Role of Research in Nutrition-sensitive Agriculture for Food Security in Asia and the Pacific

By Annie S. Wesley

Introduction

Measures of child undernutrition are used to track development progress because nutrition is central to better health, improved income and poverty reduction. An estimated 165 million children below 5 years of age suffer from stunting or chronic forms of malnutrition of which 85 million (more than half) live in Asia. The loss of human capital resulting from undernutrition in childhood, reflected in poorer health, cognitive and socioemotional development, and schooling outcomes leading to lower economic productivity in adulthood is estimated to reduce a nation's economic advancement by at least 8 per cent (in terms of GDP). As emphasized in the Global Nutrition Report (2015), accelerating progress against malnutrition will require investment in both proven nutrition interventions and research to understand how to bring promising solutions to scale in a cost-effective manner (IFPRI, 2015).

Asia and the Pacific is a region of significant diversity encompassing a wide range of states in relation to economic development, political stability and urbanization, in addition to variations in geography, culture, religion and ethnicity. Livelihoods of the majority depend on subsistence farming. The agricultural sector has contributed strongly to economic growth in the region over the past several decades. However, improvements in nutrition indicators did not have the same rate of positive change. For example, while countries such as China, Japan and South Korea have made significant strides in economic and health indicators, India continues to be an enigma in terms of nutritional indicators. Furthermore, stunting among children under 5 has been declining in Myanmar, Cambodia, and Viet Nam since 2000 but in Indonesia and Lao PDR the rates have not changed much.

With increasing recognition of the inter-linkages between agriculture and nutrition, this paper attempts to explore the role of research for development in understanding the pathways from agriculture to nutrition.

Nutrition-sensitive agriculture

Nutritional well-being of an individual is complex and influenced by many factors. Interventions to reduce malnutrition can only be effective if they also deal with the underlying causes requiring both long term and short term strategies. Recently the terms ‘nutrition-specific’ and ‘nutrition-sensitive’ interventions have gained recognition in the literature. What do they mean? As summarized in the Lancet Series on Maternal Health and Nutrition (Ruel et al., 2013), nutrition specific interventions or programmes address the immediate determinants of fetal and child nutrition and development (including adequate food and nutrient intake, feeding, caregiving and parenting practices) whereas nutrition-sensitive interventions or programmes address the underlying determinants of fetal and child
nutrition and development (such as food security; adequate caregiving resources at the maternal, household and community levels; and access to health services and a safe and hygienic environment).

Among the multiple sectors that can be platforms for nutrition-sensitive programming, agriculture is an important sector given the close relationship between the production of food and its utilization, and also because a large proportion of malnourished people live in rural areas where agriculture, particularly subsistence farming, is the main source of livelihood (Herforth et al., 2012). The question of how exactly agriculture can most effectively contribute to improved nutritional outcomes remains the subject of uncertainty mainly because there are a number of pathways. This complexity is one of the reasons for insufficient evidence on impacts of agriculture interventions on core nutrition indicators such as stunting rates in children. Identifying the most suitable outcomes and indicators to track progress is an important ongoing debate which requires consensus among experts in the light of increasing interest from national and international stakeholders (McDermott et al., 2015).

Global commitments for research on agriculture, food security and nutrition
The second International Conference on Nutrition in November 2014 reviewed the progress made towards reducing undernutrition since the first Conference held in 1992 and highlighted the renewed focus on the role of agriculture. Global leaders at the Conference identified sustainable agriculture development and agriculture policy as key components in addressing the persistent problem of undernutrition (FAO, 2015). This priority is also reflected in the second Sustainable Development Goal (SDG) to ‘End hunger, achieve food security and improved nutrition and promote sustainable agriculture’.

For several years leading up to the articulation of the SDGs, the global response to the food price volatility during 2007-2008 kindled a collective determination among multiple stakeholders to tackle food security challenges. This led to concrete investments in agricultural research and development within which achieving nutrition security has been central. Building on the commitment of the G8 and specifically in response to the need for investments in research, several collaborative international efforts were initiated. One example is the Canadian International Food Security Research Fund established by Global Affairs Canada (formerly Canadian International Development Agency) and the International Development Research Centre. With a CA$ 124 million funding commitment between 2010 and 2018, two phases of the programme have brought together Canadian and developing-country researchers, policymakers, and the private sector. Emerging results demonstrate improved crop productivity, income and nutrition as well as creation of new markets and scaling up of innovations for maximum impact. Other international research organizations including the Australian Centre for International Agricultural Research, Feed the Future’s Innovation Lab for Nutrition and the Consortium of International Agricultural Research Centers are also supporting agriculture, food and nutrition security research (Wesley and Faminow, 2014). Several recent international movements such as ‘Scaling Up Nutrition’ along with increasing private sector investments have culminated into a much needed momentum for nutrition as a priority.

Pathways from agriculture to nutrition
It is now well established that producing more food does not necessarily ensure improved nutrition. Understanding the potential of promoting food production to improve nutritional outcomes requires consideration of the pathways and linkages between agriculture and nutrition. Research plays a key role in establishing this understanding as well as in identifying key drivers. It is critical to answer questions such as when, where, why and which interventions connect the dots towards improved nutrition.

During the last five years several conceptual frameworks and potential pathways through which agriculture can influence nutrition were developed, many of which highlight three key entry points. These are food production, income and gender, each with several possible pathways to nutritional outcomes. Among the different conceptual frameworks, the one in figure 1 by Herforth and Harris (2014) best captures these potential pathways and will be further explored in this paper.

Dear Palawija News readers,

Agriculture plays an important role in improving the nutrition of people. Nutrition-sensitive agriculture, according to the Food and Agriculture Organization of the United Nations (FAO), is an approach that seeks to maximize agriculture’s contribution to nutrition. Nutrition-sensitive approaches to agriculture are considered key to achieving food and nutrition security.

The current issue of CAPSA’s Palawija News focuses on the theme of nutrition-sensitive agriculture to highlight the importance of this topic and its role in improving food and agricultural systems.

Noortje Verhart and Annoek van den Wijngaart of the Royal Tropical Institute (KIT), the Netherlands, in their article *Nutrition and Gender Sensitive Agriculture* show how gender relations affect nutrition security and how addressing unequal gender relations holds part of the solution to better linking agriculture and nutrition interventions.

Another article on *The Role of Research in Nutrition-sensitive Agriculture for Food Security in Asia and the Pacific*, by Annie S. Wesley, International Development Research Centre, Ottawa, Canada, explores the role of research for development in understanding the pathways from agriculture to nutrition.

The FAO Manual entitled *Designing Nutrition-sensitive Agriculture Investments*, which serves as a tool to guide programme planners, is highlighted in this issue.

We also share a success story from the integrated home garden project implemented in Nepal by Local Initiatives for Biodiversity, Research and Development (LI-BIRD). The project achieved significant success in terms of increasing home garden crop diversity for delivering nutritional benefits to the local community.

We hope readers find the information in this issue useful, and we welcome your feedback and contributions for future issues of the newsletter.

Editor
model of agriculture interventions that carefully target nutritional outcomes. In Cambodia, innovations tested through randomized control research that demonstrated improvements in household food security, nutrition, income and women’s empowerment are now being scaled up and tested for sustainability by applying business strategies and consumer ‘pull’ mechanisms to reduce reliance on external donor support\(^2\).

Another promising food production entry point is school gardens. In the Philippines a combination of strategies including biointensive school gardens, fortified rice and nutrition education demonstrated the potential of this approach through significant reduction in severe malnutrition and anemia among children\(^3\).

Researchers in Asia are also exploring promising agriculture innovations targeting specific crops for their nutritional benefits. Among single crops with nutritional benefits, pulses (also commonly known as legumes and lentils) have the potential to improve diet quality along with positive agricultural benefits such as water conservation and soil nitrogen fixing properties (Jha, 2014; Weinberger, 2006). Since pulses are the primary source of protein in countries with a large vegetarian population like India, their role in nutrition becomes all the more important. Farmers in Nepal who intercropped with cowpeas at lower altitudes showed an economic gain of 44 per cent (IDRC, 2015). The importance of pulses both as a component of climate smart agriculture and a powerhouse for nutritional benefits received due recognition when 2016 was declared as the International Year of Pulses. This in turn stimulated alliances such as the ‘Pulse Innovation’ partnership committed to improving the nutritional quality and health benefits of pulse-based foods. A survey on investment in pulse crop research highlighted agreement among global funding agencies that pulse crops are strategic to ending chronic hunger and malnutrition, and addressing maternal health and the gender gap (Murrell, 2016).

Another innovation linking agriculture to nutrition is biofortification - the process of breeding high nutrient traits into crops that already have preferred agronomic and consumption traits. Nutrients suitable for this approach are iron, zinc and provitamin A (beta carotene) for crops such as rice, millets, pulses and root vegetables (sweet potato and cassava). Though steadily growing evidence points to this being a relatively cost-effective means of improving diet quality (Bouis \textit{et al.}, 2013), biofortification needs to be considered a complementary approach to other strategies to increase dietary diversity including home gardens, food fortification and nutrition counseling (FAO, 2013).

From the food production and nutrition angle, livestock, poultry and fish also play an important role in filling the nutritional gap.

**Income pathway**

Although it was assumed for a long time, and even appears logical, that higher income and economic development translate into better nutrition, it is not always the case. For example, analysis of 10 year data from China on the trends in socioeconomic development and malnutrition levels showed a plateau effect of economic development on nutritional improvement of children after an initial steep decline in malnutrition prevalence attributable to the country’s remarkable economic growth (Wu, 2015).

Ideally, additional income is used to purchase higher-quality or nutrient-dense foods. However, this is variable depending on the dynamics and decision-making within the household. In Cambodia, researchers found that when rural households had the benefit of an integrated approach of dietary diversity, income generation and empowerment of women, households used income (saved from eating their own produce and additional income from sale of surplus produce) to purchase high quality nutrient-rich food items such as beef/pork, iodized salt and oil. Not surprisingly, among the intervention households, 75 per cent of women reported having money they could spend at their discretion which again demonstrates the power of nutrition education and income managed by women (Talukder and Green, 2014).

Another domain within agriculture that has been targeted for income generation and also has a high potential to improve nutrition is aquaculture. A cost-benefit model of an aquaculture food-based approach in Bangladesh shows positive long-term returns on investments for nutrition and health (Fiedler \textit{et al.}, 2016). Studies from Sri Lanka (DeJager \textit{et al.}, 2014) and other parts of the world (Kawarazuka, 2010) document increased income as well as consumption of high quality protein from fish, shrimp and other forms of aquatic produce but as with agriculture interventions, few studies


measured impact on nutritional status. Overall, the linkages relating to indirect effects on nutrition mediated through changes in income are not clearly understood, and this is an area that needs more research.

On the other side of the spectrum, income growth can have unintended consequences on risks of overweight and obesity. A 10 per cent increase in Gross Domestic Product Per Capita leads to a 7 per cent increase in incidence of overweight and obesity in women (Ng, 2015). Because of this, programmes that intend to use the income pathway to influence nutritional outcomes require deliberate integration of nutrition counseling.

**Gender pathway**

A number of studies clearly demonstrate that empowerment of women is central to reap nutritional benefits (UNICEF, 2011). The agriculture to nutrition pathway through the women’s empowerment entry point consists of three interrelated components including women’s use of income for food and non-food expenditures, the ability of women to care for themselves and their families, and women’s energy expenditure. The pathway is influenced by factors such as social norms, knowledge, skills, and how decision-making power is shared within households. For example, in Bangladesh, measurement of the Women’s Empowerment in Agriculture Index combined with nutritional indicators showed that women with more bargaining power within their households (owing to greater schooling or assets brought to marriage) make choices that promote better nutrition for their children, but cultural barriers still come in the way (Saraboni et al., 2014). The need to unpack this topic through research becomes clear from the finding that women’s empowerment in agriculture is more strongly associated with the quality of infant and young child feeding practices but only weakly associated with child nutrition status. As another example, women’s empowerment in credit decisions is positively correlated with women’s dietary diversity, but not body mass index (Malapit et al., 2015).

Agriculture can also pose threats to family nutrition, especially when women must work at times and in places that interfere with the feeding of their infants and young children. A powerful example is the finding that over 12,400 preventable child and maternal deaths per year in seven countries in South-East Asia could be attributed to inadequate breastfeeding. The loss exceeds 0.5 per cent of Gross National Income in Thailand, the country with the lowest exclusive breastfeeding rate (Walters et al., 2016).

In deciding the best pathway from agriculture to nutrition, ‘do no harm’ should be central to the considerations. Thus, it is all the more important that empowerment of women also ensure attention to nutrition education, opportunities to practise the knowledge and an enabling environment.

**How to decide which pathway to promote?**

Though there is increasing understanding about the importance of agriculture interventions for nutritional benefits, it is still not clear how to select appropriate interventions for any given situation. A project led by HealthBridge in upland areas of Viet Nam and Thailand developed a framework building upon existing descriptions of the pathways between agriculture and nutrition but also considering local power structures, gender and family, and community factors related to agricultural production. Additionally, project-specific factors, such as the research and implementation team’s capacity and the project budget played a role. Although initially time consuming, the research team systematically analysed options along the pathways and found home gardens and poultry rearing feasible for one location whereas conventional agriculture interventions involving staple crops with diversification into perennial vegetable and fruit crops on underused sloping lands were found feasible for another location. Both sites maintained a focus on training for infant and child feeding and gender considerations (Berti et al., 2015). This exercise demonstrates the need for a combination of strategies that respond to the local situation.

**Conclusion**

With increased interest from donors and national governments to include nutrition-sensitive agriculture as a means to address the pervasive problem of child undernutrition, the timing seems to be right to scale up proven interventions while also advancing planning to gather stronger evidence through research and innovation.

Along with the nutrition-sensitive interventions described in this paper, nutrition specific interventions such as micronutrient supplementation and food fortification combined with addressing the underlying causes of malnutrition should be part of the overall strategy. For achieving best effects on nutritional outcomes, programmes should be coordinated across multiple sectors including health, food security, agriculture, water, sanitation and hygiene, education and social protection.

(List of references can be made available upon request)
Nutrition and Gender Sensitive Agriculture

By Noortje Verhart and Annoek van den Wijngaart

Introduction

In developing countries, women comprise around 43 per cent of the agricultural labour force. Women are hence among the main food producers, yet they are disproportionately affected by hunger and malnourishment. Maternal and child undernutrition is the cause of 3.5 million deaths annually (Black et al., 2008). It is estimated that over a lifetime, malnourished individuals can earn 10 per cent less than well-nourished people. Good nutrition is thus not just an outcome of economic growth and social development, but an essential input as well. Investing in nutrition through agriculture is more than a social good - it is sound policy and economics.

FAO (2011) estimates that if women worldwide had the same access to productive resources as men, they could increase yields on their farms by 20-30 per cent and total agricultural output by 2.5-4 per cent, lifting between 100 and 150 million people out of the state of hunger. Evidence tells us that when women make more decisions on how to feed their children and on how much time to use for feeding their children, and when women have better access to health care, undernutrition rates go down. Women’s status is thus linked to the undernutrition rate i.e. undernutrition of themselves and their children.

The objective of this article is to contribute to the debate on nutrition-sensitive interventions in agriculture, from a gender lens. This paper aims to show the importance of understanding how gender relations affect nutrition security and how addressing unequal gender relations holds part of the solution to better link agriculture and nutrition interventions.

Linking agriculture to nutrition - an emerging approach

Agricultural development is seen as the main pathway to contribute to food and nutrition security. For the purpose of this paper, food security is used as an entry point to look at agriculture and nutrition linkages.

Food security

There are many different definitions of food security. In this paper, the definition provided by the 2009 World Summit on Food Security (WSFS) is used. Four pillars of food security are identified: availability, access, utilization and stability of food (FAO, 2009). If any one of them is not in place, food security of a nation, its communities, households, or individuals is jeopardized.

Interventions that aim to contribute to improved food security have generally focused on food availability and access. For example, many international programmes focus on increased agricultural production and productivity of commercial cash crops. The aim here is to increase production for consumption and to produce a surplus, which can be sold to purchase food other than what is produced. This means that on top of training to enhance productivity, such programmes also often have a focus on improving market access for farmers to enable them to sell their produce.

Nutrition

Nutritional status is determined by three broad factors (SPRING, 2014): food, health and care. The first factor refers to food availability and access. For enabling nutrition security, available and accessible food also needs to be sufficient, safe, nutritious and diverse so that it can support healthy and active lives. However, only having plenty of healthy food available, accessible and utilized is not enough. The capacity to efficiently metabolize nutrient-rich foods is also important and this depends on the health environment (in terms of pathogens and environmental contaminants), water quality, and accessible sanitation and health facilities. The third factor refers to care practices and child feeding practices at home such as child feeding, support

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1 This paper is based on a literature review and test results of the Nutrition and Gender Sensitive Agriculture Toolkit in four countries in the SNV Asia project in Cambodia, Indonesia, Lao PDR and Nepal.
and cognitive stimulation for children, and care and support for mothers during pregnancy and lactation.

Women and children are especially affected by malnutrition. Children under 2 years old are at high risk as damage done to the health and growth of children under this age is irreversible. Pregnant women and mothers are therefore key to addressing the problem of malnutrition.

**Food security and nutrition**

During the WSFS in 2009, it was stated that food security cannot be achieved without adequate nutritional value in terms of protein, energy, vitamins and minerals for all household members at all times (FAO, 2009b). Recognizing that more food produced and/or higher incomes from agricultural production does not automatically lead to better nutritional status has led to multiple initiatives and attempts to look for those pathways in agriculture that also contribute to nutrition security. Women’s empowerment is an important emerging pathway. However, there are still many issues that have been overlooked in the development of this pathway. Given below are some examples of where, according to the authors, research should be targeted to further develop the women’s empowerment pathway.

**Women’s empowerment**

Women play multiple roles as producers in agriculture, as consumers and as caregivers but these multiple roles are not always recognized. In interventions for improving nutrition, women are often viewed simply as mothers or potential mothers and it is thus considered important to improve their nutritional status. This is a reasonable argument as children need to be fed well during their first 1,000 days, but this approach only takes into account women’s role as mothers. It needs to be recognized that their activities in the field, for example as producers of food, often conflict with their role in caring for their children. To illustrate, when women work in the fields, this may interfere with feeding of their infants and young children (UNICEF, 2011). These conflicts are at times not well understood and therefore overlooked in nutrition-sensitive interventions. For instance, if awareness raising sessions focus on the importance of breastfeeding without taking into account whether women have the opportunity (time and decision-making power) to put their knowledge into practice, such interventions can potentially cause more harm than good. When women do have knowledge about the importance of breastfeeding but feel powerless to actually act and start to care well for their children, this may worsen their situation instead of improving it.

**Causes of malnutrition in Indonesia**

In Indonesia, many pregnant women are underweight due to poor maternal nutrition and inadequate health care. Repeated pregnancy, high workloads during pregnancy, and pregnancies at a young age contribute to the problem. Malnourished mothers tend to give birth to underweight babies. After birth, poor feeding practices, lack of awareness of good nutrition for infants, and lack of access to good health care worsen the issue of children’s stunting and wasting. The underlying factors that contribute to this situation of women relate to what decisions they are able to make concerning marriage, pregnancy and what work they perform while pregnant. When women do not have decision-making power at this stage in the child’s development, it is unlikely that their status will improve after delivery. Women’s empowerment is therefore not only essential to allow them to better manage their workload and time, but goes much further and is about basic decisions such as age of marriage, pregnancy and dealing with domestic violence.

Source: Field notes from testing the Nutrition and Gender Sensitive Agriculture Toolkit in Indonesia

In terms of existing women’s empowerment pathways, improving women’s nutritional status can contribute to their caring ability and healthy pregnancies. Reducing women’s work burden is often considered to be one of the ways to improve their nutrition status. However, it should be recognized that the work burden is connected to their roles as food producers and as income earners from agricultural production or other sources. Trying to reduce women’s work burden needs insights into other tasks they do or are supposed to do, and assessing whether reducing work in one area actually leads to improvements in their status and ability to care for their children.

To design more effective nutrition and gender sensitive agricultural programmes, women’s roles in agricultural production and the link to their caregiving practices need to be examined carefully. This can be done by looking at what women do (in relation to men), what they have access to (in relation to agricultural and health-related resources), what decisions they can make as a result, and how these are embedded in local structures.

Food and nutrition security solutions should be targeted in areas where roles overlap and potentially conflict with each other. The below example in the box shows how breastfeeding can be in conflict with women’s role in the field. Interventions that solely focus on informing women about exclusive breastfeeding are not enough. Nutrition programmes which focus only on pregnant women and mothers to reach young children during their first 1,000 days do not consider women’s gendered relationships and therefore their ability and space to make decisions about issues such as exclusive breastfeeding.
Concluding remarks and ways forward

This paper has reviewed current debates on food and nutrition and argued that using a gender lens can be helpful to more closely link food with nutrition. Based on this review it can be seen there is a need to better understand the causes of food and nutrition insecurity from a gender lens and gather more evidence on what type of interventions work well. This implies, for example, that we should look at women's roles in relation to men's roles, examine how this influences the decisions women can make and the access to resources they have, and then assess what they need to improve their position. It is recommended that such analysis be taken into account in redesigning nutrition-sensitive interventions. In the above context, the Royal Tropical Institute (KIT) and SNV have also developed a Nutrition and Gender Sensitive Agriculture Toolkit (available at http://www.ngsatoolkit.org). The Toolkit includes tools which aim to help practitioners plan and design holistic agriculture programmes using a nutrition and gender lens.

(List of references can be made available upon request)

Exclusive breastfeeding and why it does not happen in Lao PDR

While using the Nutrition and Gender Sensitive Agriculture Toolkit in Lao PDR, exclusive breastfeeding practices were discussed. It was learnt that infants are often fed steamed rice when they are only 1.5 months old. When researchers tried to find out why, women told them that they need to work in the fields again after 1.5 months after giving birth. The fields are far from their homes, which means that they cannot go back home to feed their babies. As a result, they leave their babies at home with caregivers (their parents or older siblings of the baby). These infants are fed, for example, just steamed rice. Not only is feeding of rice far too early for a 1.5 month old baby, the rice is also fed by hand, which can lead to contamination and diseases.

The above findings mean that simply educating women about the importance of exclusive breastfeeding will not improve the nutritional status of the children. This is firstly because they cannot change the fact that they need to go back to work on their own, and secondly because they are not the only one taking care of their babies. The grandparents and brothers/sisters are also potentially important to invite to the discussions on exclusive breastfeeding.

Source: Results from field-testing of Nutrition and Gender Sensitive Agriculture Mapping Toolkit in Lao PDR

Example of output derived from using the Nutrition and Gender Sensitive Agriculture Toolkit in Cambodia
Designing Nutrition-sensitive Agriculture Investments

Checklist and Guidance for Programme Formulation

Food and Agriculture Organization of the United Nations, November 2015

Current food systems are increasingly challenged to provide adequate, safe, diversified and nutrient-rich food that make up healthy diets due to constraints posed by resource scarcity and environmental degradation, as well as unsustainable production and consumption patterns, food losses and waste, and inequitable distribution.

In November 2014, during the Second International Conference on Nutrition (ICN2) organized by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), over 170 member countries acknowledged that malnutrition, in all its forms (including undernutrition, micronutrient deficiencies, overweight and obesity), negatively affects people's health and well-being and poses high economic and social costs for individuals, communities and nations. The two ICN2 outcome documents: the Rome Declaration on Nutrition and its Framework for Action, recognize that food systems should be at the heart of efforts to combat all forms of malnutrition.

Food systems are indeed primarily responsible for feeding people well by increasing availability, affordability and consumption of diverse, safe, culturally appropriate, nutritious foods and diets without harming the environment. A growing number of institutions investing in food systems have committed themselves to ensuring their investments are ‘nutrition-sensitive’, but many professionals from the food and agriculture sector seek guidance on what this entails in terms of programme design and implementation.

FAO, in consultation with Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs), government staff, donor organizations, UN agencies, and particularly the Agriculture to Nutrition Community of Practice (Ag2Nut), has developed a set of 10 Key Recommendations for Improving Nutrition through Agriculture.

This document is designed to serve as a tool to guide programme planners who are aiming to apply these recommendations in the design of agricultural investments and programmes. It is based on a thorough review of experience on nutrition-sensitive agriculture and has been field-tested in several countries. It is structured around the first phases of the programming cycle (situation appraisal, programme design and programme review) and includes key questions, accompanied by tips and references.

Source:
http://www.fao.org/documents/card/en/c/6cd87835-ab0c-46d7-97ba-394d620e9f38/

Other reading and resources:

Nutrition-sensitive agriculture and rural development
Scale up note
IFAD, May 2015
https://www.ifad.org/documents/10180/48244012-dd42-4de1-819f-8183cdcc4841

What should seed systems look like?
Anja Christinck and Friederike Kraemer
Rural 21: Focus, No. 01/2016
The Twelfth Session of CAPSA Governing Council
Bangkok, Thailand, 19 February 2016

The twelfth session of the Governing Council of the Centre for the Alleviation of Poverty through Sustainable Agriculture (CAPSA), a subsidiary of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), was convened in Bangkok on 19 February 2016 with participation from representatives of Bangladesh, Cambodia, Fiji, Indonesia, Malaysia, Pakistan, the Philippines, Sri Lanka and Thailand. The session was chaired by HE Mr. Inia Batikoto Seruiratu, Minister of Agriculture, Rural and Maritime Development and National Disaster Management of Fiji.

Representatives of Japan, as well as FAO, the Asia Pacific Association of Agricultural Research Institutions (APAARI), and Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) also joined the meeting as observers.

In his message to the session, The Deputy Executive Secretary of ESCAP, Mr. Hongjoo Hahm, emphasized the role of CAPSA as a leading regional hub for knowledge-sharing and South-South cooperation, to promote poverty reduction and food security through sustainable agriculture. Mr. Hahm also urged the members of the Governing Council to enhance voluntary contributions to the Centre to enable it to continue its important work for the member States.

The Governing Council expressed appreciation for the progress achieved by CAPSA over the past years and acknowledged the strong relevance of the work of CAPSA to the 2030 Agenda for Sustainable Development including the SDGs. It endorsed the activities and accomplishments of the Centre since the eleventh session of the Council, the Business Plan framework of the Centre for 2016-2018, and its workplan for 2016. The Council also recommended measures to sustain and enhance the long-term funding and operations of CAPSA.
Workshop on Best Practices in Mung Bean (Green Gram) Seed Production, Quality Control and Maintenance in Myanmar
Magway, Myanmar, 29 February-1 March 2016

Mung bean is a low-input crop that can provide green manure as well as livestock feed and is thus favoured by smallholder farmers in Myanmar. As rice production is increasingly becoming less profitable for smallholders, mung bean is gaining popularity as a rotation crop for cash income. Non-availability of seed of improved mung bean varieties, various pests and diseases and poor crop management practices are some of the major factors contributing to significant yield loss.

CAPSA is leading implementation of the project titled “An Integrated Rural Economic and Social Development Programme for Livelihoods Improvement in the Dry Zone of Myanmar” in partnership with the Asian and Pacific Centre for Transfer of Technology (APCTT), the Centre for Sustainable Agricultural Mechanization (CSAM) and the Network Activities Group (NAG). Under this project, which is funded through the Livelihood and Food Security Trust Fund (LIFT), CAPSA’s partners APCTT and NAG organized a “Workshop on Best Practices in Mung Bean (Green Gram) Seed Production, Quality Control and Maintenance”, in Magway, Myanmar, from 29 February-1 March 2016.

The workshop focused on brainstorming on the constraints in mung bean seed production in the Dry Zone of Myanmar and identifying possible solutions to improve mung bean seed production systems. Over 25 participants representing a diverse stakeholder group including lead farmers, farmer association representatives, NGOs, research institutions, key nodal agencies of the government including Department of Agricultural Research (DAR), and the private sector, participated in this workshop.

The active deliberations during the workshop helped to develop a blue print for future activities that could be implemented in Myanmar to strengthen the value chain for mung bean production through policy, technology and market-related interventions. The workshop also provided a valuable platform for the World Vegetable Center (AVRDC), a knowledge partner for this workshop, to understand the various needs and constraints of farmers in the Dry Zone and to plan launch of new and improved mung bean varieties in Myanmar to meet these needs through their ongoing project funded by the Australian Centre for International Agricultural Research (ACIAR).

In addition to the above, this LIFT-funded capacity-building initiative provided a valuable opportunity to contribute to the International Year of Pulses 2016 (IYP 2016) declared by the United Nations General Assembly to increase public awareness of the nutritional benefits of pulses as part of sustainable food production aimed towards food and nutrition security.
Enhancing Family Nutrition and Income for Improved Livelihoods of Resource Poor and Disadvantaged Groups through Integrated Home Gardens in Nepal

Many agriculture-based food security programmes focus only on farmers who have sizable land for cultivation. However, rural resource poor and socially discriminated groups who have very limited land or are landless are usually excluded from such agricultural programmes. Homestead based interventions for integrated agriculture can be a strategic means to address issues facing smallholder farming families as well as women who require special attention under nutrition programmes.

The concept of home gardens promoted by Local Initiatives for Biodiversity, Research and Development (LI-BIRD) follows the principles of low input agriculture and use of the local resource base. Their home garden project started in 2002 and scaled up to 16 districts before completion in July 2013. The basic objective was to help diversify the diets of resource poor families by increasing diversity of home gardens to include vegetables, fruits and integrated livestock, fish, mushroom and honey bee.

The project promoted the use of local seeds, sustainable soil management practices and integrated farming principles to make the intervention sustainable in the long term. Past experience had revealed that home garden interventions can be easily adopted by target beneficiaries since they do not require a high level of inputs or skills. The concept of home gardens can also be easily included in livelihood focused programmes/projects for dietary diversification. Moreover, home garden interventions do not require a large budget. LI-BIRD’s experience shows that an annual budget of NRs. 1,500 (about $ 15) for two to three years for each household is sufficient to improve their home gardens and support significant betterment in dietary habits of the family.

Various orientation and awareness activities helped farmers to learn more about nutrition as well as understand the potential of home gardens to improve family nutrition. All the beneficiary families were able to enhance diversity in their home gardens with the help of a Diversity Kit (a composite of seeds and saplings) as well as the management technologies shared by the project. Furthermore, resource poor households were able to increase consumption of goat, chicken and pig meat, mushrooms, and fish in addition to vegetables and fruits. Production of vegetables, fruits and other items from home gardens not only contributed directly to family diets but also indirectly helped the families buy additional food from the market by selling the surplus.

Seventy nine per cent of 7,700 families increased their consumption of fresh home garden products by an additional six types per season after phase III of the project (March 2009 to July 2013). In addition, 56 per cent of households were able to reduce their expenditure on vegetables by 75 per cent, and 50 per cent households at least doubled their home garden income to more than NRs 5,000 (approx. USD 50) per year.

The project achieved significant success in terms of increasing home garden crop diversity and showcasing the effectiveness of the home garden approach for the improvement of family nutrition, income as well as the capacity of disadvantaged groups. A key achievement was securing commitment from the Department of Agriculture of the Government of Nepal to take up the home garden project on a wider scale in future.

Source: https://www.securenutritionplatform.org/SuccessStories/Lists/Posts/Post.aspx?ID=56