

Stakeholder Consultation on Farming System for Nutrition Initiative organized by  
M S Swaminathan Research Foundation  
Dr. Radhakrishnan Hall, OUAT, Bhubaneswar  
Monday 23 December 2013

The meeting was convened to present and request feedback and suggestions from stakeholders on the farming system for nutrition initiative being implemented by MSSRF. Representatives from NGOs, research institutions, government and the private sector participated. Shri D P Mishra, Hon'ble Minister for Agriculture, Government of Odisha was the chief guest at the inaugural session. The list of participants is in the annex.

Dr. Ajay Parida, Executive Director, MSSRF welcomed the Minister and the participants and briefly outlined MSSRF's work in Odisha over the last 20 years in the areas of mangrove forest restoration in the Bhitarkanika forest region and biodiversity conservation in Koraput. The latter is regarded as one of the centres of origin of rice. How to marry agriculture and nutrition to address the problem of malnutrition was the focus under its ongoing initiative of farming system for nutrition (FSN) under the project on Leveraging Agriculture for Nutrition in South Asia (LANSA), he said.

Dr. Monoranjan Kar, Vice Chancellor, OUAT, welcomed the Minister and the participants and spoke of linkage between OUAT and MSSRF and scope for greater collaboration under the FSN initiative.

Professor M S Swaminathan outlined that the purpose of the meeting was to discuss on leveraging agriculture for nutrition. He stated that the major problem today was not calorie deficiency. The Food Security Act had provided for enlarging the food basket to include coarse cereals or neglected 'orphan' cereals like millets which were nutri-cereals. To address the persistent problem of malnutrition, it was important to understand the nutrition problem and identify the agriculture opportunities to address them. It was time to move from food security to nutrition security. The government of India had declared a national programme of nutri-farms to promote bio-fortified crops for addressing malnutrition in the high burden districts. But non-food factors that provide an enabling environment like access to safe drinking water, hygiene and sanitation were equally important. The thrust should be on conscious effort to understand the local problem and the kind of farming system initiative needed, matching the problem and opportunity. Nutrition literacy was also very important. Agriculture universities needed to be sensitized to address the nutrition aspect. Stating that a collaborative effort or symphony approach

was called for to address the problem of malnutrition, he made a call for a '*Malnutrition Free India Symphony*'.

The Minister in his address acknowledged MSSRF's work in Odisha and recalled his own experience as Health Minister in 2001, when there were child deaths in Koraput district and advice had been sought from the National Institute of Nutrition. He emphasized that the needs were multiple and a multi-sectoral approach with multiple players was called for to break the vicious cycle and forge ahead. The interventions being tried out under FSN initiative would have to be scaled up for larger impact. He assured support for taking action on whatever practical recommendations emerged from the meeting.

Dr. Prasun Das made a brief presentation explaining LANSAs and what the FSN initiative aimed at. The Minister raised a question the problem of fodder scarcity; it was explained that under FSN it was being sought to address the issue by setting up a fodder cafeteria on community land. During the discussion that followed, the importance of efficient water management to increase production and productivity was emphasized. Better market access and higher income would also lead to better nutrition. The need to also study the traditional crops grown by tribal communities and understand their value from the perspective of nutrition and climate resilience was also highlighted. Besides cereals and crops, animal proteins were also important to address malnutrition problems. The State government had an important role to play. A nutrition awareness drive was needed. Depending on climatic advantages, different crops could be suggested to address nutritional deficiencies; thrust on vegetables cultivation and consumption to provide necessary vitamins and minerals, and animal foods and animal health all need to be built it. The inaugural session ended with the surmise that partnerships would have to be leveraged and public support was required to promote models that could be replicated and up-scaled.

Following a round of introductions by the participants, the technical session commenced with a presentation on the work undertaken so far under the FSN initiative at Koraput by Mr. Akshaya Panda – the socio-economic characteristics of the intervention villages, the on-farm demonstrations and plans on the anvil. Participants from around the table were asked for their inputs and suggestions.

The major points that came up are summarized below.

- Besides orange flesh sweet potato, *taro* can also be popularized. *Canna* is also a popular tuber crop in Koraput. Tubers can help address both food and nutrition insecurity. CTCRI would be happy to help.

- The social dynamics of management will have to be understood and addressed in maintaining community resources initiatives like a community pond. Sustainability is an important issue. Farmers who have land may be asked to pay a fee; landless may offer free labour. Sustainability has to be factored in right from the beginning.
- Promoting local poultry should be explored instead of introducing breeds from outside. *Desi kukra* and *anda* have higher value. They will require only minimum support like vaccination and feed. There is the issue of mortality with day old chick. Indigenous breeds would be more resilient.
- Duckery should also be encouraged – source of beta carotene
- Nutrient budgeting important – agricultural land should be studied for its sustainability; the level of fertilizer input that it can sustain.
- There is need to establish extent of protein calorie deficiency, the existing land use pattern in terms of upland, medium land and low land
- Extent of fallow land and how it can be brought into use.
- Perennial plants should be promoted on home gardens; a whole village perspective with mixed plantations maybe useful.
- Input costs should be kept at a minimum.
- Organic inputs will add more value to this initiative. If sufficient farmyard manure is used, there is no need to add more fertilizer. The organic balance in the soil should be maintained.
- Models supported by NABARD elsewhere could be examined and suitably adapted –
  - integrated fish-duckery-poultry-vegetables (on the bunds)
  - *wadi* project in tribal areas with focus on dryland horticulture, agriculture intercropping, reducing drudgery, silviculture on the border land and raising livestock for income; MNREGS maybe harnessed for meeting labour requirement.
  - Forest plantation on fallow land – eucalyptus with inter-cropping
  - Poultry unit of 25 birds; farmers' club equipped to provide support services.
  - NABARD grants could be availed for capacity building and exposure visits.
- The entire Value chain of a commodity should get attention.
- Vegetable cultivation with low cost shade-net, linkage with government programmes and market access will give thrust to both cultivation and consumption.
- People owned and managed organizations should be nurtured for sustainability; volume of transaction is crucial for producer companies / people owned organisations to sustain.

- There is scope for introducing nutrient dense variety of crops like protein rich rice from CRRRI
- Model of Rice-fish farming on 0.5 acre land maybe encouraged
- CRRRI has models based on type of land: short duration variety for medium land and long duration variety for lowland.
- Sweet potato vine can serve as a good fodder for animals; it can also be used in mixed vegetable preparations. The shelf life of sweet potato is 3-4 months. CTCRI can give training in processing.
- Biodiversity in Koraput should be conserved and promoted. Existing crops and their nutritional values should be studied, e.g. local varieties of pulses;
- Rice has limited potential in upland; Lowland rice can tolerate moisture stress to some extent.
- Millet cultivation on upland should be examined. Millet and maize cultivation should receive greater thrust.
- Efficient water management is crucial – how to harvest the rainfall – retain for raising a second crop; mixed cropping and cyclic approach.
- Farmers are interested to produce more – it is necessary to educate and make them aware of possibilities
- Ongoing research initiatives should look to integrating the nutrition dimension, to help spread greater awareness – will contribute to feeding into the FSN initiative.

The following points emerged as recommendations from the meeting:

- Steps should be taken to internalize nutrition parameters in agriculture. The agriculture university curriculum is a starting point
- A module on nature and nutrition science should be included in the secondary school syllabus.
- Food Safety should get attention. Toxicity in foodgrains is a problem; the message should permeate to the grassroot level; give thrust to safe food production based on local production systems; safe agricultural practices being followed should be encouraged.
- Animal health and feed needs adequate attention. A cell at the village level will be useful.
- Local nutrition should be linked to local production – crops not much produced but nutritionally rich should be encouraged and given incentives starting with input support
- Integral link between Agriculture and Health should be recognized;
- Village level sanitation committees
- Farmers using sustainable and organic techniques should be supported. The Participatory Guarantee System (PGS) should be recommended for support to organic farming wherever possible
- Maize production in the state has increased due to government policy thrust. Similar thrust is required for millets. Cluster level support of quality seed, better agronomic and management practices with assured market support is required.

- Pulses seeds are not available – Quality seed production is crucial. Establishing a regional station of the Indian Institute of Pulse Research (IIPR) can give necessary thrust. OUAT can have a research centre with IIPR collaboration to develop location specific varieties.
- Wasteland/ fallow land should be allocated to landless families on lease basis.
- Adequate infrastructure support for cold storage facility is needed to protect farmers from price fluctuation
- Promotion of community level Nutrition Garden and community support services will help
- Nutrition literacy is paramount and has to be taken up on a large scale using different means from mobile vans to using print, electronic media and mobile messaging.
- Publications like the '*Krushaka Bandhu Annapurna*' – an agriculture magazine in Odiya should be encouraged for reaching out relevant information to farmers in the local language.
- Media is an important source for reaching out. A media workshop will be organized at the next meeting, to address and sensitize media personnel to write about these issues.

The participants were assured that periodic meetings would be organized to update the progress under the project and seek feedback. The meeting ended with a vote of thanks to the gathering.

## Stakeholder Consultation on FSN Initiative

Organized by MSSRF

Date: 23.12.2013

Venue: Dr. Radhakrishnan Hall, OUAT, Bhubaneswar

### Lists of participants:

<i>Sl.No.</i>	<i>Name</i>	<i>Email ID</i>
1.	Prof. M.S.Swaminathan, Emeritus Chairman, MSSRF	<a href="mailto:founder@mssrf.res.in">founder@mssrf.res.in</a>
2.	Shri Debi Pradas Mishra, Minister of Agriculture, Govt. of Odisha	
3.	Prof. Manoranjan Kar, VC, OUAT	<a href="mailto:vcouat@gmail.com">vcouat@gmail.com</a>
4.	Prof. Premananda Das, SFTRRD, Bhubaneswar	<a href="mailto:premananda1952@yahoo.co.in">premananda1952@yahoo.co.in</a>
5.	Dr. Dilip N Kulkarni, President, Jain Irrigation Systems Ltd.	<a href="mailto:dr.kulkarni.dilip@jains.com">dr.kulkarni.dilip@jains.com</a>
6.	Dr. A.K.Sahoo, NAIP, Carbon Finance, OUAT	<a href="mailto:Carbonfinance.ouat@gmail.com">Carbonfinance.ouat@gmail.com</a>
7.	Dr. Archana Mukherjee, Principal Scientist, RCTCRI	<a href="mailto:archanapsm2@rediffmail.com">archanapsm2@rediffmail.com</a>
8.	Dr. C. M. Khanda, Prof. of Agronomy, OUAT & Head, CSISA	<a href="mailto:cmkhanda@yahoo.co.in">cmkhanda@yahoo.co.in</a>
9.	Dr. B.B. Mishra, HOD, Microbiology, OUAT	<a href="mailto:bbmsoil@rediffmail.com">bbmsoil@rediffmail.com</a>
10.	Dr. A.K.Shukla ,Principal Scientist (Horticulture) DRWA	<a href="mailto:anilciah@gmail.com">anilciah@gmail.com</a> <a href="mailto:anilciah@yahoo.com">anilciah@yahoo.com</a>
11.	Dr. Kushagra Joshi, Scientist, DRWA	<a href="mailto:kushagra.me@gmail.com">kushagra.me@gmail.com</a>
12.	Dr. Divya Tiwari, College of Agriculture, Nalanda	<a href="mailto:dtiwari1912@gmail.com">dtiwari1912@gmail.com</a>
13.	Mr. Dil Bahadur, Area Manager, Jain Irrigation Systems Ltd. Bhubaneswar	<a href="mailto:bahadur.dil@jains.com">bahadur.dil@jains.com</a>
14.	Mr.B.K.Mishra, DGM, NABARD, Bhubaneswar	<a href="mailto:bkmnab@gmail.com">bkmnab@gmail.com</a>
15.	Mr. Akshaya Kumar Kanungo, Senior Consultant, MART	<a href="mailto:info@martrural.com">info@martrural.com</a>
16.	Mr. Aswini Ku. Tripathy ODC, Malkangiri	<a href="mailto:kmkhuntia@hotmail.com">kmkhuntia@hotmail.com</a>
17.	Dr. Avijit Das, Principal Scientist, CRRI, Cuttack	<a href="mailto:avijitcrri@gmail.com">avijitcrri@gmail.com</a>
18.	Dr. B.B.Panda, Sr. Scientist,(Agronomy) CRRI, Cuttack	<a href="mailto:bbpicar@gmail.com">bbpicar@gmail.com</a>

19.	Mr. L.K. Palatasingh, Agronomist	
20.	Dr. Pratap Bhattacharya, Sr. Scientist, CRR, Cuttack	<a href="mailto:Pratap162001@gmail.com">Pratap162001@gmail.com</a>
21.	Mr. Bibhuti Bhusan Das, Agronomist, Jain Irrigation Systems Ltd, Bhubaneswar	<a href="mailto:bibhiti2006@gmail.com">bibhiti2006@gmail.com</a> <a href="mailto:jainnhubaneswar@jains.com">jainnhubaneswar@jains.com</a>
22.	Mr. Trilochan Ray, JVIC	<a href="mailto:ray.trilochan@gmail.com">ray.trilochan@gmail.com</a>
23.	Mr. Suresh Chandra Bisoi, RCDC	<a href="mailto:suresh@rcdcindia.org">suresh@rcdcindia.org</a>
24.	Ms. Vidhya Das, Agramee	<a href="mailto:vidhyadas@agragamee.org">vidhyadas@agragamee.org</a>
25.	Mr. Pradip Kumar Patnaik, Jivika Foundation / Food Security Watch	<a href="mailto:Pradip_afdc@rediffmail.com">Pradip_afdc@rediffmail.com</a>
26.	Dr. L.K.Das, Chairman, "The Sohan"	<a href="mailto:gyandas@gmail.com">gyandas@gmail.com</a>
<b>MSSRF</b>		
27.	Dr. Ajay Parida, Executive Director	<a href="mailto:executivedirector@mssrf.res.in">executivedirector@mssrf.res.in</a>
28.	Dr. Prasun Kumar Das, Research Director, LANSa	<a href="mailto:prasun.das@mssrf.res.in">prasun.das@mssrf.res.in</a>
29.	Ms. R.V.Bhavani, Project Manager, LANSa	<a href="mailto:bhavani@mssrf.res.in">bhavani@mssrf.res.in</a>
30.	Mr. Saujanendra Swain, Principal Scientist	<a href="mailto:saujanendra@rediffmail.com">saujanendra@rediffmail.com</a>
31.	Mr. Susanta Sekhar Chaudhury, Principal Scientist	<a href="mailto:sushantasekhar@rediffmail.com">sushantasekhar@rediffmail.com</a>
32.	Mr. Akshaya Kumar Panda, Senior Scientist, LANSa	<a href="mailto:akshaya74@rediffmail.com">akshaya74@rediffmail.com</a>
33.	Mr. Kajal Kumar Mandal, Scientist, LANSa	<a href="mailto:kajal.mandal10@gmail.com">kajal.mandal10@gmail.com</a>
34.	Ms. Jasaswini Padhy, Research Associate, LANSa	<a href="mailto:jassypadhy@rediffmail.com">jassypadhy@rediffmail.com</a>
<b>Media personnel</b>		
1.	Mr. Santosh Kumar Panda	
2.	Mr. Ranjit Sethi	Doordarshan
3.	Mr. Samir Kumar Bisoi	
4.	Ms. Minati Sahoo	Times of India
5.	Mr. P.C.Sahoo	
6.	Mr. Bhabani Prasad Das	Times of India
7.	Mr. Asit kumar Satapathy	SAMBAD

8.	Mr. Brundaban Sahoo	
9.	Mr. Hara Das	
10.	Mr. Kishore Kumar Behera	
11.	Mr. Asutosh M.	

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