When considering how agriculture contributes to nutrition, I think it is useful to expand our worldview to take in the entire food and agricultural system, as this Forum has done. As Deputy Director-General (Knowledge) for FAO, I am dedicated to making sure that all those concerned with food and agriculture, as well as with overall social and economic development, are aware of the significant contributions that the food system can make to better nutrition throughout the lifecycle – and how better nutrition leads to improvements in human capital, higher levels of economic productivity and growth, and reductions in poverty. I also want to make sure all these actors have the knowledge and support they need from FAO to promote a nutrition-responsive food and agricultural system.

That the food and agricultural system as a whole has a key role to play in reducing malnutrition in the world seems obvious. Agriculture is the primary source of livelihoods for billions of people. It is the engine for an entire system that links rural and urban areas and provides not just food but jobs for many, regardless of where they live, who work in transport, marketing, and processing. But as the contributors to this Forum have pointed out, food and agriculture contribute to better nutrition in many other ways as well.

Of course, good nutrition depends not only on food being available but also on the family being able to access that food and on healthy food choices for self and family, appropriate caring behaviors for infants and young children, a healthy household environment, and access to health services. These other contributors to good nutrition cannot be forgotten. But this Forum has highlighted the role of the food and agricultural system. As the discussion closes, it may be useful to group the main pathways that link food, agriculture, and nutrition that seem to have emerged from the Forum discussions and the resources it has gathered. This can help identify where policies, investments, or programs can be most effective in improving nutrition.
• **Food production, marketing, and processing.** As the discussion noted, producers can be encouraged to grow a wider variety of crops, often reviving traditional crops with high nutritive values. Fish is a major source of protein and omega-3 fatty acids. For many, fish should be, and in many parts of the world already is, part of a healthy diet. In some places, plants and animals from the forest and the wild contribute variety and taste to otherwise poor rural diets. For those who consume out of their own production or from home or school gardens, diversity in the kinds of foods they grow, gather, fish, or raise is important.

Through urban agriculture, city dwellers can grow fruits and vegetables or raise small animals and increase their intake of micronutrients and protein. Industrial fortification is another avenue to address micronutrient deficiencies.

• **Food choices and dietary diversity.** Of course, even if nutritious foods are available, consumers and caregivers must know which foods to choose for a healthy diet and how best to prepare and store them. Nutrition education and information are thus essential to making a food and agricultural system “nutrition-sensitive.” The contributions by the International Agri-Food Network, Bioversity, the International Potato Center and the example from Micronesia make this point. They show that not only does the food and agricultural system affect nutrition but that considerations of nutrition can affect production decisions and reorient the food and agricultural system as a whole. Ensuring foods are safe so they don’t contribute to malnutrition through illness is also important. Here concern for food safety is relevant not only for international trade but wherever foods are prepared, whether at local markets, by street vendors or in the home.

• **Empowering women and girls.** In addition to taking care of their families, women and girls play critical roles in agriculture and throughout the food system as farmers, traders, and business owners. Yet currently rural women lag far behind rural men and urban men and women for every MDG indicator. FAO’s *State of Food and Agriculture 2010-11* showed that removing barriers to women’s participation in the food economy and promoting gender equality is not only good for women, it is good for the economy and society as a whole. If women had the same access to productive resources as men, they could increase yields on their farms by 20 to 30 percent. Agricultural output would go up by 2 to 4 percent. Malnutrition would be reduced by 12 to 17 percent. Labor-saving, gender-friendly technologies could increase agricultural productivity and give women more time to care for themselves and their families. Women with more control over household decisions tend to invest relatively more than men in education and spend more on food, leading to better nutrition and food security. Ensuring women have the knowledge they need to improve their family’s nutrition as well as the resources they need to act on that knowledge should significantly improve nutritional outcomes. As part of a nutrition-sensitive food and agricultural system, then, women must be primary beneficiaries of education, extension, and technology. We all must work, too, to remove legal and cultural
barriers to women’s full participation in the economy and society, such as laws that exclude women from inheriting land or securing access to credit.

- **Improving livelihoods.** Those in rural or urban areas who depend on the food and agricultural system for their livelihoods, including fisheries and forestry, can use increases in income to purchase more and more nutritious foods. They can use the increase in income to improve household hygiene, invest in education, or access needed health services. All these things together can contribute to better nutrition at the household level.

- **Overall increases in production and improved system efficiency.** Increasing general levels of production, reducing waste and post-harvest losses, and lowering costs of storage, transport, and processing can reduce relative prices and make a variety of foods more accessible to consumers. In many countries, the value chain is getting shorter, with closer connections between producers and consumers. Input and output markets, such as those for seeds and finance, and market infrastructure, including transportation networks, are weak in many developing countries. While paying careful attention to the needs of smallholders, who are the large majority of producers in many countries, the private sector, often in partnership with government, can play a significant role in strengthening these markets.

As the UN agency dealing with food and agriculture, FAO has a major interest in strengthening these pathways in order to effectively address problems of under- and overnutrition and micronutrient deficiencies. By cooperating with country governments, other UN agencies, and other development partners, FAO is able to work at global, regional, national, and local levels. By helping to coordinate dialogue and action on multiple levels, FAO can provide the leadership and technical support for what to do and how to do it to strengthen the food and agricultural system for nutrition. FAO’s major roles in this effort include:

- **Generating and sharing knowledge.** FAO is an authoritative and objective source of information and advice and is a leading provider of global public goods on food and agriculture. Through its publications, databases, and consultations like this FSN Forum discussion, FAO brings together the most relevant current knowledge, including the latest research findings, statistics, and lessons learned from project experiences. For instance, FAO recently published food composition tables for West Africa that give nutrient values needed for policy and program analysis for a variety of foods as well as a book on food-based approaches to combating micronutrient deficiencies. It has helped to develop tools for assessing dietary diversity and supports initiatives on sustainable diets. It is partnering with the World Bank and others to develop a knowledge platform on agriculture, poverty, and nutrition. FAO is already working with multiple partners to organize the ICN+21 (International Congress on Nutrition) in 2013. As co-host with WHO
of the Codex Alimentarius Commission, FAO assists in development of international norms and standards.

On a more individual level, government officials often turn to FAO’s representatives in the field for evidence-based guidance on policy and investments. This role will become more important as FAO places increased importance on assistance and impact at country level. FAO is also keenly interested in strengthening the knowledge base about how to enhance the effectiveness of the food and agricultural system for good nutritional outcomes. We already have a good idea of what sorts of more health-related interventions can help to reduce malnutrition, but as noted in the discussion, we have less solid knowledge about what policies, programs, and practices based in the food and agricultural system have the greatest impact. These approaches, focusing on having a healthy diet, will tend to be more integrated with a household’s own livelihood strategies and so will be more sustainable throughout the lifecycle. But the evidence building cannot stop at determining actions are most effective: To have real impact, we also need to know what are the most effective institutional arrangements and how best to actually implement these programs and policies.

- **Putting knowledge into practice.** Along this line, FAO is actively working to put knowledge into practice. FAO contributes to global initiatives like SUN, which brings together multiple stakeholders to deepen political commitment for fighting malnutrition, and is a partner in REACH, which works at country level to improve coordination of action against malnutrition among the UN agencies, as well as other partners. FAO is a trusted presence at country level, and through its advice, assistance, and convening ability, FAO can work in partnership to respond to country requests and help stakeholders, in the Ministry of Agriculture and elsewhere, identify, implement, adapt, and adopt policies and programs to strengthen the ability of the food and agricultural system to produce good nutritional outcomes. From these practical experiences, further learning, dissemination, and cross-country knowledge exchange can emerge. FAO is thus working to improve communications platforms across the organization so others can easily access the knowledge they need and put it into practice.

- **Developing capacities.** As an integral part of providing technical assistance and putting evidence into practice, FAO works to develop individual and institutional capacities for knowledge-sharing, decisionmaking, and improved policy and program coordination. For example, as part of its work with Codex Alimentarius, FAO works at country level to build capacity to more effectively implement food safety standards. Nutrition specialists from FAO have designed guidance for developing academic curricula in nutrition and for setting up school gardens. With WFP, FAO is working to strengthen information systems for analysis and policymaking in food and nutrition. And various divisions across FAO are involved in supporting the Africa-led CAADP process. As part of CAADP’s work to develop strategies for improving agricultural growth and also protecting the most vulnerable, FAO
is working with country partners to make investment plans "nutrition-sensitive" by mainstreaming nutrition objectives and activities into agricultural policies and programs.

Appropriate policies and investments can support rural and urban livelihoods and energize the entire food and agricultural system so that it is resilient and makes a substantial, sustainable contribution to improving nutritional outcomes for children and adults throughout their lives. A nutrition-sensitive food and agricultural system will help address the multiple burdens of malnutrition: undernutrition, overnutrition, and micronutrient deficiencies. In its role as knowledge generator and broker, as adviser, communicator, and convenor, FAO looks forward to partnering with others to respond to country needs and strengthen the nutrition focus of national and global food and agricultural systems.

Ann Tutwiler