

Deepening the Dialogue:

Agriculture and Nutrition Collaboration to Enhance Global Food Security

Summary Report from the Open Forum
Held on November 1, 2010

January 2011



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Acknowledgments

This document summarizes discussions held during a highly participatory event that was aimed at enhancing collaboration among people working in the agriculture and nutrition sectors. Participants contributed directly and indirectly to the success of the day and to this report. The organizers of the meeting, AED and the Food and Agriculture Organization of the United Nations (FAO), would like to thank all participants for their willingness to break out of the traditional workshop format. The organizing committee, including Daniel Gustafson, Gabriel Laizer, and Florence Rolle of FAO and Ashley Blocker, Emily Levitt, and Michele McNabb of AED, would also like to offer special thanks to the following groups and individuals:

- The impromptu table hosts in the morning sessions who led three rounds of discussions
- The “sorters” and “clumpers” who organized the dozens of ideas on “The Wall”
- The 16 technical experts who led discussion groups and wrote the summaries of their group discussions that are included here
- The behind-the-scenes organizers who kept complex logistics running smoothly
- Members of the Agriculture-Nutrition Community of Practice, who inspired the meeting and provided input into its planning
- Carolyn Gallagher, World Café facilitator
- Dan Glickman, keynote speaker

Background

In 2007 and 2008, spikes in food prices caused riots and unrest in countries around the globe and led to renewed global interest in the concept of “food security.” The world’s leaders took note and, at a meeting in L’Aquila, Italy, in July 2009, they pledged US\$30 billion over the next 3 years to reduce global hunger on a sustainable basis. In the 18 months since the L’Aquila commitments, technical experts have been working to translate these commitments into action. The strategy that is emerging focuses on investing in country-led programs to improve agriculture and to tackle undernutrition. The U.S. Government’s articulation of its commitment at L’Aquila, now known as the “Feed the Future” initiative (FTF), includes two primary objectives: inclusive agriculture sector growth and improved nutritional status for women and children. Other bilateral and multilateral donors have joined developing country governments and regional organizations in refocusing on agriculture, while at the same time acknowledging the need to directly confront the challenges of undernutrition facing millions of young children, women, and other vulnerable groups.

Agriculture and nutrition are intrinsically linked. Most people in developing countries rely on agriculture for their livelihoods as well as their food. Poorly nourished people might lack the physical capacity to expand agricultural production, poor households might lack the income to access sufficient quantities of nutritious food, and undernourished children might lack the cognitive abilities to break out of the cycle. To achieve the overarching goal of reducing poverty and hunger, it is necessary to “coordinate and integrate our agriculture and nutrition investments to maximize impact” (FTF Guide, 2010). Awareness of the need to coordinate and integrate agriculture and nutrition is not new. In 1937, the League of Nations articulated remarkably similar issues in a document called “The Relation of Nutrition to Health, Agriculture and Economic Policy.” But still, nearly 75 years later, activities in the areas of agriculture and nutrition are too often planned and implemented without sufficient attention to the effects on each other.

The renewed focus on reducing global hunger, with the parallel objectives of increasing agricultural sector growth and improving the nutritional status of vulnerable groups, has given the international development community new energy to think creatively about how to achieve food security through coordinated planning and actions.

Objectives

The main objective of the 1-day open forum, held on November 1, 2010, was to provide an opportunity for technical experts to explore ways to coordinate their work on agriculture and nutrition in new and powerful ways. The specific objectives included:

- Sharing new approaches, research, and tools for improving food security outcomes by linking nutrition and agriculture
- Identifying gaps in knowledge or practice and suggesting ways to close these gaps

- Holding topic-specific conversations about best practices, innovations, challenges, and constraints in coordination between sectors
- Identifying next steps for enhancing coordination and building a community united by a common purpose
- Documenting lessons learned for sharing with a wider audience

Participants

Over 100 people from more than 45 different organizations participated in the event. The participants represented food security, nutrition, and agricultural experts from nongovernmental organizations, government agencies, international organizations, think tanks, universities, and the private sector. A complete list of participants is included in the annex.

Sponsors and Endorsers

The event was sponsored and funded by AED and the Food and Agriculture Organization of the United Nations (FAO) and held at AED's Academy Hall in Washington, DC. Six additional organizations provided their advance "endorsement" for the concept of the dialogue between agriculture and nutrition: the Association for International Agriculture and Rural Development (AIARD); Heifer International; the Horticultural Collaborative Research Support Program (CRSP); the Livestock CRSP/Adapting Livestock Systems to Climate Change; the Nutrition CRSP; and the United States Agency for International Development (USAID).

Meeting Structure

Because the goal of the meeting was to promote dialogue and an exchange of ideas and contacts, the organizers sought to avoid conventional workshop presentations and lectures. A "World Café" style of facilitation was used to create an atmosphere conducive to dialogue and engagement among participants. Sixteen experts from various organizations led thematic group sessions and summarized their discussions in short reports included here; dozens of members of the agriculture/nutrition community spontaneously "hosted" small group discussions throughout the day; and a live blogger recorded and posted discussions from large and small groups during the course of the day (two blogs are included here). The organizers' goals were to spark creativity, allow participants to share their ideas with peers and to make new contacts, and launch new collaboration to meet the challenges of food security.

Summary – Morning World Café



The morning session involved café style conversations addressing one central question: *How can we access and integrate our experience in agriculture and nutrition to maximize innovative and effective ways forward?*



At each small table, a volunteer “host” recorded key points. Participants rotated to different tables to share ideas and then returned to their “home” tables where ideas were summarized.



A volunteer from each group table posted the table’s ideas on a large wall at the back of the room.



Participants sorted and clustered ideas into themes. A transcription of the final sorted results appears on the following page.

How can we access and integrate our experience in agriculture and nutrition to maximize innovative and effective ways forward?

Capacity Building

- Build capacity starting with pre service training in both ag and health
- Need to increase nutrition education so better choices are made
- Longer projects
- Building capacity of national agriculture and nutrition research institutions to address their priority issues
- Help to manage institutions, establish policy, train current and next generations
- How to effectively leverage university partnerships in initiatives on the ground
- Start with youth and school programs to change nutrition/diets/taste, inform, educate
- Breakdown silos at the university level

Gender and Education

- Engage women in nutrition and agriculture
- Bringing men and women together to make household decisions
- Engaging men in household's to be providers (strengthening healthy male role)
- Women are key: they produce 70% of the worlds agriculture products
- Need to increase land rights and access for women
- Empower women w/o overburdening them

Value Chains

- Treat the producer as a consumer
- Recognize the value of the whole chain
- Examine unintended consequences of value chain choices
- Sharing tools that work across sectors (eg. Care groups)
- Use all linkages available
- Processing and value addition
- Adding nutrients
- Demand creation, Income and employment generation
- Integrating smallholders into inclusive supply chains- sustainable business models that benefit vulnerable populations

Incentives

- Need to align incentives
- Public health goals (nutrition)
- Food ag market based address market failures
- Local family level to balance food/nutrition/ income
- Tension between policy objectives of Feed the Future choice of value chain to be promoted/gender
- Incentives for intersectoral collaboration including private sector to incentivize integration
- Need to increase land rights and access for women

Communication

- New technologies
- Website to compile and organize integrated programmatic information, research, studies, tools, best practices, lessons learned, evaluation tools, links to technical expertise and partners
- Ag extensionists w/nutrition extension activities
- Household decision making
- Access and affordability- messages
- The classic term 'agriculture' needs to be narrowly defined as livelihood agriculture or economics agriculture to specify the critical need of income to improve nutrition
- Evidence based advocacv

Institutional

- USG Food Security Bureau
- For better integration, need to reduce/eliminate stove piping at all levels
- Work to instill an intersectoral approach
- Agricultural production must be linked to markets and local practices
- Need project scope and funding for more than 5 years
- Donor policies are a driving force (for better or worse)
- Need military in the dialogue

Targeting/Reach

- Targeting groups by wealth quintile often differ
- Integration might be more possible /effective at local district level
- Decentralization
- National governments need to own plans/priorities/projects
- Local, community and household solutions needed BUT costly

Private Sector

- Private sector engagement
- Linkages w/other donors w/private sector
- Build supply and also work at creating demand for fruits, vegetables and animal source foods
- Facilitate participation of local private sector and NGOs w/ experience in the target countries
- Leveraging private sector for solutions to nutrition (alliances)

Health

- Preventing coexistence of under and over-nutrition
- Critical to consider obesity/overweight in preventing malnutrition
- Integrating nutrition interventions into agricultural projects

Community

- Co- programming (plan collectively, implement sectoraly)
- Native/traditional practices provide solutions
- Community led development
- Household level conversations around spending/money management
- How does one evaluate the unique root causes of malnutrition in a specific community and address those

Dialogue

- Practitioners need to be aware of demand in other sectors and how to communicate with them
- Extension: joint messages to combine ag/nutrition, use existing structures and messages
- Coming up with common language around key issues
- Maintaining institutional knowledge/best practices to break the cycle of returning to food security everv 20 years

Indicators

- How do we make existing measures of food sufficiently more meaningful and actionable in terms of programming
- Target project outcomes for: women and children
- Reinforce sustainability: monitoring and evaluation for policy reform
- Consider economic strengthening
- Income increase without knowledge in household nutrition did not decrease malnutrition
- Seeks integrated ag nutrition resiliency proposals
- Road maps to developing models
- Measuring impact of nutrition programs
- Develop operational research questions to support program development
- Integration
 - Vertical integration
 - Quality vs. quantity
 - Non-traditional indicators and impacts
- How to scale existing good practice
- M and E include women/children baseline date for nutrition

Income

- Institutional limitations
- Nutrition and agriculture discussion must incorporate animal husbandry and not only rely on plant-based products
- Sustaining farmer profitability with broad affordability
- "Rebalance priorities" favor economic paradigm now vs. nutritional outcomes
- The challenge of the FTF mandate of focus on the poorest of the poor who do not necessarily have access to nutritious food

Summary – Afternoon Technical Dialogues

During the afternoon session, pre-assigned members of the agriculture-nutrition community hosted eight technical discussions, each with its own specific topic. Participants freely chose to join the conversations they felt most relevant to their work. The topic hosts agreed to summarize the key points of those discussions into short essays, which are included in this document. Former Congressman and Secretary of Agriculture Dan Glickman closed the day's events with remarks highlighting the opportunity presented by the renewed global focus on agriculture and food security (see blog).

The eight topics and the respective hosts are listed below and the summary reports follow.

DISCUSSION TOPIC	DISCUSSION HOSTS
1. Horticulture's Role in Food and Nutrition Security	Ian MacNairn (Fintrac) George Wilson (North Carolina State University)
2. Bridging Seasonal Food Shortages	Philip J. DeCosse (International Resources Group) Leslie Elder (World Bank)
3. Nutrition Sensitive Value Chains	Gilles Bergeron (AED/FANTA 2) Rahul Rawat (International Food Policy Research Institute)
4. Designing Agriculture Production Projects to Enhance Nutritional Outcomes	John Bowman (DAI) John Whims (Michigan State University)
5. Livestock's Role in Food and Nutrition Security	Joyce Turk (USAID) Fred Grant (Land o' Lakes)
6. Helping National Governments Coordinate between Ministries of Agriculture and Health/Nutrition	Florence Rolle (FAO) Thoric Cederstrom (World Food Programme)
7. The Private Sector's Role in Food Security and Nutrition	Symantha Holben (Global Cold Chain Alliance) Kate Houston (Cargill Inc.)
8. Women, Gender, and Food Security and Nutrition	Kathleen Kurz (AED/Africa's Health in 2010) Martha Hirpa (Heifer International)

Horticulture's Role in Food and Nutrition Security

Discussion Hosts

Ian MacNairn, Fintrac (imacnairn@fintrac.com)

George Wilson, North Carolina State University (george_wilson@ncsu.edu)

Participants in this discussion group included representatives from AED, CNFA, FAO, Fintrac, Michigan State University, North Carolina State University, and USAID.

Background

Horticulture¹ contributes to household income and nutrition security by offering product, market, and dietary diversity. Excellent local markets exist for higher-value products, including tomatoes, peppers, onions, and leafy green vegetables, especially if production outside of the normal rainy season(s) is possible. These products are also consumed by the household more regularly if they are produced on the household farm/plot or are readily available in local markets. However, training in basic nutrition and in the advantages of a diversified diet to overall family health must also be emphasized to ensure that these products are included on the household menu. Great potential exists for increased production and sale/consumption of horticultural crops in all developing countries because they provide opportunities to diversify household income. This would then lead to the improvement of economic and social conditions of the rural and urban poor, particularly women. Cost and technical issues must be addressed to ensure that these programs are effective.

Summary of Discussions

New Approaches

Integrating horticultural production into other household agricultural activities can be promoted as a primary occupation, as a counter-seasonal rotation crop, and/or as a household or community garden activity. Locally grown fruits and vegetables are typically affordable and increased fruit and vegetable consumption leads to improved overall nutrition by providing vitamins and minerals necessary for metabolizing food, fighting disease, and, for HIV/AIDS sufferers, absorbing antiretroviral medications. The effectiveness of horticulture programs in increasing the diversity of household diets requires targeted programs of training and technical assistance, implemented by trained nutritionists.

New Research

Research has proven the link between nutrition and health, even though the impact of improved nutrition might not be immediately evident. Strategies should then be crafted to educate households

¹ Horticulture includes the cultivation of fruits, vegetables, flowers, and ornamental plants. For the purposes of this discussion, the focus is on fruits and vegetables.

regarding the contribution of dietary diversity to family health. It is important that economic interests are balanced with household dietary and health requirements when developing food security programs. Food production must be linked to markets, with promises of increased income and improved livelihoods as rewards for the risk of attempting new crops and production practices. Improving nutrition must also be addressed as a public health issue, similar to efforts to increase childhood inoculation rates; to educate on clean water use; and to avoid exposure to malaria, AIDS, and other communicable diseases. To put this into practice, programs used in developed countries, such as the “Five a Day”^{2, 3} campaigns to increase fruit and vegetable consumption, should be explored and integrated into a developing country context.

Emerging Best Practices

Horticulture programs can improve dietary diversity by promoting the production and consumption of existing fruit and vegetable crops, such as mangoes, papayas, avocados, tomatoes, onions, peppers, green leafy vegetables, and indigenous crops. Use in the diet will depend on local traditions and tastes, but innovative programs should be explored to introduce new horticultural crops and products and recipes into the kitchen. Extension workers for a country’s Ministry of Agriculture can promote new crops, but programs need to include a targeted nutrition component to optimize household use. Accessibility to nutritious horticultural crops is also linked to their affordability, a consideration when promoting a crop or product.

Lessons Learned/Case Studies

The Fintrac-implemented, USAID-funded Nepal Food Recovery Program includes horticulture and nutrition components in response to severe flooding in the Western and Far Western Regions of Nepal’s terai, by assisting 60 village development committees (VDCs) and focusing on livelihoods and income generation (LIG); infrastructure repairs; health, sanitation, and nutrition; and local capacity building and social inclusion. The LIG program focused on second- and third-season crops following off-season vegetables, such as tomatoes, onions, chilies, cabbage, cauliflower, gourds, cowpeas/beans, and cucumbers.

Water was a limiting factor, so farmers were organized into irrigation groups and the project provided a small pump to each group. The US\$850 investment in each group’s irrigation equipment was offset by first-year incomes that increased by an average of 600%. The nutrition program focused on educating households about the benefits of dietary diversity and included a demonstration kitchen garden in each VDC. The benefits of kitchen gardens include providing a ready source of year-round vegetables that can be incorporated into household meals on a daily basis. Gardens often provide surplus produce that can be marketed to other households. Program successes included ongoing training and demonstrations on the importance of vitamins and minerals to household health and introduction of new ideas for recipes. The project installed highly efficient, vented cooking stoves in households to eliminate smoke in the

² Produce for Better Health Foundation, <http://www.pbhfoundation.org/>.

³ The International Fruit and Vegetables Alliance, <http://www.ifava.org/>.

dwelling and to reduce the use of firewood. Training household members on the proper use of stoves presented an opportunity to reinforce nutrition training. An initial survey revealed that 65% of households were using kitchen gardens in meal preparation and 35% were selling surplus production.

Another example of a development project that incorporated a nutrition component is the United States Centers for Disease Control and Prevention (CDC)-supported HIV/AIDS project in South Africa. This project promoted home gardens in Eastern Cape Province. Program activities resulted in vegetables and fruits that helped improve the nutrition of individuals and families affected by HIV/AIDS. The project was notable in that Behavior Change and Communication (BCC) funding was used broadly to promote the home gardens. Furthermore, diversifying diets to increase vitamin and mineral consumption improved antiretroviral metabolism. The vegetables and fruits were also sold in local communities as income-generating projects. Finally, the “right” fruits and vegetables were chosen as targets, in terms of markets, acceptability, and taste, and those that would improve overall environmentally sound land management.

Indicators/Monitoring and Evaluation

There are numerous good donor-acknowledged indicators to measure the effectiveness of horticulture programs, including:

- Increases in land area under improved production
- Yield increases per unit area of land
- Increases in sales, income, and investment, as well as job growth

Critical to determining improved nutrition are the ability to purchase products (access) and to market or improve their household supply (availability). It is also important to determine if the behavior of the household has been sufficiently changed so that new, nutrient-diverse products are routinely included in the diet. Longer-term, basic health indices can be measured, including these indicators:

- Increased intake of vegetables and fruits in the daily diet
- Prevalence of underweight, stunted, and/or wasted children

Gaps in Knowledge/Research Priorities

Potential roles for women in promoting household nutrition need to be explored, including women who are growers and marketers of fruits and vegetables. The roles of natural fertilizers, compost, herbicides, and pesticides should also be investigated for horticulture projects, especially taking into consideration rural versus urban environments. Educational programs for farmers and traders regarding proper postharvest handling of fresh fruits and vegetables are critically needed to minimize losses and improve profits.

Major Challenges/Recommendations

The Nepal project mentioned above also demonstrates that: irrigation is the primary barrier for increasing agricultural productivity; the integration of different sectoral activities deepens the overall project impact; strengthening linkages among value chain components can lead to better sustainability;

and both kitchen gardening/household-level training complement larger-scale agricultural development programming.

Enhanced coordination and collaboration between horticulturalists and nutritionists is needed so that integrated development projects can benefit from the expertise of both fields. The integration of agricultural and nutrition indicators into new programs would be desirable so that progress in both agriculture and nutrition can be measured.

Additional Materials

- USAID Horticulture Collaborative Research Support Program (CRSP), <http://hortcrsp.ucdavis.edu/>.
- FAO AGP Horticulture and Industrial Crops, <http://www.fao.org/agriculture/crops/core-themes/theme/hort-indust-crops/en/>.
- Produce for Better Health Foundation, <http://www.pbhfoundation.org/>.
- International Fruit and Vegetables Alliance, <http://www.ifava.org/>.

Bridging Seasonal Food Shortages

Discussion Hosts

Philip J. DeCosse, International Resources Group (pdecosse@irgltd.com)
Leslie Elder, World Bank (lelder@worldbank.org)

This brief note is intended to capture the range of issues raised by the participants in the topical dialogue.

- The participants noted a common and unspoken assumption in development planning that says that increases in agricultural production will resolve caloric and nutritional constraints throughout the year, including during traditionally lean periods, in spite of evidence indicating that seasonal shortages can still ensue for both caloric intake and dietary diversity.
- There was agreement about the lack of research and evidence regarding the relationship between seasonality and nutrition. Seasonality is thought to lead to shortages and nutritional deficiency, but there are cases in which seasonal food shortages of common staples are associated with foraging for wild foods, which might actually have greater, or at least different, nutritional value for the diet.
- It is commonly assumed that seasonal shortages of food in low-income households are correlated with caloric deficiency, although household strategies for obtaining income might themselves have a seasonal dimension, allowing poor households to obtain income in lean periods for purchase of food. Households draw from different resources and income sources at different times of the year, depending on need.
- A number of participants opined that the food aid “business,” while certainly working to understand and map seasonality in different countries, has not yet developed delivery timetables to cover seasonal shortages. There are often significant lags between seasonal food shortages and the delivery of supplies meant to fill the gap.
- Development programs often focus their food security efforts on delivering sufficient calories and not on meeting other nutritional needs (for example, supplementary foods might deliver requisite calories but not address micronutrient deficiencies). Title II guidance is lacking concerning seasonality in general, and particularly on how nutritional deficiencies (in addition to caloric deficiencies) that are caused by seasonality or other determinants might be addressed.
- As noted above, seasonal production and harvest cycles have been well mapped. But it would be beneficial to map additional annual cycles beyond production and harvest cycles. These cycles could be linked to disease, the incidence of which is associated with different seasons; borrowing and credit timetables and due dates, which often have a seasonal dimension; and nutritional status, which varies by season. Mechanisms are available (one good example is insurance schemes) to mitigate the effects of these related cycles, but they are not widely used.
- The Feed the Future initiative (FTF) and seasonality. There was a good amount of discussion about whether or not USAID’s FTF incorporated “seasonality of nutritional status” (as opposed to “availability seasonality”). Access to high-quality and diverse foods is one of the intended

results of FTF, and an important step forward, but the discussants were not aware of a more specific focus on nutrition associated with seasonality.

- Discussants agreed that there is an important research need to focus on the associations of annual or cyclical disease and nutrition.
- Another suggestion was to map seasonality with a view toward understanding its impact on dietary diversity. For example, do the production cycles of vitamin A-rich foods have seasonal components that should be considered in developing food security and nutrition programs in a particular setting/context? And what does the mapping of indigenous foods tell us about their contributions to dietary diversity and calorie contributions?
- Discussants generally agreed that there had been little work on the “seasonality” of urban populations’ access to various foods, where the focus is more on access and much less on availability.
- There is a need for greater understanding of the links between seasonal gaps and shortages as they affect nutrition and the associated increased likelihood of diseases as a cause of greater stress on affected populations. We can do more to tighten the link between improved food security and nutritional impacts, as well as health impacts.
- We need to adjust the lens for agricultural programs. Normally, we seek increased crop production, but we might also need to hold the agricultural sector accountable for some aspects of nutritional well-being. Across the two communities, we should focus more on how this could be done.
- Many discussants—in both sessions—highlighted the siloed nature of planning that separates the nutrition community from the agricultural community. The planning for both communities happens at different times—and hence remains poorly coordinated. A number of projects/programs were identified that called for a nutritional focus to be added to an agricultural program after the agricultural program was under way. This is too late to be useful. The planning itself needs to be done together for programs to effectively link nutrition and agriculture and to successfully focus on food security in an integrated fashion.
- Planning across, as well as within, the two communities of agriculture and nutrition requires attention. Agricultural extension agents are a good example of development professionals who could have enormous impact if they more actively took nutrition into account in their work and training. Agricultural extension workers do not monitor nutritional changes, but work in close association with communities, and could conduct that monitoring if properly trained. More orientation should and could be given to extension workers in this regard.
- But how to find common objectives between nutrition and agriculture? The challenge for the nutrition community is to translate the concept of food utilization (whether at the individual or household level) for operationalization (as possible/feasible) by the agriculture sector. We need to know what questions to ask and what data to collect to determine how to achieve nutritional impact via agricultural (and other sectoral) interventions. We are missing opportunities that are relatively simple to take advantage of, such as the example of engaging agricultural extension

workers. We need strategies for agricultural programs that would bundle messages on how to increase household income with messages that encourage increase in nutritional intake.

- The value chain approach (see “Nutrition Sensitive Value Chains”) that is currently being used in USAID programs might have a number of important shortcomings with respect to ensuring nutritional linkages with agricultural programming. Value chain interventions seek to resolve critical chain constraints, wherever they occur. As a result, there is typically minimal focus on household behavior, including on nutritional impacts of value chain interventions. If managing value chains is the objective, then it is indeed difficult to ensure that improvements result in nutritional benefits.
- FTF currently uses stunting as a required indicator relating to nutrition. It will be useful to consider a broader range of nutritional indicators (e.g., process and output indicators for nutrition, and not only the final impact of reduced stunting) and work with FTF and other development partners to see that these are incorporated directly into agricultural planning frameworks. These indicators will help generate a greater emphasis on such issues as nutritional seasonality, and nutritional targets more generally.

Nutrition Sensitive Value Chains

Discussion Hosts

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Rahul Rawat, IFPRI (r.rawat@cgiar.org)

Background

The idea of a “nutrition sensitive value chain” seems simple enough at the outset. But a group of experts assembled to discuss the idea found surprising differences in how individuals and disciplines across agriculture, nutrition, economics, and international development conceive of and represent the multiple issues involved. At the most basic level, no single definition of “value chains” was shared by all panel members, resulting in a debate around the concept of value chains per se, regardless of whether they are “nutrition sensitive” or not. There were certainly as many questions raised as there were answers offered, and, in the end, it was clear that there is as great a need to unify thoughts around the subject as there is a call for specific actions. This summary presents the issues that were brought up. Hopefully, identifying the knots will help point at where consensus needs to be built.

Defining Value Chains and Their Key Actors

In business economics, a value chain focuses around market operators to describe the totality of an industry, from input suppliers to end market buyers. When applied to agriculture, a value chain includes what is grown, how it is grown, and what happens to it from planting to market, including all the points along the chain where value is added: planting, fertilizing, producing, processing, milling, storing, and transporting. It involves all the people and systems involved in moving the product from farm to market, including traders, intermediaries, wholesalers, shops, retailers, and restaurants. As this chain does not exist in isolation, the background context (including policies, consumer choices, and gender issues) must also be taken into consideration.

Nutrition Entry Points

Several points of intervention were identified along the agricultural value chain where nutrition outcomes might be considered. Those are already well documented in the literature, but examples that were mentioned include:

- Seed bio-fortification, to yield stronger crops and better nutrition to consumers
- Improved storage practices at both community and farm levels to preserve nutrients
- Micronutrient fortification introduced along the chain
- Consideration of the role that agricultural inputs and of the use of water play in health, water, and sanitation
- Consideration that increased income does not automatically lead to better nutrition; gender divisions of labor along the value chain, for instance, affect feeding practices and income control
- Teaching how to look at household budgets, not just agricultural budgets

- Consideration of what is missing in local diets and what can be done to improve local food markets accordingly

There was agreement, however, that making the agricultural value chain “nutrition sensitive” will not solve malnutrition on its own. Also needed are interventions that address the underlying determinants of malnutrition, including care of women and children, adequate health services, and environmental sanitation. At the same time, the specific nutritional outcomes observed locally should indicate what interventions in the value chain are warranted, and how this relates to, *inter alia*, practices in food use and the need for physical infrastructure.

Targeting and Programming

While the value chain approach seems to point to commercial market operations, the group spent more time debating the role of final consumers than that of markets, on the premise that end-users critically influence supply: Even if it’s better, a product won’t sell unless consumers see the value in it. So nutritionists should work on advertising and education to change consumer preferences and have them demand better nutrition. Informed consumers can, in turn, exert influence throughout the chain while adding value to it. With this in mind, the following was discussed in relation to target groups and programming.

- Target the right groups.
 - Key targets are children up to 24 months and pregnant and lactating women.
 - You might reduce malnutrition in under 2s, but you might still have hungry adults and school-aged children. Is this out of the scope?
 - Target farm families and communities to effectively change individual behavior.
 - People might have more income but not know how to spend it. This raises education opportunities for agricultural programs.
 - To change a behavior you must look at the whole context. Who decides about nutrition is not just the mother, but also the father, the mother-in-law, and the community as a whole through established norms and beliefs. The nutrition of next generations won’t change by influencing the feeding behaviors of just an individual eating a healthy diet. The community is the instrument for change at broader level so you don’t have to go back every few years to rehab kids; therefore, the community is also a key target.
- Who are the target groups along the chain? What do they need specifically?
 - Vulnerable people often have little land and face many constraints. Self-provisioning is not necessarily the solution for them, since working on food crops won’t improve their ability to feed themselves.
 - At the same time, consumers don’t always go through the market; many of our target groups eat off their fields.
 - Looking at the market for a crop should always consider first how well local markets are functioning.

Communicating across Disciplines and Spheres of Action

- Agriculturalists don't know what to do about nutrition. They work in a value chain. We must capture what and how they think, not how nutritionists think. To help agriculturalists work with nutrition, nutritionists should develop something familiar as a communication tool, a diagram that shows how production/nutrition relate, and how income increases can be used for better nutrition.
- Agricultural program managers, extensionists, public service people report to bureaucracies and policies. If accountable to a "do no harm" policy, they might consider their role differently. For instance, while a transition from mixed cropping to mono-cropping might promise more income, it might displace beneficial practices. Nutritionists have to help agriculturalists identify the key things to look at to avoid harming family nutrition.

Points of Debate

- Is the value chain necessarily linear and does it end where commercial operations finish, or does it include loop backs, where consumers affect supply?
- In a related way: Where does the notion of "value chain" itself begin, where does it end? Start with buyers (demand)? Or look upward, starting at the seed (supply)?
- If a value chain is linear, and value is continuously added along the chain, can the end-user (consumer) add value to the chain? How can consumers influence and add value along the chain?
- Who are the targeted beneficiaries of nutrition action? The household as a whole or its most nutritionally vulnerable members?
- Is there a dichotomy between nutrition security and food security? Some charge that food security focuses too much on quantity. Nutrition security is about access to quality food.
- Do we need multiple value chains for different crops, or can a single, generic, nutrition sensitive value chain be developed to guide programming?

Resources

A resource link on an "Introduction to Value Chain Development" was shared from the MicroLinks website: http://www.microlinks.org/ev_en.php?ID=9652_201&ID2=DO_TOPIC.

Designing Agriculture Production Projects to Enhance Nutritional Outcomes

Discussion Hosts⁴

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Background

Generally, agriculture development projects are designed to improve yields, crop quality, and marketability, with the ultimate goal being to increase the level of income for rural stakeholders. Under USAID's Feed the Future initiative, traditional agricultural development paradigms are being consciously altered so that nutrition indicators and outcomes will be better integrated, at the start of the project design phase, into the next generation of development projects. This significant shift in agricultural development philosophy presents numerous challenges and opportunities for the development community.

In the past, despite difficulties associated with institutional barriers (silos), "turf" wars, and insufficient funding, development practitioners have had some success in integrating agricultural and nutrition objectives into agricultural projects. However, results have been limited and poorly documented. Designing agriculture projects with minor nutrition components and designing nutrition projects with minor agriculture components has been done before, but with limited results. And, when there have been good results, the marketing of the integrative approach has been weak. Thus, many donors have remained skeptical about forcing this "fusion" at the design stage.

What can be learned from past attempts to design agriculture projects with nutrition objectives in mind? And, to take full advantage of the high current level of interest and funding inherent in the Feed the Future initiative, are entirely new approaches to project design needed to fully capture the current momentum?

In general, discussants in the two sessions did not offer new or innovative approaches to address the "how to" of changing agricultural project design to better reflect nutrition. Instead, the discussion tone was "cautionary," centered on the problems associated with trying to potentially "force" the integration of nutrition into agriculture projects. Concern and skepticism was offered by agriculturalists and nutritionists alike. What follows are some of the highlighted thoughts and comments from the participants from both sessions.

⁴ There were two separate sessions held to address this issue. Both sessions were co-hosted by John Bowman of DAI and John Whims of Michigan State University. A straw poll indicated that about 60% of the audience had a background in health, whereas 40% was from agriculture. Session #1 was attended by a professional blogger and key points of the discussion were presented live on the Internet.

Summary of Discussions

Question 1: Regarding the title of this dialogue session, does the audience basically believe in the premise that the next generation of agricultural projects (with a “food security” focus) should be designed from the start with built-in nutrition components and objectives, or do some choose to challenge this assertion?

- It’s been shown that agriculture alone is not enough to improve nutrition outcomes; you also need to pay attention to health and other aspects, like water and sanitation.
- It is important to have nutrition integrated into the activities of every community, but it might not need to be integrated into every agriculture project. It might be more beneficial to have high levels of forced cooperation between certain agriculture and health projects than to spend valuable (and potentially scarce) resource incorporating a nutrition component into every program.
- There is no clear evidence to show whether increased income through improved agricultural productivity will always lead to an improvement in the household diet. Nutritional benchmarks and impact analyses need to be built explicitly into the design of a respective agricultural project.

Sub-Question 1: Is significant attention to gender in agriculture projects enough to ensure the link to improved nutritional outcomes? As opposed to, for example, an approach that requires that agriculture and nutrition people come together in the design of programs?

- A focus on gender in agriculture programs would not be enough to change some key behaviors. For example, it would not lead to increased exclusive breastfeeding. Educating mothers is also needed.
- For increased agriculture productivity with a focus on women to lead to improved health outcomes, an educational component is necessary.
- The concept that agriculture activities that are geared toward increasing women’s income-generating capacity will lead to improved nutritional outcomes must also be questioned. The role of women in the local labor force must be well understood. These labor roles might impede their ability to improve nutritional outcomes for their children.
- Better analysis of gender stratified by age groups is also needed. Often the youngest women (who are also new mothers) are at the bottom of the “agriculture benefit ladder” due to the hierarchy of the social labor system.
- Young women have no decision-making power; often they cannot even access available household food (intra-household distribution).
- A project focus on gender does not alone empower women. It is also necessary to educate and empower men to become more supportive of women. Getting men to buy into the notion of more fully empowered women might be one of the most sustainable ways to ensure better gender balance in poor agrarian communities.

The point was raised that, in some other forums, certain agriculture specialists (especially economists) have recommended not focusing too many resources on the integration of nutrition into agriculture programs, but rather to continue conducting high-quality agricultural interventions and improvement in nutritional outcomes will eventually come. Much discussion followed, but it was clearly the consensus of our two discussion groups that such an approach was limited in value, and that attempts should be made to design agriculture projects for enhanced nutritional outcomes.

Question 2: What success stories are there regarding integration?

- There was a feeling that **Title II programs** have been successfully integrating the two areas of agriculture and nutrition for many years (by design); there has not however, been much marketing of the successes of the integration to donors. The sentiment was that numerous Title II programs have actually led to the successful demonstration of a reduction of stunting in some cases.
- The story of the dark **orange fleshed sweet potato (OFSP) in West Africa** has demonstrated success. A program focus on women producing OFSP was accepted by men in the community because it was not seen as a cash crop. Nutrition education was integrated into the (women’s) Farmer Field Schools from the start. Then assistance was provided for developing the market chain, with women encouraged to set aside some produce for household consumption, but also encouraged to sell a portion of production to meet other needs. By contrast, some health-focused, small garden activities have insisted that there be no sale whatsoever of production. With the marketing assistance, OFSP eventually did become a successful cash crop, and men have become more and more interested in production. However, the outcome was a more balanced “egalitarian” base of the male and female producers of the OFSP.
 - Women must be recognized as having income requirements of their own; sometimes they will place a higher priority on their own income and sacrifice the nutritional needs of their family. Women cannot be treated as mere “vessels” of improved health and nutrition for the more vulnerable members of the family.
- The **Well Baby Initiative in Gambia** also showed impact through targeting nutrition education to men in terms they could “value” and in a participatory fashion such that it led to an “aha!” moment for men. This then led to men’s assistance in constructing crèches in the fields where women labor so that they could have a place to sit and breastfeed infants through the day.
- The **WINNER Project in Haiti** was also mentioned as a great example of integration of agriculture with nutrition, but it was not comprehensively discussed.

Additional Points of Significant Discussion

Integrated Designs Need Special Care. Several discussants indicated their concern that the “rush to integrate” nutrition into agriculture projects could lead to some very low-quality design work, and, most likely, the “nutrition” side of the design would suffer the most. The fear is that, if agriculturalists are essentially in charge of the overall project design, the nutrition components might get a “less than professional treatment,” resulting in poorly designed and executed nutrition interventions. The point

was made that nutrition interventions cannot be effectively “slapped onto” a project that essentially has an agricultural framework. Nutrition interventions that require precise measurements, such as food intake, serum levels of nutrients, anthropomorphic data, and breastfeeding efficiencies, are difficult to execute in their own right, and require highly skilled health professionals who are acutely aware of the difficulties in getting personal, health-related data from human subjects. So, in general, there was a significant amount of concern that the rush to integrate could result in a loss of project quality.

Although there was a lot of invigorating discussion on this point, not many solutions were provided. Either you have separately managed and executed agriculture and nutrition projects that have a funding “overlord” who demands that the two programs work together on an extremely close basis and are both evaluated on contributions to health outcome or you set out to develop a new set of “next generation” projects that are extremely well balanced between agriculture and nutrition objectives in their design and in their staffing. In fact, these projects are designed by the donors with a minimum of stovepipe language that results in territorial aspects between agriculture and nutrition. Perhaps the new generation of food security projects actually might hearken back to the development approach of the 1960s that was categorized as “integrated rural development.” In other words, the most important project outcomes concerned the overall health and welfare of communities using a balanced mix of agriculture, health, natural resources, and livelihoods interventions.

Signs of Hope – Food Security Bureau and Nutrition CRSP. When projects are designed and released for competition by donors, even if the designers are well intentioned and wish to foster integration and “de-stovepiping,” the simple place of origin of the project (“Office of Agriculture,” “Office of Health,” “Office of Economic Growth,” etc.) in the infrastructure of the donor agency will tend to “pre-taint” the project with an agriculture or nutrition bias, which the competitors for the project must strategically respect. It was felt that two new developments at USAID will help spur project design innovations that foster collaboration between agriculture and nutrition. Hopefully, the formation of a new “Food Security Bureau” at USAID will de-stovepipe many of these traditional barriers, and new projects will be designed and released from a mixed group of professionals coming from agriculture, health, climate change, and other backgrounds—working closely on well-balanced project design teams. It will, therefore, be much harder to identify the “traditional roots” of the project design team, and, thus, more creative integrated approaches (which must cater to all the disciplines) will be offered by the contractors.

Another important development is the recent award of the Nutrition CRSP. This collaborative agreement will have the latitude to gather some of the sorely lacking empirical evidence on whether or not truly balanced treatments of agriculture and nutrition, applied in an intersectoral collaboration framework, generate better health outcomes than do the sum of independently designed “stovepiped” projects. One of the three principal themes of the Nutrition CRSP involves “Improving the Nutritional Status of Women and Children through Agriculture and Food Based Programs,” which will go a long way toward devising innovative, new design approaches that ensure that agriculture projects deliver not only improved production of staples, but also improved production of nutritious crops and animal source foods that will deliver better levels of essential macronutrients and micronutrients to vulnerable groups.

Identification of Major Challenges That Lie Ahead

- Need to balance a demand-oriented market with the necessities of improved nutrition.
- How to convince donors that the concept of improved “nutrition security” might be just as important as the concept of “food security”?
- Agriculturalists need to become more aware of food consumption patterns and socio-cultural behavior of their beneficiaries.
- Nutritionists need to better define target beneficiaries and key nutritional indicators for agriculturalists, while at the same time offering sound methodologies for the monitoring and evaluation of these indicators.
- Agriculturalists will often insist that you must increase the profitability of farmers before you can ever expect them to invest in nutrition delivery schemes.
- Can donors use a “carrot and stick” model to facilitate agriculture and nutrition integration in developing countries? Those countries that demonstrate tangible advances in integration on their own might be awarded higher portions of the “Feed the Future” pie.
- Anthropometric surveys are extremely technical and require highly trained technical staff. It is important to ensure that the data collected are of high quality or they will be meaningless and useless. It will be critical to ensure that if anthropometric indicators are being tracked and/or measured, that they are measured and tracked properly.
- Using nutrition indicators in agriculture projects will necessitate collaboration between the nutrition and agriculture sectors.
- Measuring how new bio-fortified crops help improve both incomes and nutrition status is complicated and will require collaboration between agriculture and nutrition specialists.
- Is it necessary for **every** agriculture project to measure nutrition indicators? No, and it isn’t realistic. In some cases, it would be appropriate and can work.
- Sometimes you can’t do it all: It’s not always possible to increase nutrition value **and** economic value.
- WINNER project in Haiti: integrated agricultural development and nutrition project.
- How easy is it to make measurable progress when there are so many components related to improved nutrition?
- Nutrition outcomes are multi-causal.
- Limitations start at the donor level, due to funding and limited scopes in RFAs.
- Where is the empirical evidence that cross-sectoral projects work better than stovepiped projects? There is very little evidence.
- Several of the CRSPs have nutrition-related objectives.
- Where are the entry points within agriculture where we can integrate nutrition? Where are the natural points of entry within agriculture organizations?
- Do we want every organization to adjust its scope to incorporate agriculture or nutrition? Or should we push for more partnerships between strong agriculture and nutrition organizations?
- CARE and CRS MYAPs projects have shown that integrated projects really do produce positive outcomes.
- How do you build synergies within organizations? And then how do you do this between organizations?

Livestock's Role in Food and Nutrition Security

Discussion Hosts

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Background

Livestock and animal source food (ASF) are critical for the nutritional, cognitive, and physical development, as well as for household livelihoods. Meat and dairy provide important sources of vitamins and minerals, particularly iron, zinc, potassium, calcium, riboflavin, and B12. These micronutrients, which are especially important for infants and young children, are largely insufficient, absent, or poorly bioavailable in plant-based diets. Meat and dairy are also highly energy dense, which is important for young children with small guts or the chronically ill with lack of appetite. Importantly, milk comprises all eight essential amino acids, thus constituting high-quality protein. The consumption of even small quantities of meat and dairy can markedly improve the nutritional quality and diversity of the diet. In addition, the dairy and livestock industries are significant engines of economic growth, increasing labor markets, household incomes, family nutrition, and living standards.

Summary of Discussions

The discussion group identified five main entry points into the exploration of the role of livestock in food and nutrition security, each with its own set of challenges: gender, food processing/fortification, environmental sustainability, knowledge management, and risk management.

Gender is critically important to address when improving human nutrition and household food security through livestock. Social traditions, privatization, and other policy factors often impede the growth of women's capacity strengthening in livestock production and marketing. Women benefit most when they have decision-making authority over the animals they manage, even without legal ownership rights. Such rights vary by culture, class, and type of animal. In some settings, it might be easier for women to operate a productive enterprise with smaller animals, since the initial costs are lower. Profits might be low, but so are the risks, and men might be less likely to interfere or to object. In other settings, women might prefer to own larger animals, such as dairy cattle, because they are more profitable and bring greater personal status. Women's time constraints also need to be considered when targeting them for livestock-related income-generating activities, so that the time they have to devote to child care or other household responsibilities is not limited.

Gender also plays a role in access to ASF and overall dietary diversity and quality due to socio-cultural practices related to food purchase decision making and the order in which women and girls eat at household meals. In many cultures, men are fed before the family, and the quantity of ASF, if available at all, might not be enough to feed women or children when the head of household is done eating.

Food processing/fortification is another entry point. Poor dietary quality can result in malnutrition and micronutrient deficiencies. Programs that support livestock development to promote consumption of ASF for improved dietary quality and diversity are important complements to micronutrient supplementation, home gardens, and promotion of staple crops. This presents a challenge between supporting community-based food production and processing versus engaging the larger-scale food industry to produce fortified and nutritionally balanced food products. Policy interaction vs. household production affects human nutrition when households cannot access markets or meet market demand. A major challenge is to strengthen the value chain analysis so that it relates to improved human nutrition. Bush meat consumption could be reduced given greater access to livestock ASF.

An example of engaging the food industry to produce specialized foods formulated to meet the nutritional requirements of vulnerable groups was shared by Land O'Lakes, which has supported three Zambian food processors to develop and market high-quality supplemental food products: a fermented milk, a maize-milk beverage, and biscuits. The foods help people living with HIV (PLHIV) meet their nutritional needs because they are fortified to improve the quality and diversity of the diet; energy dense to help meet increased energy needs; familiar and tasty to stimulate appetite; and appropriately formulated to aid digestion (the beverage has enzymes) and address diarrhea and thrush (the milk is fermented), common illnesses among PLHIV. The food products are manufactured by the food processors, conform to Zambian food safety standards, and are culturally and commercially familiar, thus meeting consumer dietary expectations.

Environmental sustainability. Meeting household livestock ASF production needs while conserving natural resources and mitigating or adapting to extreme climate variability or changes affects environmental sustainability. Integrated systems (crop/livestock or aquaculture) can be critical to improved human nutrition. The One Health movement, i.e., the tight interrelationships among livestock, human, and environmental health, provides an excellent example.

Knowledge management. Lack of access to information about or awareness of the value of ASF in children's and women's diets, in addition to less science-based evidence of ASF value than of crop values, affects households; donor support for livestock programs; and most national policies, which are biased toward crops. There needs to be a public policy focus on the value of ASF in human nutrition and household food security, along with integrated messages from the donor and nongovernmental organization communities. Land O'Lakes shared its work on integrating human and animal hygiene and nutrition messages through behavior change communication efforts targeted to both farmers and caregivers at both cooperatives and women's groups.

Risk management. Households have different motivations for keeping livestock, including generating income, to provide coping mechanisms, and to use as capital assets. This highlights the importance of decision making regarding how household income is allocated and who within the household makes such decisions. Whether small-scale livestock production is or is not included in national policy objectives can support or work against household production. In addition, food safety and agriculture-associated diseases, coupled with the environmental consequences of raising livestock in urban or

crowded localities, must be addressed at policy and programming levels, which affect a household's decision on what species to keep.

Finally, program development and project organization is considered too narrow and/or too short given that the life cycle of livestock is longer than most 3–4-year projects. There appear to be no clear long-term investments that account for the life cycle of livestock. In addition, adoption of management practices might take longer than the project life cycle due to different motivations of producers keeping livestock, such as for income generation versus as a coping mechanism versus as capital assets.

Indicators change frequently, which has the ripple effect of causing modifications in program foci that require a need to plan ahead to meet the indicators and to respond to the question of what was achieved vs. how and why. Measuring the effect of projects that focus on productivity and income generation requires less time than demonstrating the nutritional impacts of ASF consumption. In addition, measuring such effects is more difficult, since measuring nutrition is the result of many different factors and requires a longer time to see population-level impacts, and because monitoring is not the same as evaluation. The challenge is how to measure the impact of higher-quality human nutrition without the “tail wagging the dog,” i.e., predicting outcomes before measuring them.

Several age-old negative yet inconsistent perceptions of livestock influence donor support. There is an institutional divide between public and private sectors, for example, between veterinarians and human medics. The development focus often varies substantially among donors. For example, there is the question of whether livestock production is promoted for export and demand-driven growth or for the value of ASF in human nutrition. Solutions are difficult because of miscommunication and the nature of the perception.

Behavioral changes are needed to improve diets, which require a communication link between the private sector (livestock for income generation) and the public sector (improved human nutrition). This is complicated by the seasonality of livestock product availability and byproducts, more so for dairy, less for meat. The question that must be asked is where are the markets for such products? Linking to the private sector is often easier for the dairy subsector than it is for the livestock subsector because the dairy market can be accessed by several income levels.

Two final questions posed by the discussion group were: What is livestock development and what approach is best? Should livestock production be supported for household income growth or with a pro-poor approach toward improved human nutrition?

Additional Materials

- “Animal Source Foods to Improve Micronutrient Nutrition and Human Function in Developing Countries,” M. Demment and L. Allen, *Journal of Nutrition*, Vol. 133, No. 11 S-II, November 2003.
- “Role of Livestock in Human Nutrition and Health for Poverty Reduction in Developing Countries,” T. Randolph, E. Schelling, D. Grace, C. Nicholson, et al., *Journal of Animal Science*, 85:2788-2800, 2007.
- Milk Matters: The Role and Value of Milk in the Diets of Somali Pastoralist Children in Liben and Shinile, Ethiopia, K. Sadler and A. Catley, 2009.
- Review of the Enhancing Child Nutrition through Animal Source Food Management (ENAM) Project, External Evaluation Panel Report, D. Rubin, N. Roos, A. Neumann, and S. Johnson, 2007.

Helping National Governments Coordinate between Ministries of Agriculture and Health/Nutrition

Discussion Hosts

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Introduction

To begin the debate, the hosts introduced a case study from Ethiopia. The Government of Ethiopia's first national nutrition strategy, which was launched in 2008, established mechanisms to facilitate coordination of the country's nutrition initiatives at the national, regional, and local levels. These coordination structures, which were intended to oversee implementation of the nutrition strategy at all three levels, were led by the Ministry of Health, but included all relevant ministries, including the Ministry of Agriculture and Rural Development. A recent evaluation of the implementation of this strategy revealed that the coordination structures were not yet functional, except at the national policy level. The Ministry of Agriculture and Rural Development also began development of a policy and investment framework for the agriculture sector. Unfortunately, this framework only barely addresses linkages with nutrition.

The questions for the session then were: Is coordination among relevant ministries a necessary condition for addressing nutrition and food security issues? If not, what are the other opportunities?

A rich discussion followed and the following interesting points were made.

A Common Understanding of Food Security and Nutrition Issues

In very few countries is there a ministry in charge of food security, and often food security falls under ministries of agriculture, which look at it only in its narrow sense, i.e., mainly production of and access to food. In that respect, links between ministries of agriculture and ministries of health, which are often responsible for nutrition issues, do not appear straightforward.

Multisectoral work is facilitated through the use of a shared conceptual framework that illustrates the different underlying causes of malnutrition in a given country context. This type of framework is instrumental not only in enabling different constituencies to reach a common understanding on food security, nutrition, and health issues, but also in highlighting the role of each of these issues within a framework that addresses food security, health, or care practices. When a shared framework is developed, it can help clarify problem definition and create energy around a shared objective (e.g., reducing child stunting or underweight). The United Nations Food and Agriculture Organization's (FAO) "Problem-Solution Tree" is an example of the tools that are used to help develop a shared framework.

FAO has used the “Problem-Solution Tree” in six countries to generate local causal frameworks and to identify the roles of different sectors.

In Afghanistan, since 2002, the nutrition and food security communities have joined together to agree on a shared causal framework. The framework articulated national nutrition and food security priorities, and the two main contributing sectors—health and agriculture—each identified its respective role. This facilitated multisectoral collaborations, and commitments were monitored through thematic working groups. Each sector worked in its respective technical area, but the collaboration served to create a larger whole that addressed concerns related to food, health, and care. Joint action was taken to conduct research in different parts of the country on food beliefs and practices to develop nutrition promotion materials (by FAO, the Ministry of Agriculture, the World Food Programme [WFP], UNICEF, and the Ministry of Public Health). These materials were funded through both agriculture and health partners, who then held trainings using a set of common messages and materials around the country. In some areas, agriculture platforms (e.g., women’s producer groups) were stronger for infant and young child feeding trainings, while in other areas health sector platforms (e.g., community health action groups) were stronger. Through the collaboration, capacity was built at national, provincial, and community levels to promote nutrition. The collaboration across sectors also proved essential in advocating to preserve nutrition and food security priorities in the national development plan.

The next question then is: Who could be in the driver’s seat for the development of such a shared conceptual framework at the country level? Several participants reported that in many countries it was difficult for one ministry to take the lead and coordinate with other ministries, because there was no hierarchical link among them and usually no incentive to collaborate. Therefore, the session’s participants identified the office of the prime minister (or similar structures) and the ministries of finance as potential candidates, depending on the context. Given their leading role during national development planning and reporting processes, it was felt that ministries of finance could play a leading role in fostering coordination among relevant line ministries on nutrition and food security issues. However, it was noted that ministries of finance had limited understanding of the importance and implications of the linkages between agriculture and nutrition. Therefore, education of ministries of finance on these issues would be a prerequisite. In Afghanistan, the collaboration among ministries for the development of a conceptual framework on food security, nutrition, and health was fostered by development partners (UNICEF started it and FAO took over). Donors could therefore play a constructive role in incentivizing linkages between nutrition and agriculture.

Finally, for some specific issues, such as the prevalence of aflatoxin, avian influenza, and bovine tuberculosis, where the linkages between agriculture and health are straightforward, some participants believed that collaboration among the relevant sectors is easier.

Making the Linkages between Food Security and Nutrition a Reality on the Ground

In general, the lack of incentives for the line ministries (i.e., the ministries of health and agriculture) to work together was recognized as a major constraint, and some participants suggested that simple indicators be added in agriculture-related programs when relevant, so that these programs also tackle nutrition issues. Education on the linkages between agriculture and nutrition could also act as an incentive to work together; training agriculture people in nutrition and health people in the contribution of agriculture to malnutrition or undernutrition can improve the way each sector works.

While the importance of having a conceptual framework linking agriculture and nutrition was recognized, participants emphasized the importance of actually implementing these linkages at the local level, where it can make a difference. In that respect, the crucial role of extension services in bringing nutrition aspects into agriculture issues and, conversely, bringing agricultural aspects into nutrition issues, was stressed. The establishment of HIV district-based cross-sectoral aid services was mentioned as a good example, although it was highlighted that this solution had been supported by large funding that will never be available for the agriculture sector.

Participants identified three potential ways to overcome the disconnect between agriculture and nutrition at the local level.

- Planning of agricultural programs at the local level based on a good understanding of other existing programs and, in particular, health- and nutrition-related programs. A good understanding of the data needs to address nutrition issues in agriculture programs is required, as is a proactive search for these data by the agriculture ministry. For example, if malnutrition is exacerbated by health problems, agriculture programs might include activities related to food safety and water quality, if relevant.
- Joint local planning with ministries of agriculture and ministries of health. This is difficult to implement for projects funded through external resources, as planning phases for agriculture and nutrition projects might not coincide. However, donors could play an instrumental role in supporting joint local planning of different ministries.
- Implementation of integrated programs. One participant referred to a large United States Agency for International Development (USAID)-funded Integrated Nutrition Program in Nepal, which includes both nutrition- and agriculture-based strategic objectives: a) household health and nutrition behaviors are improved; b) women and children increase their use of quality health and nutrition services; c) women and their families increase their consumption of diverse and nutritious foods; and d) coordination on nutrition between government and other actors is strengthened.

Beyond National Authorities: The Role of Other Actors

National networks that deal with a multitude of issues—education, health, income generation—can be very effective in incentivizing the dialogue between different disciplines. Donors can promote integration of nutrition issues into their agriculture and food security policies programs and vice versa. USAID’s Technical and Operational Performance Support (TOPS) Program, for example, includes the linkage between family planning and food security. Feed the Future is incentivizing a dialogue between nutrition and agriculture experts and programs.

Research and policy institutions in countries could also contribute to policy dialogues and planning processes, whereby nutrition issues are incorporated into agriculture programs. However, these institutions are rarely strong enough on their own to lead such policy debates.

The Private Sector's Role in Food Security and Nutrition

Discussion Host

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The following summarizes discussions from two breakout sessions on the private sector's role in food security and nutrition. Specifically, participants discussed private sector contributions and opportunities to improve food security and nutrition. Session participants also shared observations about the private sector's role and recommended actions to guide and strengthen private sector involvement in future development activities.

The private sector is a critical partner in advancing global nutrition and other development goals. It creates opportunities to raise the standard of living for individuals and families around the world by expanding markets for agricultural and other goods and services. These markets generate jobs, improve labor standards, and raise incomes—all of which can improve access to a healthy diet. The private sector directly affects nutritional status through food fortification and the production and distribution of nutritious foods. The appropriate role and level of private sector involvement varies by initiative. During the breakout sessions, conference participants identified a wide range of private sector activities that can improve food security and nutrition (see list below).

Successful development initiatives involve multiple sectors and require mutual respect among all parties involved, including consumers, governments, nongovernmental organizations (NGOs), and businesses. Initiatives that engage the private sector in planning and execution can enhance the overall effort and in many cases improve success rates in achieving desired outcomes. The private sector should be involved systematically and early in the development of strategies to address food security and nutrition, including in the development of country-led plans. These planning processes should, as a matter of regular practice, explore opportunities for private sector engagement.

Successful partnerships also require high levels of trust and transparency. Any concerns about stakeholder motives must be resolved or they could jeopardize the project's outcome. Oversight mechanisms, including a government regulatory infrastructure and watchdog groups, are important to monitor conduct and increase NGOs' comfort level with industry engagement.

Initiatives should include performance outcomes and metrics to evaluate both positive and negative impacts of various sectors (including the private sector) on project success. Private sector contributions to improve nutrition and food security are not well understood. Better documentation of private sector contributions is needed. Project evaluation should include metrics to assess private sector performance and relative impact, including the impact on targeted communities. An evidence base could be useful to demonstrate the value of and build the case for private sector involvement. It also could help identify

possible circumstances where the private sector did not advance project goals. Case studies and best practices on the role of the private sector in improving global food security and nutrition should be published and disseminated.

Conversely, the macro-business case for private sector engagement, as well as specific opportunities for involvement, are not communicated effectively to business. Efforts are needed to further develop private sector interest in and a long-term commitment to food security and nutrition. This includes enabling activities that create the economic, political, social, and other conditions necessary for private sector investment.

Private sector activities that can improve food security and nutrition

- Investing in research and development that leads to new products, practices, and other innovations that enhance the food system
- Building economies of scale
- Marketing (including social marketing) and communications to promote positive nutrition messages
- Sharing expertise in supply chain logistics, distribution channels
- Supporting the development of strategic infrastructure: ports, roads, storage
- Raising global standards, including standards for product quality and food safety
- Sharing perspectives, experiences, technical expertise
- Investing in farmer, especially smallholder, education and training
- Promoting free trade to ensure open access to markets
- Creating distribution channels for the delivery of fortified and other high-quality foods
- Responding to gaps and priorities identified by NGOs, governments, and others
- Conducting market assessments that lead to price discovery
- Developing risk management tools
- Convening individuals and organizations to find common ground or to advance shared objectives
- Making capital investments and providing other forms of financial support

Women, Gender, and Food Security and Nutrition

Discussion Hosts

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Background

Women are the backbone of agriculture in the developing world – producing between 60 to 80 percent of the food in these regions. Yet they own barely a fraction of the land on which they provide their labor and have little decision-making power at the household level. As such they often do not control or influence household decisions such as what to plant and how much to keep for home consumption or sell. Women also receive little agricultural extension advice. Although women are often fully responsible for preparing household meals and feeding and caring for children, they rarely have enough control over household income to make the food and nutrition choices they would like. There is compelling evidence that, among poor families, the income that is under women's control is used to improve the family's food and nutrition security, so women's control over or influence on household decisions about family resources and expenditures is important, as is the empowerment that comes with it.

Summary of Discussions

Current Approach

In developing countries, women and children from poor households are often the worst off and the most vulnerable to financial shocks. Because of this vulnerability, a common development approach is to target programs, interventions, and services at women. For example, relative to poverty reduction, women are engaged for income-generation schemes and microfinance; relative to health and nutrition, they are targeted for services for themselves and their children. On the other hand, women are not often targeted for agriculture interventions, but they are almost exclusively so for nutrition.

Limitations

This approach of targeting women as it is most frequently implemented has several limitations.

- A broader analysis and understanding is lacking of the context and in particular of gender issues, in communities and households, including how household decisions are made and influenced, how men and women assume gender roles, and most importantly where variability in these practices exists that programs can build on.
- The understanding of household and gender dynamics and resource allocation is limited; for example, women have much less control over household resources and resource allocation than men. If programs do not account for this difference, women might reap a smaller benefit from the program than intended.

- If major financial benefits accrue from interventions targeted to women, husbands might take control of the enterprise or the proceeds; and consequently, women might deliberately limit the success of these interventions so that they **can** retain control over some perhaps smaller amount of income or resources.
- Women rarely receive agricultural extension services, so they have little new information on which to improve their agricultural productivity.
- When women are targeted for certain health services, such as HIV testing and counseling, they might be blamed for bringing the problem into the family.
- Women and girls in HIV affected households spend most of their time caring for patient family members, thus affecting women's productive time and girls' schooling.
- With a nutrition focus predominately on children, women's own nutrition, during pregnancy, lactation, or the intervals in between, gets inadequate attention.

Women are usually expected to be responsible for the family's nutrition, often without access to the resources to do this well, and without the concept of shared responsibility for nutrition.

Gaps

An overarching gap in enhancing women's contribution to both agriculture and nutrition, therefore, is a lack of understanding of how to promote gender equity and integrate a gender approach for improved agriculture, food security, and nutrition outcomes. The logical steps would be to: collect gender disaggregated data on and analyze the inequities, then use the analysis and the variability in practices among the participants to design a program that is feasible with respect to the circumstances, and finally monitor such a program to make sure that the effects are sustained. Unfortunately, there is little evidence of such program experience on using a gender approach to draw on.

In most program settings, there is inadequate background information about how communities view existing gender roles in agriculture and in nutrition. Raising questions about gender perceptions could raise awareness about the role of gender in household decisions and resource allocations that could enhance programmatic approaches to both agriculture and nutrition. Taking account of women's reproductive roles is also important – often marriage and childbearing occurs when girls are still children <18 years old themselves. Without adequate information on perceptions of gender roles and expectations as background and gender dynamics in the family and community, interventions in agriculture and nutrition are often inexplicably constrained and results from them fall short of reaching their potential.

Indicators

Sex-disaggregated data are a first step in demonstrating how gender equity is promoted in a program. Also, for agriculture, food security, and nutrition indicators, sex disaggregated data can indicate any inequities in the extent to which men and women benefit. Noting male-female differences and changes over time can inform policies and programs so they can be refined. Sex-disaggregated data can also be presented as male/female ratios, as in education or literacy rates

In addition to disaggregation, it would be useful, for example, to know how gender influences access to credit and training, land tenure, size and quality of plots owned, number and types of animals owned and other indicators, as well as time spent taking care of children and taking them to health and nutrition services. Measures of women's participation in key activities are needed, such as percent of farmers receiving extension services who are women, and number and percent of women with college degrees in agriculture, veterinary care, natural resource management and nutrition. Also of interest is women's participation in agricultural decisions, such as choice of crops, allocation of farmlands, choice of tree seedlings, and use of resources in general.

Recommendations

Participants supported the key objectives from the Feed the Future (FTF) gender guidance and recommended that they be implemented fully:

- *Ensure that women, as agricultural producers, have equal access to assets, inputs, and technologies*, including land and other productive natural assets, extension services, financial services, agricultural inputs, and the knowledge to enable them to participate in and obtain appropriate returns from the agricultural system. Legal reforms, especially related to land rights, are often important to ensuring equal access.
- *Expand the involvement and participation of women in decision-making* at all levels and in all institutions (community, national, regional and global) related to policy, investment allocation, program development, and implementation. This effort will help ensure that women have a voice so their contributions can be recognized and their needs better met. Men need to be engaged in these change processes to achieve sustainable outcomes for the entire community.
- *Ensure the interests of women and men are reflected in all FTF policies and programs and those of the host country's Country Investment Plan*, including efforts to help ensure the participation of women, establish reasonable targets for participation of women, and monitor and evaluate program impact on both men and women.¹

In addition to FTF gender objectives, additional recommendations will promote women's and girls' empowerment broadly with a multi-sectoral approach, addressing social, economic, legal, and cultural determinants of food security, nutrition, and health. Specific programming recommendations are to:

- *Promote linkages to programs outside of the health and agriculture sectors*, including programs to increase access to girls' education and women's literacy; provide economic opportunity for young women; provide access to safe housing, fair and safe employment, and social safety nets; provide access to legal services; and address environmental factors, such as environmental degradation of natural resources.
- *Address and respond to child marriage, and make provisions for family planning and daycare services.*

¹ Feed the Future Guide. May 2010. Section 6.1 Guidance on Gender, pp. 27-29.
http://www.feedthefuture.gov/FTF_Guide.pdf.

- *Improve daily living conditions for women, girls, and their families through health programs (e.g., clean water and basic sanitation).*
- *Increase efforts to raise awareness among families, communities, and government decision makers and institutions about the range of determinants influencing the food security and nutrition of men and women, girls and boys.²*

Participants made three additional recommendations:

- *Be careful not to target only women or only men in nutrition or agriculture programs. While women might, for example, be a nutrition program's key set of beneficiaries (or key actors when their children are the key beneficiaries), influential family members also need to be targeted and convinced that the behaviors or actions being promoted are worth supporting, perhaps participating in. Such support is particularly needed if the family or family members must spend precious money or time for program benefits to be realized. In the case of agriculture, both women and men will benefit from programs, and so both should be targeted with, for example, new interventions to reduce the great risks in smallholder agriculture, including credit and savings groups; crop insurance; subsidies for agricultural inputs; and access to crop storage, food processing, and futures markets.*
- *Conduct research to learn how community members perceive their gender roles in agriculture and in nutrition, and use the results to inform programming design, as described in the "Gap" section above.*
- *Conduct gender analysis of each of the 4 pillars of food security for effective mainstreaming of gender in food security and nutrition.*

² This set of recommendations contains implementation elements adapted from U.S. Global Health Initiative Supplemental Guidance on Women, Girls and Gender Equality Principle, draft September 2010.

Blog post: The Marriage of Agriculture and Nutrition

by John Donnelly

The session opened with a question: Was it even worthy to discuss the topic, “Designing agriculture production projects to enhance nutritional outcomes”?

“Is it viable in and of itself?” asked John E. Bowman, principal development specialist of the Health Sector at DAI and the co-moderator at a breakout session today at the “Deepening the Dialogue” forum at AED. “We want to hear the pros and cons of the question itself. Do we agree it’s a great thing to do?”

Thomas T. Schaetzel, technical director of USAID’s Infant & Young Child Nutrition Project, said it was good to integrate agriculture programs with desired nutritional outcomes—but cautioned it wouldn’t solve all issues.

“It’s an important thing to do, but it’s also important to understand that when it comes to small children, you can make the programs more nutritionally friendly, but it’s never sufficient to achieve what you need for nutrition.”

In particular, he said, there needed to be programs to educate mothers about health benefits of exclusive breastfeeding for 6 months.

Also, said Amy McMillen of FAO, “maybe one project doesn’t address every issue. But in communities, it’s important to have a nutrition component” in some programs.

Bowman spoke up: “I’m open to the argument that agriculture and nutrition program designers together can make a better product, as long as they take time to put in gender outcomes. Then better health and nutrition will be an outcome. The more I read, the more I do believe in that. If you are talking about these hybrid products, agriculture and nutrition, you need to get women more empowered in agricultural issues.”

In order to do that, said Katherine Coon, agriculture practice development manager at International Relief & Development, “you have to understand women’s role in the labor force, which is huge.” Coon later described a program run by the Centro Internacional de la Papa (CIP) (International Potato Center) involving



John E. Bowman of DAI talks with Margaret Burns Parlato, senior vice president and director of the AED Global Health, Population and Nutrition Group.

orange-fleshed sweet potatoes in east Africa and also in Mozambique. The program included nutritional education, agricultural expertise, and an understanding that this was an earning opportunity to benefit women and their families.

“Women are not just vessels for nutrition,” Coon said. “Women are human beings with their own economic interests. There is a belief in the purity of women that in some ways is an obstacle. This project recognized that women needed to earn income. It integrated not only nutrition education but also income earning potential.”

To further underscore her point, she also talked about a well-baby initiative in The Gambia. Women working in the fields in The Gambia and elsewhere, she noted, were expected to leave their babies at home while they worked all day in the fields. It meant that the women stopped breastfeeding far short of 6 months. To encourage breastfeeding, program workers began educating husbands, pointing out studies that showed babies who were not exclusively breastfed for 6 months had far lower IQs than those who had.

“Men had an ‘Aha’ moment, an ‘Oh my god, my babies are going to grow up to be stupid?’” Coon said. “So, in order to make sure women would breastfeed, they started building crèches in the fields, and organizing so babies were taken care of. This is actually a labor issue. It’s an education issue, but it’s also a labor issue.”

Blog post: Glickman: Tell Your Stories Well

by John Donnelly

“Do well in the field. And then communicate your successes.”

That’s what Dan Glickman, senior fellow at the Bipartisan Policy Center and former Secretary of Agriculture, told a packed room in an unusual forum today that brought together food security, agriculture, nutrition, and development experts.

“You are fortunate to be getting into this in an era when it’s a high-priority issue,” he said at the AED/FAO-sponsored event. “The trick is to put our money where our mouths are, do something constructive with it, form partnerships between the private sector and government to get things done.”

But Glickman, who wrapped up today’s forum titled “Deepening the Dialogue,” said that groups have been poor storytellers.

“If you let people know what the successes and the needs are,” Congress and the U.S. administration will be listening, he said. “Where we do have successes, you have to communicate those successes. That in the last 20, 30 years has not been done. Very few policy makers have the foggiest idea of what the successes are.”

He rattled off a list of statistics on how, until the last year or two, donor support for agriculture had been on a long spiral downward.

In 1980, 25 percent of U.S. foreign aid went to agriculture; last year, it totaled 1 percent. World Bank lending for agriculture fell from 30 percent in 1978 to 16 percent in 1988 to 8 percent in 2006. But now the funding, at least from the U.S. government, will soon increase.

“That is changing dramatically right before our eyes,” Glickman said. “This is becoming a priority in Congress and the administration.”

On Oct. 20, USAID Administrator Rajiv Shah told a conference in Des Moines that the U.S. commitment to agriculture is at its highest level in a half-century, dating to the Green Revolution in Asia. He touted the Feed the Future initiative, which the administration has asked to be funded at \$1.6 billion next year. The



Dan Glickman, senior fellow at the Bipartisan Policy Center and former Secretary of Agriculture, gives closing remarks at the *Deepening the Dialogue* forum at AED as Michele McNabb, director of AED’s Food Security Initiative, listens.

initiative will include programs that bring together agriculture, nutrition, and food security.

Glickman said that the only way to reduce global hunger is attack global poverty.

“Poverty is the root of household food insecurity and hunger. Around the world, 3.1 billion people live on less than \$2 a day. To solve the world’s hunger problem, the world’s poverty problem must be solved,” he said.

With the world’s population still on a steep upward trajectory—it’s forecast to grow from 6.8 billion today to 9 billion by 2050, or “two more Chinas,” said Glickman—“world food demand is probably going to double.

“We also have water issues,” he said. “Farmers use over 70 percent of the fresh water in world. Water is the source of life for the production of food and fiber. We are going to have to find a way to help people find more food, at least double the food productivity in the world, and to do it in an environmentally sustainable way.”

He then trained his message on the audience before him—and others around the world working on these issues.

“Agriculture has been off the global development agenda for far too long, whether it’s because commodity prices were low, or farmer subsidies, or crowded out by environmental issues, or HIV/AIDS,” he said. “I was in South Africa a while ago, meeting with people in the AIDS movement and talking about agriculture issues, and I could sense a lack of interest. They had a great interest in malaria and AIDS, but not a lot in agriculture. I remember what my mother used to say, ‘Take your medicine *with food*, or else it will not have a value to you.’

“You are in the vanguard to making this a reality in the world today,” he said, referring to the importance of linking health, food, and agriculture. “... What I see here is an ability to link people together—NGOs, the government, the private sector, the farmer sector.”

The “trick,” as he put it, is now to make the case for more funding for global agriculture and nutrition programs in an era of tight public and private resources.

How?

Tell your stories well, he said.

“Let people know your successes.”

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