Nexus between Agriculture and Nutrition: Bangladesh Case

LANSA Knowledge Sharing Seminar

Venue: BRAC INN Auditorium

Date: 6 September 2016

Summary of Presentations

1) Agri-Food Value Chain Interventions: A Case Study on Orange Fleshed Sweet Potato as Food Fortification Initiative in Bangladesh

   By Dr. Siarjul Islam, AFSP, BRAC

Vitamin A deficiency is a major problem in Bangladesh. More importantly, subclinical vitamin A deficiency among pre-school aged children was classified as a public health problem in rural Bangladesh. High levels of vitamin A deficiency are associated with increased risk of mortality in children.

The focus of LANSA research is on how agri-food value chains that deliver food to households beyond the farm-gate (and hence through markets) can be improved so that substantive and sustained consumption of nutrient-dense foods by the poor in households that are post-farm-gate is achieved.

Orange-fleshed sweet potatoes have emerged as one of the most promising plant sources of β-carotene, the pro-vitamin A. A 100- 150 g serving of boiled tubers of orange-fleshed sweet potato can supply the daily requirement of vitamin A for young children which can protect them from blindness. Intervention of Orange fleshed sweet potato as a bio-fortified food is aiming to solve the vitamin A deficiency in the locality.

The initiative is under USAID horticultural Project and implementing by BRAC. It was aiming to market linkage along with school level nutritional awareness. A school under the project was visited and three Focus Group Discussions (FGD) were conducted at *Taura Uttar Para Govt. Primary School*, *Jhikorgasa*, *Jessore.* The FGDs were conducted to answer the pre selected research questions. All the participants of this initiative are women. They produce OFSP and sell those in the rural market as well as in the urban super shop. A number of school feeding programme was also conducted for nutritional awareness.

Farmers usually preferred local Sweet Potato variety. BRAC primarily promote the OFSP in different level like rural government, rural consumers, retailers, whole sellers, other government officials through workshop, field demonstration, school day, result demonstration etc.

There is lace of availability of the seed in the market and government should take initiative to make the seed available. There is also lacking of storage in the village level as well as gap on the transportation facilities to carry the product into available market. Processing industry should develop to process the orange fleshed sweet potato and to prepare various types of food from it.

The initiative has an impact on value chain development, women empowerment, increasing school attendance, health status improvement and nutritional awareness. It was targeted to introduce OFSP as a fortified food for the children, the poor community, and also the urban community. Proper marketing strategies are required to reach the poor. Government should take initiative to make the seed available in the market. Storage facility is required in the rural level and transportation facility also required from rural to urban market. It is also required to empower the producer groups. Private sector should come forward to make processing industry. Large scale extension of bio fortified Orange Fleshed Sweet Potato is required to reduce the Vitamin-A deficiency.

2) Agriculture, Nutrition, and Gender Linkages (ANGeL) Project in Bangladesh: An Initiative by the Ministry of Agriculture
   By Dr. Akhter Ahmed, Chief of Party, IFPRI

IFPRI's research in Bangladesh, using data from its own nationally representative household survey, reveals that diversity in agricultural production is associated with dietary diversity of children, women, and other household members. IFPRI's work also shows that women's empowerment plays a key role in improving dietary diversity, as well as increasing agricultural diversity, and that nutrition behaviour change communication (BCC) training imparted to women and men in rural households leads to significant improvements in child nutrition.

Motivated by such research based evidence from these studies, researchers at IFPRI went on to develop a concept note to strengthen the agriculture-nutrition-gender nexus in Bangladesh for the consideration of Ministry of Agriculture (MOA), Government of Bangladesh, in June 2014. Based on that concept note, an inter-ministerial committee of the Government of Bangladesh approved a pilot research project, "Agriculture, Nutrition, and Gender Linkages (ANGeL) for implementation by the MOA, with technical assistance from IFPRI and Helen Keller International (HKI), and a rigorous evaluation led by IFPRI. The Honourable Minister of Agriculture, Matia Chowdhury, MP officially launched the pilot project in October 2015. The project is jointly funded by the Government of Bangladesh and USAID, and is the first randomized controlled trial (RCT) experimental study sponsored by the government of a developing country.

The overall objective of the ANGeL pilot project is to identify actions and investments in agriculture that can leverage agricultural development for improved nutrition, and to make recommendations on how to invigorate pathways to women's empowerment—particularly within agriculture. In order to achieve this objective, the MOA and partners have designed the project in such a manner so that multiple intervention modalities and various combinations can be implemented across as many as 16 districts and subsequently evaluated to promote nutrition and gender sensitive agriculture.

At the LANSA-BRAC Seminar, the design will be discussed in detail and some preliminary finding from the baseline survey shared.

3) Normative Dimensions of Child Nutritional Wellbeing in *Haor* areas of Bangladesh
(New research initiative of LANSA)
By Barnali Chakraborty, RED, BRAC

Undernutrition is highly prevalent in Bangladesh and quite alarming in *haor* region of the country with over 45% of childhood stunting. Poor and marginal farmers, occupying over half of the population, are affected most as during wet season it prohibits growing any crop and during the drought season it prohibits cultivation of irrigation-based rice, winter crops and fishing. Multiple small scale programs have been in operation at sub district level in improving the condition of *haor* areas since a couple of years. BRAC, started pilot integrated interventions covering health, education, nutrition, sanitation and hygiene, agriculture, and credit based support at sub district level since 2013.

Literature review reveals that achievement of any outcome also matters on how and to what extent social and contextual factors enable people to choose, receive and utilize the services or available resources in achieving better outcome. Child nutrition particularly infant and young child nutrition depends on their parents' or caregivers' capabilities that are shaped by individual needs, endowments, choices and societal factors. Limited evidences are available around these normative dimensions that shape the capabilities of *haor* dwellers in achieving nutritional outcome and left unnoticed on the agenda. The study intends to address that information gap using Sen's Capability Approach in *haor* areas of Bangladesh.

The objectives of the study are to, identify the capabilities of caregivers (parents or grandparents) that contributes to child nutritional outcome in farming households with children under two years in *haor*; understand the seasonal context of *haor* and its implications on capabilities of the caregivers; and assess the capabilities of caregivers (parents or grandparents) that contributes to child nutritional outcome in farming households with children under two years in *haor*.

To identify the capabilities of the caregivers for achieving child nutritional outcome a literature review followed by stakeholder consultation will be done. In achieving the second objective focus group discussions (FGD) and in-depth (IDI) interviews with the caregivers (mothers and fathers) and senior decision makers (grandparents) will be employed. Parents' capabilities will be assessed employing quantitative approach where households engaged with any sort of farming and having children less than 2 years will be selected. Data will be collected on valuable dimensions of human well-being in the context of resource holdings, basic needs, individual and social values, real opportunities, constraints etc. Two sub districts will be selected purposively around *haor* zone where BRAC has been implementing integrated interventions through Integrated Development Program (IDP) given the relevancy and availability of household lists. From each of the sub districts at least two villages will be purposively selected for conducting the qualitative part whereas for quantitative assessment a sample of 800 households will be covered. Qualitative information will be analysed manually or using N-Vivo or Atlas Ti as convenient and quantitative analysis will be done using SPSS version 17.

The research findings and the derived recommendations can be used by diverse group of stakeholders including program personnel of BRAC, agriculture and nutrition scientists and policy circles of GOs, NGOS and international agencies in improving their existing efforts.

4) Impact of crop diversification and agricultural policy support on dietary diversity and nutritional outcome
   By Dr. Uttam Deb and Prof. Abdul Bayes

This study tries to answer an important question: Is agricultural policy support for crop diversification necessary to achieve diet diversity and better nutrition? To answer this question, it has analysed the trends in public expenditure on crop and non-crop subsectors and its impact on crop diversification and diet diversity. The relationship between the diversity of agricultural income and the diet diversity, and nutrition has also been examined. The study has analysed data obtained from three different sources: (i) public investment and crop production data obtained from Bangladesh Bureau of Statistics (BBS), (ii)Household Income and Expenditure Surveys (HIES) data from BBS, and (iii) Panel Household Survey data collected from 500 panel households by ICRISAT and IRRI (2010 to 2014) under the Village Dynamics in South Asia (VDSA) Project. The diversity indices are estimated to show the trend in the diversity of crop production and food basket. The BBS datasets on agricultural survey and household income and expenditure survey (HIES) have been used in assessing the influences of crop diversification on food consumption and nutritional outcome. The household level data from the VDSA project have been analysed to examine the strength of association between household level diversity of food production and other conditional factors with diet diversity of the household and nutrition status of under-five children and other household members. The study has quantified the level of food intake, diet diversity and nutritional status of each of the members of all sample households. It has examined the association between diet diversity and agricultural production, income level, remittances, education level of women and other household members, asset ownership, membership in NGOs and other social networks. Nutritional status of the household members is examined using the Body Mass Index (BMI). Determinants of nutritional status (under nutrition, adequate, obesity) for individual household member are identified through panel data analysis. Finally, the study has articulated implications of the research findings for public investment, agricultural policies and nutritional programs in Bangladesh.