



Consultative Workshop on

Learning Needs Assessment for Nutrition Sensitive Agriculture in India: Integrating Nutrition Objectives into Agricultural Extension Programmes and Policies

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Proceedings: Consultative Workshop on

LEARNING NEEDS ASSESSMENT FOR NUTRITION SENSITIVE AGRICULTURE IN INDIA:

Integrating Nutrition Objectives into Agricultural Extension Programmes and Policies

3 January 2020, Hyderabad, Telangana, India (September 2020)

This workshop was organised with support from the Food and Agriculture Organization of the United Nations (FAO) and the Global Forum for Rural Advisory Services (GFRAS).

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We sincerely appreciate the contributions made by all the participants of this workshop we organised at Hyderabad, India, on 3 January 2020.

BACKGROUND

There is an increasing realization that equipping Agricultural Extension and Advisory Services (EAS) with nutrition knowledge, competencies, and skills is essential to promote Nutrition Sensitive Agriculture (NSA). However, capacity development efforts need to be strengthened through a systematic approach based on a better understanding of needs, challenges, and interactions at, and between, all institutional levels, from frontline workers to policy makers. In Telangana, this needs assessment was undertaken to identify the learning gaps, needs, and obstacles standing in the way of integrating nutrition-related objectives into agricultural programmes and policies. This assessment, funded by the Food and Agricultural Organization (FAO) of the United Nations is currently taking place in five countries spread over Asia, Africa and Latin America. The assessment tried to explore and identify:

- All the opportunities and challenges with regard to integrating nutrition-related objectives into agricultural programmes and policies;
- Capacity needs of EAS providers as well as at organizational and enabling environment levels, which include institutional set-ups, opportunities, and challenges for strengthening capacities to integrate nutrition outcomes in their regular tasks and responsibilities; and
- Knowledge gaps in training materials on NSA.

Introduction to the Workshop

The Centre for Research on Innovation and Science Policy (CRISP) and Agricultural Extension South Asia Network (AESAN), organised the Consultation workshop on ‘Learning Needs Assessment for Nutrition Sensitive Agriculture (NSA) in Telangana’ on 3 January 2020, at Hyderabad, Telangana, India. This workshop was organised to validate the findings of the study and the use of Global Learning Needs Assessment (GLNA) Methodology to assess learning needs. The participants (See Annexure 1 for a list of participants) included representatives from the government and non-governmental organisations engaged in research, teaching, training, extension, and programme implementation. Prior to the workshop, the draft report on the findings of the study was shared with the participants and each of them was apprised of the agenda (see Annexure 2 for the agenda).

OPENING SESSION

In her welcome address, Tejaswini Kaja, Senior Research Fellow, CRISP, thanked the participants for taking part in the workshop. Rasheed Sulaiman V, Director, CRISP, and AESAN Focal Point, provided background information on this workshop, including the objectives of the workshop, the role of FAO’s Nutrition and Food Systems Division (<http://www.fao.org/nutrition/en/>), and Global Forum for Rural Advisory Services (GFRAS www.g-fras.org) in pilot testing GLNA in five countries, the rationale for EAS in addressing nutrition, the generic challenges in addressing nutrition by EAS, and the rationale for development of the GLNA methodology.

In his presentation he elaborated on the role of different agencies in addressing nutrition in India and the increasing policy focus on addressing nutrition through agricultural intervention. He also shared details of the interventions made by the main stakeholders involved in nutrition in the State, the major findings from the assessment in Telangana, the gaps identified at the enabling environment, organisational, and individual levels, and some of the potential ways forward in addressing these gaps.

He also argued that NSA is not a mandate for agencies involved in agriculture in the State. It is also not prioritised as an area for capacity development among state agencies involved in agriculture. Though the agencies in the rural development sector has made some efforts at educating women self-help group members on addressing nutrition, lack of collaboration with other agencies limits the potential of this initiative. Instead of viewing NSA as the sole responsibility of agencies involved in agriculture, these agencies should strengthen capacities of other agencies in the nutrition sector having a greater number of field staff – such as Integrated Child Development Services (ICDS), Society for Elimination of Rural Poverty (SERP) and Department of Health. There is an urgent need to develop training modules and other learning materials appropriate to their level of engagement. The State's capacity to design, implement and evaluate NSA interventions clearly needs strengthening. Middle and senior level officials do need stronger capacities in this area. This will call for not merely training but also long-term capacity development.

In response to this presentation, the workshop participants observed the following:

- Nutrition is measured in terms of hunger, energy, and protein deficiency. The focus of the Public Distribution System (PDS) has to shift from food security to nutrition security.
- Can we make nutritious food easily available? Can we engage private players? Who could be the leveraging authority? Can it be done through campaigns and celebrity endorsements? Harsh Vardhan, as he launched the Eat Right India Movement of FSSAI, said “Eat Right, Stay Fit, Tabhi India Super Fit”. His focus was on the new ‘healthy eating’ approach, which places citizens at the centre of a Health Revolution through food and fitness.
- Addressing climate change through NSA is also an important aspect. Switching from more water intensive crops such as rice to millets which are less water intensive and environment friendly, will be beneficial.
- What more can be done in terms of promoting NSA and who should be the participants? Meeting market demand and keeping in mind the supply and demand aspects, private sector players should also be included in the promotion of NSA. How can we get the private players to engage in more important roles, and who could be the leveraging authority here? (One way, for example, is to learn from the private sector how they were making soft drinks and biscuits available even in interior villages, so as to learn the organizational logistics for making nutritious food such as fruits or vegetables available in such interior villages.)
- Having strong leadership is one of the major factors, so who do we see taking up this role? Will the government, NGOs, or private sector stand at the forefront in the implementation of NSA?
- One of the key aspects is the motivation of people engaged in EAS. How do organisations themselves look at nutrition? In each sector, what factors drive them to engage in nutrition? What are the individual preferences and priorities? There is a huge gap in terms of nutrition education, appropriate methodologies, and motivation among the staff engaged in EAS. How do organisations look at nutrition communication?

- Who decides the agenda in different organisations? In the case of NGOs it is the funding agency that drives the mandate.
- Role of media on promoting NSA.
- Role of women in NSA – women are the last to eat in the household and so there is a need to involve men in nutrition extension programmes on nutrition.
- We need to focus on other interventions too – for example, NSA could be integrated into the design of technology mission on oil seeds and pulses.
- Nutrition is given the last priority in terms of budget allocation/staff, etc. Do we consider the nutritional aspects while implementing schemes or while formulating policies? Within EAS, nutrition extension becomes the last priority. Even while allocating budgets and staff nutrition gets least preference.
- Farmers are more focussed on income generation and how growing nutritious crops can add to farm income.
- Hunger and the prevalence of malnutrition is rampant. Promoting pulses and oil seeds, along with integrated farming systems (which is a combination of backyard poultry and animal husbandry, etc.) supports the idea of NSA. There is sufficient evidence that availability of food improves consumption patterns as well.
- In terms of Reliance Foundation and other models – can we deliberate in terms of what the way forward is? How do we operationalize what we have assessed so far? What could be the different scenarios, and whom do we engage, and at what levels do we have to engage? Whom, how, and what do we focus on in terms of NSA?

This session concluded with a brief self-introduction by the participants.





PANEL DISCUSSION 1: INFLUENCING THE ENABLING ENVIRONMENT FOR NUTRITION SENSITIVE AGRICULTURE (NSA): ADDING VALUE TO GOVERNMENT INITIATIVES

This session was chaired by Subba Rao M Gavaravarapu (ICMR-NIN). The panellists were Konda Reddy Chavva (FAO-India), Khyati Tiwari (UNICEF), and Salome Yesudas (independent consultant).

The key questions discussed in this session were:

- Is there an enabling environment for promoting NSA in India, especially in Telangana State?
- How do different organisations influence and add value to existing government initiatives?
- What needs to be done to make sure that NSA is integrated in different organisations?
- Do we need more collaboration for integrating NSA? If yes, what kind of collaborations would be ideal?

Subba Rao initiated the discussion by focusing on the role of Indian Council of Medical Research-National Institute of Nutrition (ICMR-NIN) in addressing nutrition. He noted that after attaining independence in 1947, India concentrated on achieving food security in which it succeeded, but nutrition security got missed out in that process. Food safety is another aspect that needs renewed focus. He noted that in recent years there has been a transition in the population – from under nutrition to non-communicable diseases and obesity.

Studies by LANCET show that rural areas have the highest incidence of global obesity. Adolescent obesity and overweight are widespread. Telangana and Andhra Pradesh rank high in adolescent obesity.

A study was conducted by NIN which aimed to explore five dimensions, viz., availability, accessibility, affordability, acceptability of a diverse diet by consumers, accommodation of consumers' food demands by food vendors, and its influence on the dietary diversity of children in rural middle-income households. The five dimensions of the food environment were measured contextually, and it was found that non-availability of perishable food items such as vegetables, fruits, and fish was a limitation that reduced their inclusion in diets. Mapping the food deserts and assessing factors that impact availability, accessibility, affordability, and use at the grassroots level is necessary for promoting dietary diversity and improving micronutrient status¹.

¹ Konapur Archana, Nair Krishnapillai Madhavan, Balakrishna Nagalla, Gavaravarapu Subbarao M. 2019. Identification of food environmental factors hindering dietary diversification: A mixed methods study in rural south India. Agriculture, Nutrition and Health Academy Week - Conference Booklet, 24-28 June 2019 | Hyderabad, India. Session 8B: Food Environments and Drivers of Food Choice.

The Green Revolution in India refers to a period (starting from 1965) when Indian agriculture was converted into an industrial system mode, with the adoption of modern methods and technology, such as the use of high yielding variety (HYV) seeds, tractors, irrigation facilities, pesticides, and fertilizers.

Generally, it is assumed that when the GDP increases, the nutritional outcomes will improve but in the case of India, calorie and protein intake has reduced even when there is steady GDP growth. Agricultural extension is always linked to increasing the income of the population, and not nutrition. Markets for nutritious food should be locally located and linkages need to be established so that these foods are not always expensive.

Poshan Abhiyaan is a scheme of national importance which talks about the convergence between sectors, and promotes multi-sectoral involvement in nutrition. One of the major drawbacks of this scheme is that people at the helm (policy makers) do not know how to integrate agriculture into these. As a result, frontline workers are not aware of the role of agriculture and the importance of addressing nutrition through agriculture. There is a need for:

- Creating local markets and local demand and these must be linked to nutrition.
- Enhancing demand for local foods as food sovereignty of the people is important; and
- Educating people and creating an understanding that locally available foods are indeed nutritious.



Konda Reddy stated that an enabling environment for NSA exists in India, but at the same time we need to be mindful about the cultural practices in India associated with nutrition. How we facilitate inter-sectoral and inter-ministerial coordination and convergence of various departments is a major challenge. In the National Nutrition Mission, the Ministry of Agriculture & Farmers' Welfare (MA&FW) is conspicuous by its absence. When we look at the mandate of MA&FW, (called the Ministry of Agriculture till recently) the focus was on food security and the Green Revolution was the paradigm for achieving that. Currently we face several additional challenges such as water scarcity, loss of soil fertility, reduced productivity, etc. NSA is environment friendly, beneficial to small farmers and is also climate smart. The concern here is on how to package NSA and how to take it forward. Over the last few decades, there is emphasis (research and investments) on food security with focus on rice and wheat, but for other crops, for example millets, there is a visible lack of improved varieties. We need to work with the value chains, research is in place for the major crops (rice, wheat, etc.) but for others it is not readily available, so we have to work systematically on those lines. We also must engage with the private sector.

The extension system is decidedly inadequate even with the vast numbers. Majority of the farmers are dependent on the private sector for the last mile extension. So then, how can we work with the private sector – this is something we need to seriously think about. We also must understand the process by which farmers make decisions. How can we work towards putting value chains in place and be aware of the availability of technology and implements. Only the urban population with higher purchasing power have access to the nutritious products being produced by the food industry. Most of these products are still not available in the rural areas. There is a need to ponder on how to:

- Integrate food and nutrition security with Social Safety net programmes.
- Create a market for the produce the farmers grow and simultaneously reduce the carbon foot print.
- Work with the farmer value chain.
- Create models and package them for sale – How do we engage and sell the models and show that there are ways to package and sensitize the various stakeholders.
- Engage at different levels and with the different strata (State/district/sub-district, etc.) of the government so that all are on the same page.

Salome Yesudas agreed with the above deliberations, and added that people generally stop at production and forget that there are several other aspects such as fortification, food diversity, integrated farming, post-harvest technology, etc., that are needed to solve the various problems of nutrition. For example, millets have limited shelf life and there are problems with handling them. Also, it is easier to launch programmes/schemes with rice as it has a longer shelf life. In terms of consumer acceptance, the urban consumer always looks for ease in preparation, price, and taste, and according to their own income levels. NSA should not stop at farmers itself/production. There is no purpose in inventing new things when we can make the best with whatever is already available. Since FAO has manuals on NSA we don't have to reinvent anything new. The staff at all levels should be made nutrition sensitive, and this holds particularly true for all the extension staff who should be trained to become 'nutrition sensitive'.

Khyati Tiwari spoke on the UN's SDG 2 'Zero hunger' targets, and the status of hunger in India and Telangana in terms of stunting, wasting and anaemia.

She also spoke in detail on the need for strong leadership and shared multi-stakeholder spaces where people come together to align their interests and take joint responsibility. Value chains focussing on delivering nutritious foods will require initiatives on multiple fronts, starting with clear nutrition goals. The informal sector and local SMEs feature prominently in a majority of food value chains in developing countries, and engaging with them will be critical for their long-term sustainability. To be able to tackle the triple burden of malnutrition, the public sector will need to play a key role and establish clear nutritional objectives. There is also a need to better understand and capitalize on the market transformation that is underway in many countries so as to better target nutrition-related outcomes by shifting incentives, reducing risk, and changing consumer preferences and behaviour. In order to design and implement effective policies and strategies around value chains, policy makers need to create an enabling institutional environment, so that they can better shape value chains to deliver nutritious products in a sustainable way, leveraging the capabilities and willingness of all the stakeholders involved.

Hunger in India and Telangana

The Global Hunger Index, 2019, gives India a score of 30.3 with an alarming level of food insecurity, thereby globally ranking India at the 104th position (out of 117 countries). When it comes to stunting, in India nearly four out of 10 children are stunted (35%) and with regard to wasting, nearly two of 10 children are wasted (17%). Even on the subject of anaemia we are very low with 4-5 of 10 children and women marked as anaemic (41% and 53%).

Globally, more than 51 million children under five are affected by malnutrition; and more than 20 million children suffer from Severe and Acute Malnutrition (SAM), which increases their risk of dying nine-fold when compared to well-nourished children. In the context of Telangana, as per the Comprehensive National Nutrition Survey (CNNS) held during the period of 2016-2018, 17.9% of children under five are wasted (indicative of SAM and Moderate acute malnutrition (MAM) both), and out of this 5.6% are severely wasted or children with Severe Acute Malnutrition. In terms of total burden, there are approximately 10 lakh children with acute malnutrition and 3 lakh children with SAM in Telangana. This amounts to 5.3% of the total burden of wasted children in India.

Stunting and other forms of under nutrition reduce a child's chance of survival while also hindering optimal health and growth. Stunting is associated with sub-optimal brain development, which is likely to have long-lasting harmful consequences for cognitive ability, school performance, and future earnings. This in turn affects the development potential of nations.

She also spoke on the importance of Gender Sensitive Agriculture, but noted that following a gender-blind approach is costly, not only because it tends to miss out on important constraints, opportunities, and impacts, but also because of the risk of unintended negative impacts of agriculture on nutrition. These can include impacts on women's time for child feeding and care, and the health and nutritional risks associated with exposure to livestock and chicken faeces, especially for young children. According to her, the main pathways through which agricultural interventions affect nutrition include:

- Food access from self-production.
- Income from the sale of commodities produced.
- Fluctuations in food prices due to changes in supply and demand.
- Women's social status and empowerment through increased access to, and control over, resources.
- Women's time – through participation in agriculture (which can have either positive or negative nutrition impacts for themselves or their children).
- Women's health and nutrition through engagement in agriculture, which can also have either positive or negative nutritional impacts depending on exposure to occupational health hazards and the balance between energy intake and expenditure.
- Need for aligning actions across sectors: around high quality and well-estimated country plans, with an established results framework and mutual accountability.
- Reshaping agriculture to reduce obesity: national agricultural policy to address new nutritional challenges, beyond food security to nutrition security.

The panel discussion was followed by a Question and Answer (Q&A) session among the panelists and the participants. The questions were:

1. Is there any success story or a model to scale up NSA? / Is there a workable model that can be scaled up?
2. What is the panel's opinion about the aspect of food safety?

The panelists' response were as follows:

Farmer Field Schools is a successful model, similarly 'farmer nutrition schools' could be one idea for linking FPOs and nutrition – this will address the issue of family nutrition as well. Brazil's zero hunger challenge for food and nutrition security, where they work with local communities along with nutrition security plans are other examples. Then again, for example, there is the possibility of food stamps and payments in terms of food.

Food safety is also an issue that needs attention, which comes under the ambit of the National Food Security Act. However, the idea of safety is examined only at the level of adulteration and contamination. Excessive use of pesticides, residues, etc., are not taken into consideration while talking about food safety.

Some of the salient points deriving from this discussion were:

- Building food value chains where supply and demand factors have equal importance. The nutrition sector needs better funding keeping in view the huge market for nutrition.
- Creating local markets, developing rural infrastructure, and encouraging extensive investments in post-harvest technology are the major drivers of NSA.

Capacity development initiatives on NSA should cover nutrition stakeholders at all levels (policy makers, middle level managers and field level personnel). Plans to promote NSA should be based on community level assessment of nutrition, and identifying opportunities for using agricultural interventions in promoting nutrition. Collaboration among agencies involved in agriculture, horticulture, women and child development, and rural development is fundamental to promoting NSA.

The Chair summarised the key points emerging from this session thus:

There's a need to engage with the private sector and media (e.g., link nutrition messages with popular television programmes like Annadata). Nutrition should piggyback on other programmes; and these can be used for creating value chains for produce, for promoting post-harvest technologies, organic farmer schools, strengthening rural infrastructure, promoting agriculture and horticulture, as well as women's welfare and health.

PANEL DISCUSSION 2: ENHANCING CAPACITY FOR PROMOTING NUTRITION SENSITIVE AGRICULTURE (NSA)

This session was chaired by Sudha Rani V(EEI). The panellists were: Veenita Kumari (MANAGE), Surjit Vikraman (NIRD & PR), Sreenivasa Rao I (EEI), TV Hymavathi (PJ TSAU) and Bhagirath Gop (TATA Trusts).

The key questions discussed in this session were:

- How can capacities of knowledge intermediaries/ field functionaries/ extension staff organisations be enhanced?
- What are the best approaches in this area?
 - o Development of Training Modules
 - o Training of Trainers/Development of a pool of resource persons/trainers
 - o Induction/In-service training
 - o Partnerships for capacity development
- What else is needed to ensure that field functionaries are capacitated adequately to promote NSA?
- What kind of support (knowledge/financial/human resources, etc.) is required for strengthening capacities in this area?

Sudha Rani V, the Chair of this session noted that considering the rise in Indian population we need to enhance production and productivity of agriculture. But, at the same time the focus on food security needs to be linked to nutritional security too. Beyond agriculture and post-production what are the type of agri-business models that can be proposed to help in achieving this? Perhaps we need to focus on undertaking stakeholder assessment, food value chain assessment, training needs assessment on NSA, and then come up with nutrition-sensitive business models. Veenita Kumari spoke about the importance of identifying the right stakeholders across different levels, from the national level to the panchayat level. Once the stakeholders are identified focus should be on sensitisation, capacity development, fixing responsibility, and developing programmes for behavioural change. The functionaries at the panchayat level should be actively involved in this process for effective outcomes.



There needs to be a deliberation on how capacities can be enhanced and what the best approaches that can be followed are.

TV Hymavathi spoke on the absence of literacy and knowledge on nutrition. This should be addressed with training sessions on NSA. Theoretical knowledge on the importance of nutrition is available, but field functionaries do not have knowledge on how to promote nutritional knowledge and so they are unable to influence farmers on this. They also lack motivation. Therefore there is a need to build the capacities of field functionaries who are in direct contact with farmers. They should also know about the existing policies and programmes in this area. Extension personnel should also have knowledge on enhancing the shelf life of products through storage and value addition at the farm gate.

IS Rao emphasised the need to first have a policy on NSA as this will bring about a common vision across various departments; and then organising specific programmes for capacity development. We must focus on having a policy at the state level, enhance capacities on NSA, address storage and transportation issues, and promote value change and marketing. We must also document experiences in this area too. While approving policies, we must undertake capacity building for EAS personnel at all levels, including the senior managers of EAS. He also noted that many small farmers are poor and enhancing their income is critical. Promoting integrated farming systems can help in enhancing income and nutrition.

Surjit Vikraman talked about demand and supply side factors that have implications on nutritional outcomes and the need to design nutritional interventions appropriate to specific geographies and cultures. A 'one size fits all' approach will not work.

Demand and Supply side factors influencing nutritional outcomes

Demand side factors: Awareness (nutritional literacy), purchasing power, socio-economic factors, structural barriers/constraints in agriculture development and agrarian change, livelihoods based on agriculture, remunerative enterprises, purchasing power, and returns from agriculture

Supply side factors: Food availability (for dietary diversity), enabling environment (water quality, care practices, disease burden, sanitation and health)

Nutritional literacy at various levels (policy makers, administrators, frontline workers) can help in building capacities at all levels.

There is need for convergence between state departments/agencies. The potential of Panchayat Raj Institutions (PRIs) as a platform for educating about NSA and ensuring peoples' participation should be fully utilised. There should be efforts to link local agricultural production systems to ongoing programmes and we should learn from the policies of countries such as Japan, Brazil, etc. EAS staff at all levels, apart from trainings, should be sent for exposure visits across diverse sites. Decentralised and Inclusive Institutional infrastructure is also needed if all efforts are to succeed.

Bhagirath Gop shared his views on the work of TATA Trusts with regard to Agriculture and Nutrition across 12 states, with about 10 lakh farmers affected. In an effort at doubling farmers' incomes Tata Trusts has formulated the lakhpati kisan initiative, which focusses on small and marginal farmers and promotes multiple interventions (agriculture, poultry, fisheries, etc.) that lead to enhanced income. He noted that in practice EAS and research organisations rarely reach farmers, so the package of practices also doesn't reach the farmers, and so they are making huge investments on farm inputs. If NSA needs to be promoted, the following platforms need to be strengthened:

- Agricultural Extension Officers (AEOs) at the cluster level;
- Rythu vedikas supported by AEOs, and a group of 200-500 farmers – can be used as a platform;
- Farmer Producer Organisations (FPOs) – right from production and selling to marketing, etc.

The discussion that followed focused on the following:

- Trainings on NSA should not only be for farmers but it should also be included in school education, for homemakers/women, academic education, hospitals and restaurants;
- Encourage both male and female participants, and make training on NSA compulsory for EAS staff;
- Give importance to exposure visits;
- Promote advertisements to influence consumers, producers and promoters of food items;
- Multi-sectoral approach is needed by drawing together personnel from agriculture/marketing/poultry/fisheries/veterinary services/fisheries and others;
- There is a lack of role clarity as to who should do what and when; private sector needs to be included. Need to organise programmes to sensitise media on NSA;
- Include NSA as part of the school curriculum;
- Projecting successful models by way of capturing stories of farmers who created change and benefitted from NSA;
- Identifying the stakeholders who have more influence and getting them to promote NSA;
- Nutritional literacy assessment of stakeholders;
- Making training on NSA mandatory for all functionaries;
- Identifying agencies/professionals to design and deliver training modules;
- Taking stock of the existing training modules on nutrition at different levels – for instance, NIRD & PR Centre for Gender Studies has developed NSA modules, and is also offering a compulsory course on 'Food Systems for Nutrition', which has 30 sessions using six FAO e-modules designed and developed by FAO;
- Diversity in agriculture should be promoted in order to promote NSA.



PANEL DISCUSSION 3: ROLE OF PARTNERSHIPS IN PROMOTING NSA

This session was chaired by Vinay Singh (FAO-India). The panellists were Kavitha K (ICRISAT), Suman S (Dr. Reddy's Foundation) and Sandhya Rani (Department of Tribal Welfare, Telangana).

The key questions discussed in this session were:

- What are our experiences with partnerships to promote NSA?
- What lessons can we draw from these?
- What else needs to be done to make sure that these partnerships are integrated within organisations?



Vinay Singh, the Chair of the session emphasised the need for good partnerships and sensitization of all stakeholders for promoting NSA. He also reiterated the need for a multi- sectoral approach in the design of these partnerships and interventions. Convergence is required at the household level where the beneficiaries are also informed thoroughly about the intervention (information sharing and knowledge dissemination across various levels). There are several hurdles and constraints across various levels and sectors.

Kavitha K spoke on the ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) experience with partnerships on nutrition. It dwelt on the following:

Nutri-food project: This project focuses on providing the tribal populations in Adilabad, Asifabad and Mancherial districts of Telangana with food products that supplement their existing diet with the aim of improving dietary diversity and overall nutritional intake. In the long run this will help in improving key nutritional parameters, such as reducing underweight among children and improving the haemoglobin levels of the target population. The project is implemented in coordination with the Departments of Health and Family Welfare, Women and Child Welfare, and Integrated Tribal Development Agency (ITDA) of the Government of Telangana. As part of the project the following activities are undertaken:

- A Nutri-Food basket which provides additional energy, protein, fat and micronutrients from food products formulated using locally available millets and pulses is developed and provided;
- The Nutri-Food basket is provided to children, pregnant and lactating women, and adolescent girls of the identified tribal households in Utnoor mandal of Adilabad, Tiriyani mandal of Komaram Bheem-Asifabad, and Kasipet mandal of Mancherial, with the aim of transitioning tribal households from nutrient-deficient diets to consumption of diverse nutritional foods;
- Enhancing the awareness of tribal households on the need and benefits of diversified diets;
- Enhancing the capacity and skills of local households and ITDA staff in the areas of nutrition, food processing, and food safety.

Urban Sprawl: This is a joint project between the Swedish University of Agricultural Sciences (SLU) and ICRISAT on 'The Dynamics of Urban Sprawl: Land-use changes, Food Supply & Sustainable Agriculture Production Systems in the Arid and Semi-Arid Zones'. It aims to identify the resilience and adaptive capabilities of arid and semi-arid agro-ecological systems to urbanization. The project selected two growing mega cities: Cairo in Egypt under arid ecology; and Hyderabad in India under semi-arid ecology. The project investigates and compares the agronomic, institutional, and regional variations in these two agro-ecologies. A system-resilience framework will be developed and used to study the inter-linkages and impacts of urban sprawl on land use, changes in resource use, agricultural production, and food security, which in turn affects the competing use of natural resources such as land and water. Adaptation and resilience of the food supply and sustainable agriculture production systems to urban sprawl will also be examined using this framework. The results will strengthen the understanding of urban system resilience as well as generate knowledge in relation to how land use, agricultural production and food security interact in the crop-livestock systems in the arid and semi-arid regions. This will also help in directing the attention of researchers and policy makers to this issue. <https://www.icrisat.org/mapping-the-dynamics-of-urban-sprawl-and-its-impact-on-agriculture/>

TIGR2ESS: Transforming India's Green Revolution by Research and Empowerment for Sustainable food Supplies: A Global Challenges Research Fund project. ICRISAT is part of the Flagship Project 2: Crop Sciences - Water Use and Photosynthesis of TIGR2ESS.. <https://tigr2ess.globalfood.cam.ac.uk/fps/FP2>

In conclusion she said that there is need for strong leadership, a multi-stakeholder platform, and an

integrated systems approach to go ahead with NSA. There is also a need to develop strong behavioural change and communication strategy too.

Sandhya Rani described how the Tribal Department is promoting the good aspects of agriculture among tribal farmers. Some of the programmes/schemes of the department are as follows:

- **Giri Poshana:** This programme is being implemented in collaboration with NABARD, SERP and ICRISAT;
- **Farmer producer organisation (FPO) scheme:** In this programme, tribal farmers are provided finance to establish infrastructural facilities such as cold storage/marketing shed/value addition units;
- **Under the MSME Scheme** the department provides support to the tribal communities to form Joint Liability Groups (JLGs) and infrastructure facilities. The department is encouraging tribal farmers to grow millets and send them to these MSME units for processing, especially to create and market value added products like chikki and biscuits;
- Another scheme is promotion of Kitchen Gardens through the tribal welfare ashram schools.

Suman S described the work of Dr. Reddy's Foundation with lead partner platform (Programme MITRA) where it promotes farmer-to-farmer extension. The programme bridges the lack of last-mile delivery of agricultural extension services at the grassroots by helping marginal farmers to access existing public extension facilities, engage with agri-scientists/experts, and embrace best farming practices, and more importantly, promote peer learning and sharing among farmers. The vision is to develop a community-owned platform in every village and help farmers to use last-mile connectivity efficiently with the help of 'lead farmers'. The focus is also on improving irrigation and water management, as well as digital and financial literacy. He spoke on the importance of not building parallel systems but rather making community the core by adopting a reliable package of practices that includes a problem solving approach, trust building, and aligning for the same cause.

He also highlighted the importance of forming partnerships, but being cautious of not expecting benefits at the transactional level. Different collaborators have different agendas but one should ensure that the agendas are along similar lines. It also needs to be kept in mind that there are several informal collaborations and partnerships that exist, and many agencies still work without any signed agreements. One must focus on the sustainability aspect of the project as well. Another important aspect is the community involvement from beginning till the end of a project.

The session ended with the following observations:

- Partnerships are important, but there are certain challenges;
- There is no 'one size fits all' approach;
- Alignments of agendas will give better results;
- A more collaborative approach is needed, especially with private partners at the local level;
- Community involvement is very important.

PANEL DISCUSSION 4: INTEGRATING NSA WITHIN GOVERNMENT PROGRAMMES

This session was chaired by Saravanan Raj (MANAGE). The panellists were Shivanand R (Department of Agriculture, Government of Telangana), Bhaskaran A (ICAR-ATARI), Sangappa (ICAR-IIMR), and Amtul Waris (ICAR-IIRR).

The key questions discussed in this session were:

- What are the experiences on integrating NSA within government programmes?
- What else needs to be done to integrate programmes on NSA?
 - o Mandate
 - o Capacity Development
 - o Training Module Development
 - o Policy Advocacy
 - o Human Resources



Saravanan Raj, the Chair of the session initiated the discussion by mentioning the various capacity development initiatives of National Institute of Agricultural Extension Management (MANAGE), such as:

- Conducting training programmes for several middle and senior level functionaries;
- Certified Farm Advisor/Certified Livestock Advisor' programme to develop agricultural extension personnel into specialists on a particular crop/enterprise. The programme consists of three modules;



- Focus on integrating new concepts and ideas; for example, promotion of urban farming through innovative models etc.;
- The Centre for Innovation and Agripreneurship at MANAGE is promoting food tech start-ups for convergence of farmers and several other actors.

There are several constraints that MANAGE faces in promoting many of these schemes, such as the problem of infrastructure, delays in decision making within government departments, funding, lack of knowledge sharing, etc.

Shivanand R spoke about the vast extension machinery of the Department of Agriculture (DoA) in Telangana that has around 3500 personnel, starting with the Principal Secretary at the top to field level extension functionaries (AEOs). The department has adopted several IT interventions and there is no dearth of manpower for any scheme implementation. The data of 58.35 lakh farmers is available with the government. Schemes, such as Rythu bandhu – investment support of 4000 rupees per acre, Rythu bema – individual life insurance policy for life support and economic support, are being successfully implemented. The districts of Vanaparthy and Nagarkurnool has huge acreage with millets and pulses.

A Bhaskaran from ICAR- Agricultural Technology Application Research Institute (ATARI) reminded the gathering that NSA is not just about creating awareness but also about promoting the integrated farming system. It cannot be separated from other agricultural activities. Frontline extension is one of the major objectives of Krishi Vigyan Kendras (KVKs) under ATARI. Several trainings are being conducted by KVKs and other agencies, but their reach is limited. KVKs have well-trained resource persons but the main constraint is limited resources and budget. Specific nutrition activities are taken up by the KVKs via their resident scientists. This is because NSA is not the main mandate and KVKs have several other activities that take precedence over nutrition. But most of the KVK activities contribute indirectly to enhancing production and income, and by promoting integrated farming systems KVKs are contributing to NSA.

Sangappa spoke on the need to sensitise farmers about growing millets. The ICAR-Indian Institute of Millets Research (ICAR-IIMR) is a knowledge partner in the promotion of millets. It promotes nine millet varieties in collaboration with several crop improvement institutes under the National Food Security Mission (NFSM). An incentive of 4000 rupees per acre is given to farmers to grow millets. There is also a provision for providing INR 500,000 as financial support to those interested in establishing a millet processing unit. The non-availability of adequate processing facilities along with a lack of farm gate processing units are major drawbacks in the case of millets. FPO level sensitisation and appropriate encouragement to grow millets must be given to farmers. IIMR also runs a paid training programme on 'Cooking with millets' to create awareness on millet consumption.

Amtul Warris stated that the ICAR-Indian Institute of Rice Research (ICAR-IIRR) has developed several bio-fortified rice varieties to address the issue of nutrition. As rice is the staple for a majority of population in the state, efforts are being made to popularize the various bio-fortified varieties, such as DRR Dhan 45 - a Zinc fortified variety, and several other varieties that go on trial. The Indian Council of Agricultural Research (ICAR) is also promoting bio-fortified maize, pearl millet, potato, etc. NFSM sponsors Front Line Demonstrations (FLDs) with an input support of INR 6400 per farmer for the farmers to grow these bio-fortified varieties so that there is enough seed available. MoUs are also undertaken with private partners to take up seed production. Along with Integrated Child Development Services (ICDS), IIRR is organising several nutrition information campaigns for popularising bio-fortified varieties.

CLOSING SESSION

In his concluding remarks, Rasheed Sulaiman V summarized the major points that emerged in the discussions and conveyed his sincere thanks to all the participants for their inputs to the dialogue. Prior to the closing session the participants were asked to share their comments on the methodology as well as a draft report in the coming two weeks. Nimisha Mittal, Lead Researcher, CRISP, thanked all the panelists and organizers for their contribution towards making this workshop a success.



Annexure 1

Consultative Workshop

LEARNING NEEDS ASSESSMENT FOR NUTRITION SENSITIVE AGRICULTURE IN INDIA: Integrating Nutrition Objectives into Agricultural Extension Programmes and Policies

3 January 2020

Workshop Participants List

S. no.	Name	Institution	Designation	E-Mail	Phone
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Annexure 2

Consultative Workshop

LEARNING NEEDS ASSESSMENT FOR NUTRITION SENSITIVE AGRICULTURE IN INDIA: Integrating Nutrition Objectives into Agricultural Extension Programmes and Policies

3 January 2020, Hotel Mercure, Hyderabad

Programme Schedule

Session 1			Introduction to the Workshop		
1000 – 1030		Welcome and Introduction	Tejaswini Kaja (CRISP)		
1030 – 1100		Introduction to the Workshop & key findings of the study	Rasheed Sulaiman V (CRISP)		
1100 – 1115		Q&A			
1115 – 1130		Group photo and tea			
Session 2 1130-1230			Panel Discussion 1 Influencing the enabling environment for Nutrition Sensitive Agriculture (NSA): Adding value to government initiatives (Maximum 10 minute intervention by each speaker and 10 minutes for discussions) Chair: SubbaRao M Gavaravarapu (ICMR-NIN)		
			Key Questions:	Konda Reddy Chavva (FAO-India)	
			• Is there an enabling environment for promoting NSA in India and especially in the state of Telangana?	Khyati Tiwari (UNICEF)	
			• How different organisations influence and add value to existing government initiatives?	Salome Yesudas (Independent consultant)	
			• What needs to be done to make sure that NSA is integrated in different organisations?		
			• Do we need more collaborations for integrating NSA? If yes, what kind of collaborations would be ideal?		

Session 3
1230 – 1330

Panel Discussion 2
Enhancing capacity for promoting Nutrition Sensitive Agriculture (NSA)
(Maximum 10 minute intervention by each speaker and 10 minutes for discussions)
Chair: Sudha Rani V (EEI)

Key Questions:

- How can capacities of knowledge intermediaries/field functionaries/ extension staff organisations be enhanced?
- What are the best approaches in this area?
 - o Development of Training Modules
 - o Training of Trainers/ Development of pool of resource persons/trainers -Induction/In-service Training
 - o Partnerships for capacity development
- What else is needed to make sure that field functionaries are capacitated adequately to promote NSA?
- What kind of support (knowledge/ financial/human resources, etc.) is required for strengthening capacities in this area?

Veenita Kumari (MANAGE)
Surjit Vikraman (NIRDPR)
Sreenivasa Rao I (EEI)
T.V. Hymavathi (PJ TSAU)
Bhagirath Gop (TATA Trusts)

1330-1430

Lunch Break

Session 4
1430-1530

Panel Discussion 3:
Role of partnerships in promoting NSA
(Maximum 10 minute intervention by each speaker and 10 minutes for discussions)
Chair: Vinay Singh (FAO-India)

Key Questions:

- What are our experiences with partnerships to promote NSA?
- What lessons can we draw from these?
- What else needs to be done to make sure that these partnerships are integrated within organisations?

Kavitha K (ICRISAT)
Suman S (Dr. Reddy's Foundation)
Sandhya Rani K (Tribal Welfare)

1530 – 1545

Tea Break

Session 5
1545 – 1645

Panel Discussion 4:
Integrating NSA within government programmes
(Maximum 10 minute intervention by each speaker and 10 minutes for discussions)
Chair : Saravanan Raj (MANAGE)

Key Questions:

- What are the experiences on integrating NSA within government programmes?
- What else needs to be done to integrate programmes on NSA?
 - o Mandate
 - o Capacity Development
 - o Training Module Development
 - o Policy Advocacy
 - o Human Resources

Shivanand R (Department of Agriculture)
Bhaskaran A (ICAR-ATARI)
Sangappa (ICAR-IIMR)
Amtul Waris (ICAR-IIRR)

1645 – 1655

Closing Remarks

Rasheed Sulaiman V (CRISP)

1655 – 1700

Vote of Thanks

Nimisha Mittal (CRISP)

Agricultural Extension in South Asia (AESA) is a network of all those who are interested and involved in Extension and Advisory Services (EAS) in South Asia.

Our vision is to improve food and nutrition security through efficient and effective EAS in South Asia. Our mission is to promote sharing, learning, and networking for building effective and efficient EAS.

AESA is part of the Global Forum for Rural Advisory Services (GFRAS).

The Centre for Research on Innovation and Science Policy (CRISP) hosts the Secretariat of AESA. CRISP conducts policy-relevant research on agricultural extension and rural innovation.

