



**Board for International Food & Agricultural Development (BIFAD)  
Public Meeting on “The Nexus of Agriculture, Nutrition, and Human Health”  
Meeting Minutes**

**October 16, 2012  
Downtown Des Moines Marriott  
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700 Grand Avenue  
Des Moines, Iowa**

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**Board for International Food and Agricultural Development  
U.S. Agency for International Development, Ronald Reagan Building, Room 7.8-061, 1300 Pennsylvania Ave NW,  
Washington, DC 20523-2110**

**BIFAD Public Meeting on “The Nexus of Agriculture, Nutrition, and Human Health”  
Meeting Minutes**

*Board Members Present:*

*Brady Deaton, William DeLauder, Gebisa Ejeta, Jo Luck, Marty McVey, Elsa Murano*

**Welcome and Opening Remarks (Brady Deaton, BIFAD Chair & Chancellor, University of Missouri)**

Chairman Deaton welcomed the attendees to the autumn business meeting and introduced Kenneth Quinn of the World Food Prize Foundation. Dr. Deaton noted the 150<sup>th</sup> anniversary of the Morrill Act, which led to related legislation such as the Smith-Lever Act, the Hatch Act, and Title 12 legislation for BIFAD. The Board consists of presidential appointees who advise the administrator of USAID. Former Congressman Finley, who served on BIFAD, was unable to attend the meeting, but Dr. Deaton read a letter from him that emphasized the need to expand and deepen BIFAD’s role. Food deficit countries need the genius of the land grant educational system that has helped in the US. Educating farmers has led to an increased standard of living. Illiteracy is a problem in food deficit countries. BIFAD should emphasize direct instruction in basic education in its program.

**Old Business**

Board Member DeLauder spoke on the old Task Force on Minority-Serving Institutions and the report from its workshop. The task force is working with USAID to implement the recommendations. These institutions have unique talents and abilities that can aid USAID in its development work. Opportunities for these institutions to be involved should be expanded. The Administrator accepted the report, but follow-up is needed.

Board Member Ejeta said BIFAD has a charge to look into a consensus document for human capacity development. The Chair appointed a working group to look into that. The Board was given a charge to conduct an assessment of the CRSP programs. A couple months ago, the Board re-charged the HICD working group to look into revision of the scope of work. A concept note is being circulated to the Board to look into that and will eventually lead to a commissioned study.

**The Future for Efforts in Agriculture, Nutrition, and Human Health: Updates on Feed the Future/G8 “New Alliance for Food Security and Nutrition” (Julie Howard, PhD, Chief Scientist, Bureau for Food Security, USAID)**

Dr. Howard made informal remarks on Feed the Future and introduced the G8 New Alliance for Food Security. Nearly a billion of the world’s people suffer from chronic hunger, and the population is growing. Investing in small holders is the key to addressing hunger, lifting people out of the cycle of poverty, and transforming economies. Growth in

agriculture has three times the impact on poverty reduction as investments in other sectors.

The G8 L'Aquila Summit in 2009 was a major turning point. At this summit, Obama called on leaders to reduce the decline in agricultural investment and to think about the root causes of poverty. He announced \$3.5 billion in increased US investment in global food security and the creation of Feed the Future. That money leveraged an additional \$18 billion in commitments.

Feed the Future is the US global hunger and food security initiative. It focuses on small holder farmers, especially women, and helps countries develop their agricultural sectors and opportunities for growth, trade, and hunger reduction. Feed the Future elevates the role of private sector investment and seeks out partnerships with local and international private industries that are committed to involving small holders. Countries are asked to develop their own plans and increase their own funding and policy commitments. Feed the Future takes a comprehensive approach, looking at production, marketing, and nutrition. It emphasizes measuring results and having partners do the same.

Work cannot be brought to scale without expanded partnerships at the global level. There is a need to expand partnerships in collaborative, coordinated work on the ground toward transparent, ambitious goals. Last May, ahead of the Camp David G8 Summit, President Obama announced the new Alliance for Food Security and Nutrition, a commitment by G8 members, African countries, and private sector partners to achieve sustained and inclusive agricultural growth to lift 50 million people out of poverty over the next ten years. The Alliance has three key objectives: to increase responsible domestic and foreign private investment in African agriculture; to take innovation that can enhance agricultural productivity to scale; and to reduce the risk borne by vulnerable economies and communities. There are six new Alliance countries in Africa: Ghana, Ethiopia, Tanzania, Burkina Faso, Cote d'Ivoire, and Mozambique. These countries' cooperation frameworks establish priorities for policy reform, private sector reform, and public investment. The frameworks focus on things like irrigation, seed policy, and market reform. Countries are committing to policy reform and improvements in the business environment. The Alliance brings over \$3.5 billion in private sector commitments.

CGIAR, the Forum for Agricultural Research in Africa, and AGRA are working in countries to identify 10-year targets for yield and productivity increases in the main commodities and livestock value chains. FARA and IPRI are working to establish technology platforms synthesizing available technologies to meet those targets. AGRA has been asked by G8 to work with countries and investors to scale access to these technologies.

In October, there was an expert consultation in Washington to inform the development of the final piece of this G8 suite of actions for technology and innovation. That meeting looked at how to design a challenge at the nation level and call for grants to elicit a coordinated, integrated approach to getting the message out.

Over the past few years, there have been several changes emphasizing partnerships, goals, ownership, and results. In 2009, BIFAD, USDA, APLU, and the stakeholder group set the path that led to the Feed the Future research strategy. A new Feed the Future Food Security Innovation Center is being established in the Bureau of Food Security. There

will be connectivity among programs. The research strategy focused on seven key areas: helping to develop and deliver more climate-resilient cereal varieties; developing and delivering better management practices, vaccines, and disease-resistant varieties; refocusing research on legume productivity for soil health and human nutrition; helping researchers engage directly with farmers; expanding the focus beyond the yield of a single crop to sustainably intensify the whole farming system; evaluating new technologies to ensure that they provide the world's poor with better and more nutritious food; and sustaining the impacts of innovation by training the next generation and strengthening the institutions.

Member DeLauder asked about the value added of the innovation center. Member Howard said private sector investments under the Alliance focus on nutrition. There is a new RFA focused on post-harvest losses and processing. There is increased focus on markets.

**How ARE usaid Efforts Progressing for the Nexus of Health, Nutrition, and Agriculture after a Natural Disaster: the USAID/BIFAD Visit Report (Dr. Elsa Murano, BIFEAD Member and The Honorable Marty McVey, BIFAD Member)**

Member Murano reported on what she had observed on a follow-up trip to Haiti. The 2010 earthquake killed 250,000 people, left many homeless, and led to a cholera outbreak. Not all of the pledged relief money was delivered. Before the earthquake, Haiti was already not doing well due to mismanagement and earlier natural disasters. Food had to be imported.

The Agency's projects in Haiti lacked continuity, coordination, integration of research, and inclusion of the Haitian universities. Corruption prevented working with the government. After the earthquake, BIFAD established a task force, conducted a workshop, visited the country, and drafted recommendations for the Administrator. The report recommended developing a long-term research and extension plan; including the Haitian government in the plan; coordinating activities across projects; leveraging activities to include partnerships with other stakeholders to implement the plan; improving accountability through monitoring and evaluation; and implementation through an independent consortium of land grant universities.

New housing is being built, but there are 500,000 people still living in tents. A follow-up visit with faculty at the National University of Haiti showed new construction. There is not much industry in Haiti to take advantage of the faculty expertise. Students are still taking classes in tents. There is little government support. The university does not have a presence where the agriculture is.

The winter project has greenhouses with drip irrigation and demonstration fields to teach farmers efficient methods. The greenhouses can help with the soil erosion problem. However, they are expensive, and farmers do not have access to credit. When the project ends, the trained farmers are supposed to train other farmers, but there does not seem to be an incentive for farmers to train each other.

A rice production site has a federation of farmers showing proper farming methods. There are two rice mills. However, much of the rice is being dried and stored incorrectly. The rice is being sold to relief organizations, but relief agencies are helping them produce

it. That will not be sustainable. The federation of farmers is not a coop, and that creates credit problems.

Member McVey said the 2012 business environment report ranks Haiti at 180 out of 183 countries in the world on ease of doing business. The government is a key partner in the success of Haiti. The high tariff on equipment is a barrier to starting businesses. Working with the Haitian government to ease restrictions and barriers will be key.

Member Murano said there is a new president and hope for the future. The new US ambassador to Haiti has a sense of urgency and an intolerance of failure. A report has been sent to Administrator Shaw. The US Government will have to help with economic policy, and the university must be utilized as a resource.

**Review of Research Models Working on Agriculture, Nutrition, and Human Health: The Report by CRSP Review Team and BIFAD: Dr. Brady Deaton, BIFAD Chair, and Dr. Robert J. Jones, Sr., University of Minnesota; USAID Response by Dr. Rob Bertram, Director, BFS Office of Agriculture, Research, and Policy**

Chairman Deaton introduced Dr. Jones, who gave an overview of evaluation work his team conducted from March to August. The team was charged to conduct an evaluation of the CRSP model in the context of current international agriculture and food security research and capacity-building. The evaluation provided recommendations on how USAID can most effectively engage US university communities on food security research related to capacity building to meet USAID and Feed the Future goals.

The key questions were on how to more effectively leverage the university community, strengthen the human and institutional capacity building, more effectively integrate with USDA and USAID-related research and Feed the Future efforts, and how to improve the coordination of the CRSP along with other USAID-supported programs in partnership with American universities.

Government partners provided background information. Over 120 individuals were interviewed. CRSP is not a model as much as an overarching strategy. The strength of the CRSP model is its intentional, integrated focus on developing and focusing agricultural research and human and institutional capacity-building. CRSP programs use an interdisciplinary research approach to addressing local and global concerns. They have engaged leading scholars from around the world.

Weaknesses in the system included a lack of systematic priority-setting. The budget model lacked transparency and accountability. There was insufficient technical assistance and overarching oversight. There was no real connection between USAID in Washington and work done in other countries. There is room for additional work focusing on institutional capacity building. The last issue was poor communication, which makes it difficult to identify and highlight outstanding work.

CRSP should take advantage of the currently-favorable donor environment. Alignment with the Feed the Future and the food security objectives is critical, as is moving beyond the notion of production research to a value chain paradigm. The main problems have to do with inconsistent communication, a lack of engagement with leadership on the mission, and the failure to communicate the innovation that has come out of this strategy.

The team developed nine recommendations:

- BIFAS should assist USAID in developing an overarching, coordinated strategy for engaging US universities in agriculture, food security research, and HICD that includes the CRSP as a central component.
- Create a scientific advisory council to advise on emergent research themes significant to agricultural and food security research priorities and their implementation.
- USAID should appoint a full-time principal scientist to provide leadership and oversight to the centralized management of the CRSP and align them with the broader research portfolio.
- Consider a redesigned, more narrowly-focused CRSP around two basic models: focusing more research on grand, global problems and demand-driven research to enhance food security at the country and regional level.
- Strengthen USAID management through a more centralized use of technology and the application of best practices through a centralized database that demonstrates impact and drives decision-making.
- Foster institutional capacity-building and dimensions of CRSP and USAID projects.
- Establish a new paradigm and funding strategy that is merit and priority-based.
- CRSP can do a better job leveraging resources from the private sector.
- USAID can redirect funding or be more strategic in providing resources to build on this model to bring about substantive impact.

Chairman Deaton thanked the team for its report. BIFAD supported six of the nine recommendations strongly but had reservations about three of them: the scientific advisory committee, the chief scientist, and the budget issue. BIFAD's reservations were about how the various institutions connect. One question was how to effectively marshal the knowledge from an advisory committee to ensure that the best science moves forward. While this may be useful to USAID, BIFAD already seeks knowledge from various advisors. There will be continued dialogue on the chief scientist and advisory committee recommendations. BIFAD will maintain its administrative role. The last issue of disagreement was funding. BIFAD does not believe the \$30 million is a floor or ceiling for the CRSPs. BIFAD supports increased funding but cannot comment on reallocation of USAID resources.

Dr. Rob Bertram, Director of USAID's Bureau of Food Security's Office of Agricultural Research and Policy, provided the USAID response. On the recommendations on a science advisor and BIFAD, there has been good communication between the Administrator and BIFAD, and that work will continue to achieve USAID's objectives.

The issue of the two models was problematic because many CRSPs have aspects of both models. The demand-driven approach is critical because it is necessary to position the Agency's research investments in a way that complements those value chains that link into policy changes.

On CRSP management, USAID added a new hire work on several things the report highlighted. USAID wants to free up the CRSP science managers to do more outreach. Much of the reporting can be standardized and centralized. USAID is already working on

looking at areas with the strongest alignment with the strategy. USAID wants to align funding with the priorities of the Feed the Future strategy.

Food security is part of the larger USAID engagement with universities. BIFAD and the Bureau for Food Security will work together on the Food Security Innovation Center and its linkage to other parts of university engagement. The goal is to link all partners with a thematic, focused approach. There is a new RFA to reflect the new resources and let the universities engage across the research strategy. This presents opportunities for leveraging private sector resources. There is a new program in soy to work on value chains and collaboration with industry efforts. With livestock, there is upstream work on vaccines and genomics. Small scale irrigation and post-harvest losses are other areas USAID has been working on. Capacity-building work is also advancing. These are ways USAID is trying to integrate university portfolios as part of the larger efforts.

### **Public Comment**

Dr. Alan Koslow commented that none of the conversations addressed integrating the NGOs. He further observed that in Haiti and South Sudan NGOs worked to coordinate their efforts, but NGOs must be integrated in an adequate way to allow them to be more effective. Member McVey commented that the Board report addresses this issue,

Member Luck said this is critical, and there is ongoing work on this on many advisory committees. Coordinating partnerships at all levels is critical. Comptimize on practice (not principles) is vital.

Dr. Julie Howard commented that the UN general assembly has an event on civil society and announced a new initiative with interaction and other Feed the Future partnerships. Partnership with civil society has always been a main focus. Reaching small holders often requires effective partnering with civil society and NGOs.

Heidi Kuhn, COE of Roots of Peace, an NGO, thanked USAID for its grant for agriculture in Afghanistan. Gender programs are critical. She noted that work on agriculture in Afghanistan has included the government to build hope by providing crops other than poppies to win the war on terrorism by building peace from the bottom up.

### **Panel One: Key Issues in Agriculture and Nutrition Linkages for Development, Moderator: Jo Luck, BIFAD Member**

Member Luck emphasized the importance of agriculture and nutrition. The panel consisted of Dr. Patrick Webb, Academic Dean of the Graduate School of Nutrition at Tufts University, who leads a nutrition CRSP; and Dr. John McDermott, director of the CGIAR Research Program on Nutrition.

Member Luck said many groups are looking to a world population of 9.6 billion in 2050 and how to feed it. The food must be nutritious, safe, affordable, accessible, and culturally appropriate. Challenges include climate change, water issues, land issues, and governance. She asked Dr. Webb about the difficulty of demonstrating the efforts to marry agriculture and nutrition. Dr. Webb said there is a need for better evidence to support policy decisions and program investment decisions. There is a disconnect around thresholds of evidence, standards of evidence, types of evidence that are required, and

matter for making those decisions. In 2011, the Institute for Development Studies reviewed 7,300 studies of agriculture interventions to improve nutrition. After strict exclusion criteria on the quality of the evidence base were applied, they were left with only 23 viable studies out of all the literature published since 1990. Scientists have done a poor job of demonstrating the connection in rigorous, credible ways. Dr. McDermott said systematic reviews have a weak process on the agriculture side. There is work to be done to improve the quality of studies. Agriculture can do a better job in the way it works to improve nutrition and health. People have to get real about what is needed on the ground.

Member Luck said the keys are ownership and making research applicable at the ground level. The question is how to make the research applicable at the community level. Dr. Webb said there is still a disconnect between studies coming in and the lack of feedback. IRB and ethical review boards are becoming more sensitive to this issue. Dr. McDermott said research is now more demand-driven. Researchers must look at opportunities to share knowledge for a supply push. Member Luck wondered how to inform the public without evidence-based information. Dr. McDermott said one large gap is between the production side and diets. The large concern is pregnant women and small children, who have large nutritional requirements. Member Luck emphasized the importance of inexpensive protein and delivering information without a bias of Western thinking.

Dr. Webb said there is no such thing as a nutritious food, only a nutritious diet. Dietary abundance or diversity do not in themselves improve health outcomes. It is important to look at the net effects in terms of diet: what is being grown and eaten and what nutrients are in the diet.

Member Luck raised the importance of understanding GMOs, whether they affect nutrition, and the effect of public perception. Dr. Webb said they do not necessarily harm nutrition. Dr. McDermott said genetic modification is a useful tool, but the regulation and approval process in Africa will make conventional breeding more expedient. On the agricultural side, work has been lacking on cost-effectiveness. Both short-term and long-term cost-effective solutions should be presented to policy-makers. Dr. McDermott said issues should be looked at as clusters. Agriculture alone will not be sufficient to bring malnourished people out of poverty.

Member Luck opened the floor to Board questions. Member McVey asked about general best policy practices. Dr. McDermott spoke on cross-sector practices in policy-making and investments. Different sectors must share practices. No matter what is produced, there must be a demand for the product. Dr. Webb said it is vital to distinguish between investment in agriculture that will produce income and those that will accelerate gains in nutrition for vulnerable populations. Agriculture can be a platform for introducing resources, ideas, and service delivery related to health services and nutrition.

Member DeLauder asked what is being done to address the deficiencies the panel raised. Dr. Webb said much is being done through large global meetings. There is a need for coordinated, strategic thinking on where to invest research funds for pathways of change at the governance and household level; urban obesity issues; the effects of investments on non-producer households; methods; and metrics. Dr. McDermott said more RCTs should be expected in the next few years. Having a rigorous theory of change is very important.



Member Ejeta asked about using agriculture as a health platform. Dr. Webb said the challenge will be taking the right approach with the right metrics. The opportunity must be leveraged to understand theories of change. Even remote areas and refugee camps face rising obesity and diabetes rates. Dr. McDermott said the largest challenge is the culture change needed in the health and agriculture disciplines.

Member Luck opened the floor to questions from the audience. Carol Kramer-LeBlanc noted that nutrition education had not been part of the discussion and asked what part it plays in the overall strategy. Dr. McDermott said nutrition and health education is important. Many things will be shaped by markets and consumer media. It is important to recognize the limitations of nutrition education, which has not worked well in many countries. The agriculture program can be a platform for nutrition education.

David Lamberg, food security advisor, said child nutrition supports the Millennium Development Goals. Congress has not paid attention to nutrition education around children, and agricultural policies do not connect to nutrition goals. One challenge is to educate Congress to change the focus. Dr. Webb suggested focusing on nutrition rather than hunger. Nutrition is more complex, with issues such as stunting, wasting, micronutrient deficiencies, and obesity. They have linked solutions. Policies and interventions should be tailored to the right outcome.

Robert Mazur from Iowa State University said the way to get the word out on research is to get the stakeholders involved from the initial conceptualization of the research. NGOs and universities should be part of the process and can be advocates.

### **Update on USAID Higher Education Solutions Network: (Dr. Alex Dehgan, USAID Science and Technology Advisor)**

Dr. Dehgan spoke on where the Agency is trying to take the science, along with some of the challenges HESN is facing. The plan is to launch HESN in early November. There are four large transformative changes going on. While development problems increase exponentially, the solutions tend to be linear; that gap has to be closed. The second issue is the democratization of science and technology. Advanced technology is getting faster and cheaper. This provides resources and access to people around the world. Third is the fundamental change occurring in countries as seen in the Arab Spring. Science is a way of connecting with people. Fourth is the interest in development on American campuses among faculty and students.

To address these challenges, the Office of Science and Technology is being transformed into a new entity with a DARPA-like approach and the goal of improving the efficacy and decreasing the cost of development investments. The system will be based on three pillars: data or evidence; open innovation by crowdsourcing the world for ideas; and transformational research. There should be investment in revolutionary, high-payoff research at the translational sweet spot. The new HESN represents a way to reinforce goals about the new approach in the Office of Science in Technology. The relationship with universities should be reset, establishing them as partners rather than contractors and using open source development.

USAID spent 1.9 percent of its budget on science, technology, and innovation in 2012. In FY 2013, it will be 2.2 percent. These are low numbers compared to peer institutions.

Research must be increased across the agency. This will not be possible without broad bipartisan support,

The S&T Office is moving to become an independent office tied to the administrator, allowing for a greater role in promoting science and technology and taking the DARPA-like approach. There is increased buy-in with the agency, and the office has doubled in size. There has been a great amount of money leveraged for investments in science and technology. For every dollar invested, a dollar from outside the agency is leveraged. The Grand Challenges was funded at \$18 million and generated \$60.9 million from outside of USAID and \$37.6 million from other parts of the agency. Other programs are also showing significant leverage and are providing significant value. This year, there will be 55 AAAS fellows in the agency, 11 overseas on the missions. This builds the network across the government to work with federal science agencies.

Two new funds are planned for the future: one on high-risk, high-reward research and the other on open source drug discovery models. There will be a partnership with NSF on big data to support development objectives. The hope is to expand the NSF/USAID partnership PEER program to two rounds per year. Development is one of the most important ways the nation has of achieving its diplomatic goals.

HESN focused on three areas in partnering with universities: how to improve data for development, how to evaluate technologies, and incubating new approaches through development labs that are multi-sectoral and engage students in development. The approach was very open, encouraging things that cut across disciplines. Creativity was highlighted as an important element. Applicants partnered with other funds and organization partners. The first webinar on this had a response that overwhelmed the Agency's Webinar system. There were 500 applications from 49 states and 33 countries. Ultimately, seven institutions were selected: five consortia and two individual institutions. Those institutions had numerous partners bringing in \$90 million in cost sharing, an additional \$60 million in leverage to the agency. There was a high level of competition among many high-quality ideas. The launch is planned for November. The question is how to engage the 500 institutions that applied and tap into their interests. The success of this will rely on the connections to the problem sets and looking at ways to address the problems.

**Panel Two: Key Mechanisms for Effective University Involvement in Agriculture and Nutrition Linkages for Development: Moderator, Dr. Gebisa Ejeta, BIFAD Member**

The panel consisted of Dr. Anna Herforth, a consultant with the World Bank and FAO, and Dr. Emily Levitt Ruppert, a consultant with the World Bank and Senior Policy Advisor for Maternal and Child Nutrition with World Vision International.

Member Ejeta observed that people working in agriculture, nutrition, and food systems are excited about a trans-disciplinary perspective of looking at the Grand Challenge. The nexus is a way to promote better health through agriculture, food, and nutrition. Past concerns have been about food availability and safety. The emerging system looks to food as a way to address nutrition deficiencies, protect against age-related diseases, and provide optimal health. It is important to understand how diet, nutrition, and the

agricultural production systems support human health. Agriculture, food, and nutrition must be linked in a more holistic manner.

Dr. Herforth agreed that nutrition is no longer an issue of a low-income/high-income country divide. The problem spans the globe. She spoke on how universities have a role in the development of current guidance on linking agriculture and nutrition. In her recent work with FAO, there was a focus on food and its effect on nutrition. Since then, there has been a proliferation of guidance put out by many institutions, including bilaterals, USAID-funded projects, multilaterals, UN agencies, the World Bank, and NGOs like World Vision. Because so many institutions put out guidance, she looked through them for common themes. Those themes included:

- Having a nutrition objective that is a part of agricultural policy and program design;
- Addressing the context and causes of malnutrition to inform that objective;
- Not causing harm with any intervention;
- Measuring impact through monitoring and evaluation;
- Employing multi-sectoral collaboration;
- Targeting the most vulnerable groups;
- Maximizing the impact of household income on nutrition;
- Incorporating nutrition education or behavior change communication;
- Managing natural resources such as water and genetic crop resources;
- Diversifying production.
- Producing animal-source foods on a small scale;
- Growing under-utilized foods such as legumes;
- Supporting market access in ways that are best for nutrition;
- Focusing on opportunities that advantage small holders and nutrient-dense foods;
- Reducing post-harvest losses;
- Communicating about what practices should be replicated.

Universities are a critical piece to taking these recommendations forward. Universities can work toward capacity-building by training future leaders globally to work in a multidisciplinary framework to solve problems around food systems, agriculture, and nutrition. There are a number of projects to do this, but there are not enough people in projects who understand the linkages and can design programs in a way to improve nutrition. It is important to enhance the knowledge of health professionals on agriculture. Universities have an essential role in training students and connecting training with extension services in other countries by fostering interdisciplinary programs and training opportunities for capacity-building. Universities are critical for context assessment and analysis. Context analysis makes identifying the problems and solutions possible.

The role of universities in applied research relates to the guidance on increasing production of nutrient-dense foods and diversification. Universities also have a role in evaluation. There is an opportunity to evaluate current programs on nutrition, but the evaluations must be rigorous and thoughtful. The roles of universities are related to the atmosphere of partnership and engagement between sectors within the university, between organizations, and between countries. Incentives for that mutual partnership and exchange should be increased,

Dr. Ruppert spoke on why agriculture development is important, why nutrition development is important, what is unique about post-conflict contexts, and the role of universities as catalysts.

Agriculture development is about food security and food stability, but much of the work is about economic development with the assumption that nutrition will improve. The period between pregnancy and two years of life is vital. That is when permanent potential can be created for the life of the child as well as permanent damage. Nutrition affects the immune system, educational potential, future economic productivity, and chronic diseases. Malnutrition contributes to one third to one half of child mortality.

The twenty-year plan for agriculture/nutrition development should be that countries not be dependent on foreign aid, have sustainable food systems, and have food systems resilient to shocks of price fluctuations and natural disasters.

Post-conflict environments like Afghanistan are difficult because systems are destroyed, Functioning institutions of government are lost. Infrastructure and roads are lost. Roads are important for everything from getting food to the market to getting people to hospitals. Natural resources are depleted. Loss allows space for innovation. The bureaucracies are not yet in place, so high-level officials are available.

Universities can act as catalysts in capacity-building, context analysis, applied research, and evaluation. From 2005-2009, Dr. Ruppert looked at the multi-sectoral approach to nutrition. UNICEF invited Tufts to build up the nutrition department in the Ministry of Public Health. Tufts got nutrition priorities into the early packages of health services. Post-conflict environments provide a unique and difficult environment. Universities can be catalysts to institution-rebuilding, infrastructure and training experts.

Member Ejeta opened the floor to questions. An audience member asked about getting around in Afghanistan. Dr. Ruppert said she stayed away from combat areas, dressed like a local, and employed a listening approach to helping the Afghans.

Another question from the audience was about the extent to which there are concrete opportunities to link nutrition programs with nitrogen-fixing crops and agro-forestry initiatives. Dr. Herforth said she is not working on those programs, but there is talk about that being what should be done. The innovation on legumes is encouraging. Member Ejeta said diversification and underutilized foods are good for the ecosystem, but he wondered how realistic it is to expect small holder farmers to meet all these needs through traditional processes as the population grows. Dr. Herforth said there is room for innovation in that area.

Dr. Howard asked about the importance of integrating marketing and production extension messages. She wondered about models in which the multi-disciplinary extension has been adopted at the community level. Dr. Herforth said in her work in Kenya, the government supported the growing of traditional vegetables as part of their national plan. How much any individual is interested in putting the messages together in his or her own work varies. Capacity-building involves capacity-building of women in extension services, who have a different relationship with food and childcare aspects of nutrition and have the ability to connect with the recipients of the information, who are often women farmers and caretakers.

Member Ejeta asked if there is a comparative advantage of universities providing services as opposed to someone else. Dr. Ruppert said universities have a role to play. They derive a lot of their research topics from the needs of the state they are in. Because it is difficult for foreigners to work in Afghanistan, it is important to train the Afghans.

Dr. Simmons asked how to reconcile nutrition education with local beliefs. Dr. Herforth said that is part of the bidirectional relationship between the community and researchers. Education works best when the educator understands the framework the learner comes from and how the learner will respond to the messages.

Member Ejeta asked what is the most effective way to provide nutrition education to women in these communities. Dr. Ruppert said FAO did a large scale nutrition education behavior change initiative in Afghanistan. In every community, there is a platform that brings people together, such as a school. FAO worked through existing, self-sustaining groups and promoted nutrition in that context. Dr. Herforth said there are many powerful ways to reach women, including education, but nutrition education cannot focus only on women. Education should address the whole household and the community. Empowering women includes helping them grow crops that they can sell to have money that they control.

An audience member commented that there has not been a good job of linking nutrition and agriculture. He asked what the community will do to make sure the situation will not be the same next year. Chairman Deaton said the issue will receive continued attention and work from knowledgeable people. The audience member said BIFAD should make highlighting this link one of its main missions.

Rabbi David Kaufman of Help Nuba and the United Sudanese and South Sudanese Communities Association, asked how BIFAD can help turn South Sudan into a breadbasket for Africa. Member Murano said Texas A&M has a project in South Sudan. South Sudan is a new country still struggling with its organizations. It would be a great place to use as a proving ground for these programs. Member Ejeta said there are a number of USAID-funded programs in South Sudan. One important effort will be human capacity development.

### **BIFAD Awards for Scientific Excellence in a USAID CRSP**

Member DeLauder chaired the committee that developed the awards program and presented the awards. The old award program was discontinued in 1999. This year, the CRSP council suggested reinstituting the awards.

The first recipient of the reinstated BIFAD Award for Scientific Excellence in a USAID CRSP for a researcher went to Dr. James E. Simon of Rutgers University for his work on the horticulture CRSP. He has significant international research experience in Sub-Saharan Africa. He is one of the leading horticulture medicinal and aromatic plant authorities, with a specialization in natural products and quality control. He is recognized for his contributions to improving horticulture crops across the value chain in several African countries. This had a significant impact on thousands of small holder farmers by linking them to higher-return markets.

Dr. Simon said horticulture is part of health nutrition. He emphasized the importance of public and private partnerships and collaborations. Many indigenous plants are potential commodities, and he gave examples of such plants being used to improve economies in Africa. Other indigenous plants can be used to improve health and nutrition. He gave an example of a program in South Africa in which locally-grown fruits and vegetables replaced the imported fruits and vegetables used in hotels and restaurants. He concluded that international work has been exciting and has led to private sector partnerships. He thanked those involved in his work and hoped the horticulture CRSP would continue.

Member DeLauder presented the Student Award for Scientific Excellence in a USAID Collaborative Research Support Program was presented to Geraldine Mukashamami for her work in association with the dry grain Pulse CRSP. She is a doctoral candidate at Michigan State University. Her work was on the breeding of the common bean for drought tolerance and disease resistance. Her cost-effective screening technique is being adopted by other scientists. Upon graduation, she intends to return to Rwanda.

Ms. Mukashamami thanked the selection committee for the award. Her dissertation is on dissecting the genetic complexity of drought tolerance and disease resistance in beans. This was part of a CRSP project. Some of her work was to evaluate beans in different gene pools for drought resistance. Another component was to identify the genomic regions associated with drought resistant traits. The drought resistant beans can be used in breeding programs. She thanked her advisor and the MSU faculty

### **Adjournment**

Chairman Deaton thanked the Board for its support of the program and thanked those who worked on the awards as well as the recipients. Member Luck commented that BIFAD wants to hear from the attendees, and BIFAD discusses what they hear at these meetings.

Beth Midcham, Director of the Horticulture CRSP and Chair of the CRSP Council, thanked BIFAD for its review of the CRSP program. She offered to have the CRSP Council comment on the review.

Dr. Howard announced the Harnessing US University Partnerships for CRSP event and the USAID Bureau for Securities event. She thanked BIFAD for the Haiti report.

Chairman Deaton adjourned the meeting at 4:02 p.m.