, MSSRF

As an extension of the Global Youth Institute, the World Food Prize Borlaug-Ruan Summer Internship Program offers students the opportunity to work at research centers around the world

for 8 weeks during their summer break. The Foundation stresses the uniqueness of this program from other "study abroad" internship programs in that the students participate in research projects

with world-renowned researchers while getting a first-hand view of real and pressing food security issues and nutritional problems.

One of the interns of 2014, Ms. Lilliane Brown, chose to join MSSRF during the summer of 2014 to pursue the Borlaug-Ruan internship programme, from Iowa City, United States. She initially found herself a fish out of water in this fast growing metropolitan city, Chennai. Amidst all her expectations and apprehensions, she was welcomed by a severe summer, streets with mountains of abandoned garbage and crawling traffic. But starting her research studies in an Environment project with MSSRF, this 2014 Intern had left no stone unturned by engrossing herself in every aspect of the diversified culture of this city in a span of less than eight weeks.

Assigned to work with the Microbiology unit at MSSRF, Ms. Lilliane Brown, a

young final year high school student, joined the initiative to treat wastewater from sugar and distillery industries through bioremediation and constructed wetlands and check if it is a viable way of treating wastewater. Ms. Lilliane Brown also made a presentation about her research work in MSSRF at the World Food Prize Conference on October 14, 2014 at Iowa, United States which was also attended by Prof. M S Swaminathan, first winner of World Food Prize and 2014 laureate Dr. Sanjay Raja Ram et al.

Appearing in a traditional outfit quite often Ms. Lilliane Brown explored all the contrasts of the city's heritage, be it in the varieties of cuisines, the fascinating tourist places and loving people of the city. Owing to her immense love to the people and the city she would like visit India again and extend her work towards fighting hunger to be a part of World Food Prize in the Future. We at MSSRF wish her the very best in her studies.



## Fluxes of Greenhouse gases in Pichavaram mangroves



Mangrove forests in Pichavaram

Increased concentration of greenhouses gases (GHGs) such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) due to human activities is responsible for global warming. Global warming causes major changes in temperature, rainfall, wind pattern and also rise in sea level in the long run. These changes in climate affect our life supporting systems, food production systems, water supply, health etc. Current understanding of the global carbon cycle suggests that sustainable management

of forests can substantially decrease the amount of greenhouse gases (GHG) through photosynthesis. The annual exchange of carbon between forests and the atmosphere and the amounts of carbon stored in forests vary widely with the nature of forest. In this regard, mangrove forest is considered as very important because of their wide distribution in the tropical and subtropical coastline and high rates of productivity, which is estimated at  $218 \pm 72$  Tg C per year globally, which means global mangrove forests remove

about 218000000 tons of carbon from the atmosphere every year. However, some studies suggest that mangrove forests act as a source of GHGs particularly for methane gas.

Keeping this mind, a project has been initiated in Pichavaram mangroves, which addresses the following questions: whether mangrove forests act as a sink or source of atmospheric CO<sub>2</sub> and CH<sub>4</sub>? What is the atmospheric, soil, hydrological and biological factors controlling fluxes of GHGs in mangrove forests? if mangroves act as a sink what are the management actions need to be taken to enhance capacity of mangroves to assimilate more GHGs? If they act as a source what are the management actions need to be taken to minimize GHG emissions?

To find out answers to these questions movements (fluxes) of CO<sub>2</sub> and CH<sub>4</sub> between mangrove forest and atmosphere, between mangrove soil and atmosphere, between mangrove water and atmosphere and between mangrove soil and water are being measured in Pichavaram mangroves. In order to measure fluxes of CO<sub>2</sub> and CH<sub>4</sub> between mangrove canopy-atmosphere

a sophisticated technique called Eddy covariance is being used, which consists of a 3 D Sonic anemometer and infrared gas analyser. Eddy covariance determines fluxes by looking at the covariance between gas concentration and air turbulence (i.e., eddies) over an area. The measurements will include fluxes of CO<sub>2</sub> and CH<sub>4</sub>, water vapour, sensible heat, momentum and CO<sub>2</sub> and CH<sub>4</sub> concentration profile within and above the mangrove canopy. Net radiation and soil heat flux will also be measured to have the complete set of energy balance components. These data will provide answers to first two questions mentioned above. The collected data will also be used to fine tune climate change models for accurate prediction.

The project is supported by the Ministry of Earth Sciences, Government of India and Indian Institute of Tropical Meteorology is the Coordinating Agency. Other institutes participate in the programme are University of Pune, Tezpur University, Bose Institute, Annamalai University, Pondicherry Central University. The Tamil Nadu Forest Department is kind enough to provide permission to conduct this research in Pichavaram mangroves.

## Village level Farmers day discusses farmers rights on agro-biodiversity

A village level seminar conducted by Seed care ( Association of Traditional Seed Conservers of Malabar) and MS Swaminathan Research foundation discussed the farmer's rights on agro-biodiversity at Athikkolly, Vellamunda panchayath.

The programme was inaugurated by Raman Palliyara winner of this year's Karshaka Jyothi Award instituted by Government of Kerala. He emphasized the role of traditional farmers especially Adivasi farmers in conserving the agro-biodiversity of the region and called for joint action to get their efforts recognized by the government. He added the need of immediate support by governments to attract young famers to the regional food production systems to ensure food and nutritional security of all.

Dr N Anilkumar, Director of Community Agro-biodiversity Centre (CABC) highlighted the need of village level collective action of farmers and scientists to recapture our losing strength of agro-biodiversity in his presidential talk. Mr Kunjiraman, people's representative to the local Panchayath welcomed the gathering and stressed the need for sensitizing farmers on their rights. Mr. Balan Paramoola, secretary Seed Care, introduced the activities of Seed Care to the farmers and sought their participation. Seed Care is now working in a two-fold way, one is to help the farmers to find potential market for the traditional rice varieties and to create awareness on farmers rights he added. The programme recognized the achievement of award winning farmers of the year Mr. Palliyara Raman and Mr. Molath Kunch. In the afternoon, an



Farmers day celebration at Vellamunda Panchayat, Wayanad

interactive session on traditional farming practices and zero budget farming was led by Dr Smitha, senior scientist, MSSRF, followed by a discussion on

famer's rights on biodiversity led by Mr Prajeesh and Suma TR from MSSRF.

## LANSA advisory meeting held at Faisalabad



The LANS Consortium Advisory Group meeting at Faisalabad, Pakistan

The third Consortium Advisory Group meeting of the Project on Leveraging Agriculture for Nutrition in South Asia (LANSA) was held at the University of Agriculture, Faisalabad on 17 August 2014.

The meeting was chaired by Dr. Iqar Ahmed Khan, Vice Chancellor of the University. The other advisory group members who participated were - Professor M S Swaminathan, Mr. M Syeduzzaman, Chairman, Credit Rating Agency of Bangladesh, Dr. Mahendra Dev, Vice Chancellor, Indira Gandhi Institute for Development Research (IGIDR). Dr. Abdul Rashid Hakimi,

Vice Chancellor, Relation Coordination, Afghan National Agricultural Sciences and Technology University (ANASTU) were a special invitee.

The LANS team was represented by Dr. Prakash Shetty, CEO, Dr. Ajay Parida, Executive Director, MSSRF and LANS Consortium Steering Group Chair and Ms. R V Bhavani, Programme Manager, LANS from MSSRF and Mr. Haris Gazdar, Director and Ms. Samar Zuberi, Research Uptake Officer

from the Collective for Social Science Research (CSSR), LANS's partner in Pakistan.

Dr R Rukmani delivered the Dr Rajaratnam Endowment Lecture on 'The State of Food Security in India' at the University of Madras, on the 25th of September, 2014, organised by the Department of Economics. The lecture elaborated the holistic concept of food security-availability, access and absorption of food- and focused on the current status of food security in India and Tamil Nadu. The implications of the National Food Security Act as well as the WTO regulations for the state of food security in the country were discussed. The lecture was attended by about 50 students and lecturers.

### Voluntary blood donation camp held at Jeypore

voluntary blood donation camp was organized by MSSRF, (regional Centre), Jeypore on 16th August 2014 in collaboration with the Blood Bank unit of Sub-divisional Hospital, Jeypore. 24 staff members donated blood which will be used at the sub divisional hospital, Jeypore.

### 6th Indian Youth Science Congress will be held at Guntur

The 6th Indian Youth Science Congress is scheduled from 28 – 30 November at Acharya Nagarjuna University, Guntur, Andhra Pradesh with the theme "Science and the Zero Hunger Challenge". This will be jointly organized by Acharya Nagarjuna University, MSSRF, SRM University and Rajiv Gandhi National Institute of Youth Development. The congress provides a forum for young students and researchers to present their research work and discuss priority issues in enabling science and technology applications for public good. The congress is open to students and researchers in the field of Physical, Biological, Chemical, Agriculture, Environmental and Social Sciences. Details of the congress can be obtained from the websites of MSSRF SRM University Acharya Nagarjuna University and Rajiv Gandhi National Institute of Youth Development



## Heading to Rural India to create a change



SBI Youth for India Fellows at MSSRF (R to L) Sonam Dumbre, Gautam Jayasurya, Tanaya Mohanty, Anirudh Prasad, Kanika Sharma and Tanya Marwah.

Turning his back on a lucrative career and a vibrant life in the cities, Chennai-born Anirudh Prasad has no hesitation in speaking about the changes he wants to make in rural India within the next one year and his dream to be that change agent. He is one of the 35 candidates selected for the SBI Youth for India (YFI) Fellowship Programme, giving him an opportunity to lend a helping hand for rural upliftment.

MSSRF is a partner institution in the SBI Youth for India programme initiated, funded, and managed by the State Bank of India. Other partners include BAIF Development Research Foundation (BAIF) Seva Mandir, Gram Vikas, and Aga Khan Rural Support Programme. In its second edition this year after its launch in 2011, the initiative has attracted young successful professionals from diverse sectors such as IT, biotech, education, infrastructure and healthcare.

The Fellowship Programme seeks to help India secure an equitable and sustainable growth path by providing educated

Indian youth with an opportunity to touch lives and create positive change at the grassroots level in rural India.

Fellows such as Anirudh and Odisha-born Tanaya Mohanty have chosen MSSRF as the institution to work towards creating change. "I always wanted to be a part of welfare Programmes conducted by MSSRF in rural villages of India. My interests lie in the Mahila Kisan Sashaktikaran Pariyojana, (MKSP) initiative of MSSRF in Vidarbha, Maharashtra. I have a strong inclination to work on women's empowerment", said Tanaya Mohanty.

Anirudh and Tanaya accompany 35 other candidates selected through a rigorous process to work in a rural intervention of MSSRF's programme for next one year. Far from their urban lifestyle, friends and jobs, they dream to make a difference in far-flung rural locations of India and hope for the will and ability to create change – a change that will give the community hope to live a much better life.

## Social Media for Development @mssrf

MSSRF joined development organizations around the world in leveraging the influence of social media to provide information on scientific advancement, create awareness on key issues, participate in online discussions related to agriculture, food / nutrition security and advocate collectively for positive policy changes.

The **twitter** handle @mssrf (twitter.com/mssrf) and **facebook** page of the Foundation M S Swaminathan Research Foundation ([www.facebook.com/mssrf.org](http://www.facebook.com/mssrf.org)) were created and activated during the International Year of Family Farming (IYFF 2014) held at MSSRF in August 2014. While this was a first-time effort, **#MSSRFIYFF14** used during the international event led to numerous influential tweets and re tweets from across the world. This helped place issues and discussions, especially related to the importance of

family farming and achieving the Zero Hunger Challenge on the social media map.

Speaking during the closing session of IYFF 2014, Dr. Ajay Parida, Executive Director, MSSRF acknowledged the impact that this foray had in creating a buzz around the event and reaching the global social media community in a short period.

MSSRF also launched campaigns on facebook including for the family farming, for World Food Day, for Zero Hunger and Youth in Agriculture. While still at a very early phase, followers from different parts of the world are connecting to MSSRF on social media. The scientific community at the Foundation is also engaging on this medium to add to the vision of harnessing science for sustainable development.

## Public Information Campaign at Tiruvallur

## MSSRF in the News

