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**STRENGTHENING FARMER-TO-FARMER
VOLUNTEER PROGRAMMING:
EFFECTIVELY USING VOLUNTEERS TO ADDRESS KEY ISSUES
IN AGRICULTURAL DEVELOPMENT**

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EFFECTIVELY USING VOLUNTEERS TO ADDRESS KEY
ISSUES IN AGRICULTURAL DEVELOPMENT

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OPTIONS FOR PROGRAMMING FARMER-TO-FARMER VOLUNTEER TECHNICAL ASSISTANCE TO ADDRESS SPECIFIC DEVELOPMENT OBJECTIVES

The John Ogonowski and Doug Bereuter Farmer-to-Farmer Program provides voluntary technical assistance from US citizens to contribute to international development efforts that improves the lives of small farmer families in developing and transitional countries. The Program has operated for over twenty years. Volunteer assignments have been quite diverse, assisting helping different types of host institutions to address diverse problems. Still, the vast majority of assignments have had economic objectives, focusing on improving the productivity and competitiveness of agricultural producers, agribusinesses and cooperatives.

The core FTF Program funding derives from the US Farm Bill and allows for work on a broad range of objectives within the agricultural sector. The Program is demand-driven, responding to the interests and needs of individual host organizations. While being demand-driven, volunteer assignments are usually programmed for work in a specific agricultural sub-sector — a commodity value chain (e.g., horticulture, dairy, etc.) or a sector support service (e.g., extension, marketing, financing, input supply, etc.). Volunteer assistance is effectively restricted to demand from within the sub-sector. Economic objectives predominate, but other objectives are possible. These may include: environmental, social or organizational objectives.

The purpose of these options Papers is to provide ideas and guidance for the design of FTF programs that target developmental objectives and sectors that have not been commonly targeted under the FTF Program. This may serve to make voluntary technical assistance available to address a wider range of problems confronting rural people. It may also open up opportunities for potential volunteers with different skill sets than those typically participating in the Program.

None of the ideas for use of volunteer technical assistance are exactly new. Volunteers have probably undertaken assignments in all of these areas, but these have been somewhat ad hoc. They have generally not involved programming of volunteers to accomplish specific objectives in the subject area. This is not meant to de-emphasize the traditional program areas with economic objectives, as these are key to sustainability. The Program should remain demand driven, both in responding to needs of individual hosts and in programming volunteers in response to country development objectives.

This Options Paper should be something of an “idea bank” that remains a work in progress open to new contributions and revisions based on further experience. The initial topics covered include options for use of FTF volunteers for:

- Gender equity and women’s leadership;
- Food security and nutrition programs;
- Environmental and natural resource conservation; and
- Agricultural education institution development.

PROMOTING WOMEN'S INCLUSION AND LEADERSHIP IN AGRICULTURE¹

Women's role in agricultural production and marketing systems is recognized as critically important. Despite this recognition, women still often lack access to services and productive assets and are underserved by public programs. Situations differ by country and culture, but gender issues must be considered in program design to enable women to participate and benefit equally and to develop leadership in the agricultural sector. Volunteers can assist this process by ensuring gender sensitivity in all programs and by targeting training and capacity building for women entrepreneurs and for addressing women's priority development concerns.

In the Food and Agricultural Organization's most recent 2011 report on the State of Food and Agriculture it notes that there is a large "gender gap" between men and women in terms of access to necessary resources for agricultural production. According to the FAO report, women lag significantly behind men in access to land, seeds, credit, and modern technologies².

Gender inequities limit agricultural productivity and efficiency and in doing so undermine development agendas. Failure to recognize the different roles of men and women is costly because it results in misguided projects and programs, forgone agricultural output and incomes and food and nutrition insecurity.

In addressing these obstacles, women remain underrepresented in political and administrative structures. These societal constraints leave women unable to participate equally in agricultural training programs and producer organizations. In many parts of the world, for example sub-Saharan Africa (SSA) and South Asia, despite women being the main farmers or producers, their roles are largely unrecognized. Women also play active roles as traders, processors, laborers, and entrepreneurs, despite facing many obstacles in market access. However, the design of many development policies and projects continues to assume incorrectly that farmers and rural workers are mainly men³.

The FAO estimates that closing this gender gap and providing women with the same level of resources as men could increase agricultural production in the developing world by between 2.5 and 4 percent and reduce the number of undernourished by 100-150 million globally⁴. Designing agricultural development strategies that reflect the unique needs and roles of women and men has potential for high-impact on poverty reduction. USAID and other development partners have made this a major development objective. In many cases, this requires assistance to enable women to move beyond production for subsistence and into higher-value, market-oriented production activities.

¹ Based on a concept note prepared by Veronica Letelier (Weidemann Associates, Inc.) and Gary Alex (USAID) with inputs from Sylvia Cabus (USAID) and others.

² FAO 2011 "The State of Food and Agriculture: Women in Agriculture – Closing the gender gap for development"

³ World Bank 2007 b "Agriculture for Development: The Gender Dimensions"

⁴ FAO 2011 "The State of Food and Agriculture: Women in Agriculture – Closing the gender gap for development"

Major Issues and Options

Access to resources:

Women play a major role as farmers and producers in many parts of the world. However, their access to resources and opportunities to enable them to move from low-income, subsistence agriculture to more remunerative commercial value chains is much lower than men's. Women increasingly supply national and international markets with traditional and high-value produce, but – compared to men – women farmers and entrepreneurs face a number of disadvantages, including lower mobility, less access to training, less access to market information, and less access to productive resources.

Evidence suggests that women tend to lose income and control as a product moves from farm to the market⁵. Women can find it hard to maintain a profitable market niche. Men may take over production and marketing—even of traditional “women's crops”—when it becomes financially lucrative to do so. Women owned businesses face many more constraints and receive far fewer services and less support than those owned by men⁶. These disadvantages reduce women's effectiveness as actors in value chains and reduce overall market effectiveness.

Increased developmental impact:

In addition to the moral argument for empowering women and promoting gender equality, there is a strong economic argument for a focus on investments in women agriculturalists. Studies have shown that when given equal resources, women can produce yields equal to those of men. Given the current gender gap, bringing women up to the same level of resources as men provides an important opportunity for improving overall productivity. Since they are starting from a lower point, investing in women would produce on average higher returns than an equal investment in men, for any inputs and resources with decreasing marginal returns.

Food security and welfare gains are also strongly linked to the provision of greater economic opportunities for women. Studies show that resources and incomes controlled by women are most likely to be used to improve family food consumption and welfare, reduce child malnutrition, and increase the overall well-being of the family⁷.

Gender analysis:

Bringing women into lucrative markets requires targeted analysis and program interventions. One important consideration is that projects and programs that aim to increase women's economic empowerment should involve both women and men as partners.

The value chain concept is a useful analytic tool to understand a series of production and post production activities—whether it's a basic crop, such as vegetables, or a highly processed good, such as cotton textiles or canned tuna—and the enterprises and individuals who are involved. Value chains must work for smaller actors—especially women working as farmers or in small enterprises—by enabling them to capture a larger slice of the revenues. Greater equity gains can be achieved

⁵ Gurung, C. 2006 The Role of Women in the Fruit and Vegetable Supply Chain in Maharashtra and Tamil Nadu India: The New and Expanded Social and Economic Opportunities for Vulnerable Groups Task Order under the Women in Development IQC

⁶ World Bank 2007 a. Gender and Economic Growth in Kenya: Unleashing the Power of Women and World Bank 2007 b. Doing Business 2008

⁷ FAO 2006. Agriculture, Trade Negotiations and Gender

by encouraging women to take on new roles in value chains, for example, by engaging in value-adding strategies or to take on new roles.

Sound Practice:

Entry points for supporting gender equity and women's leadership in agriculture are many. Good practice in targeting support to sustainable impacts on gender equity and women's leadership often involves promoting effective participation in profitable value chains.

Enabling business environment (global and national): Legislation, regulations, policies, the business environment and business infrastructure all need to be analyzed with a gender lens to understand the differentiated impact on women and men and to ensure equal playing field.

Capacity development for small and medium enterprises: Training and capacity development are needed to ensure that women entrepreneurs participate effectively in markets:

- Entrepreneurial skills programs should be adapted to local context. These need to help women develop the skills base and also the skills to access specific, identified value chains. Assisting women to understand how to make a profit is the bottom line. Training can be given in performing market surveys, accessing market intelligence, developing business plans and other aspects of entrepreneurship.
- In some areas training in basic literacy and numeracy may be required, in addition to confidence-building measures.
- The gender of trainers or extension workers must be carefully considered, with program effectiveness often benefitting from women working with women.
- Awareness should be raised in the targeted community about a proposed training and its purpose to gain confidence of male relatives of women selected for training.
- Where possible, training should look to reach recipients that are likely to pass the training on to others in their communities, thereby multiplying the effects of the brief FtF assignment.
- Exchange or exposure visits enable entrepreneurs to view the successful application of income-generating activities
- All training should be designed to ensure access to it.

Collective action and market linkages: Promoting women's representation in rural producer organizations (RPO), developing RPO networks and supporting women in developing value chain partnerships are important activities to consider when designing and implementing projects:

- RPOs should be designed and function on commercial viable terms
- Post production market linkages need to be strongly built into projects. Implementers and RPO leaders will need to identify concrete benefits of RPO membership before recruiting members. Implementers should not develop RPOs that don't have a reasonable expectation of providing measurable economic benefits to their members.
- Strengthening women's voices requires more than ensuring that women are represented.
- Project partners must clarify their roles and responsibilities for organizational development of RPOs

Supporting agricultural value-adding strategies: Adding value to existing products, developing new products, financing value-adding strategies, and developing organizational and marketing

capacity are important to improving opportunities for women. Innovative activities for project design and implementation include:

- Project strategies should be market and profit oriented, if women are to compete in competitive value chains.
- Upgrading existing activities is a relatively simple way of capitalizing on, and improving, women's current capabilities.
- Other potential businesses could be niche crops, value added products or markets identified by the market assessment, in which women may have a competitive advantage.
- Innovative approaches to product development and marketing can help women without key productive assets to enter value chains.

Potential Roles for Farmer to Farmer Volunteers:

A woman-centered approach to Farmer To Farmer is not about giving preference for the sake of giving preference; it's about being more effective in implementing strategies and choosing investments that make sense from both a social and economic perspective. Volunteer assignments and country projects can advance these objectives in the following ways.

- Volunteers can carry out gender assessments of programs, projects and institutions. These should provide a clear understanding of their roles and responsibilities in relation to other value chain actors and how this relates to gender. The gender analyses should be coupled with market research to prioritize equity and efficiency gains. And the assessments should always be linked to an action program to ensure implementation. This usefully involves a step-by-step approach to building women's skills base and expanding their enterprises.
- Volunteers can target support to women-owned enterprises and women's organizations. Such assignments can help women over-come constraints in access to resources and services and expand businesses and markets. Assistance can enable women to enter into higher-value market oriented production. Women volunteers can in some case serve as mentors and role models, as well as sharing technical and business management skills..
- Volunteer assignments can ensure that women have equal access to training and capacity development activities under all program activities. Farmer-to-Farmer programs have a good record in training and providing services to women, a record that the program must strive to continue. Technical skills and entrepreneurship development activities need to ensure that women are not excluded and must seek to address issues specific to women. Involvement and providing appropriate training to men may be important to facilitating women's equal participation in value chain activities.
- Volunteers can evaluate policy and regulatory systems and operations of public and private service providers to identify and help address constraints on women-owned businesses and agricultural operations. Land tenure and rights to resources may discriminate against women; financial services or extension services may not be equally available, some of these are difficult to change, but volunteers can bring respected and neutral advice to bear in promoting reforms.
- Bringing women into lucrative markets requires targeted analysis and program interventions. One important consideration is that projects and programs that aim to

increase women's economic empowerment should involve both women and men as partners.

The Farmer to Farmer program has a long and successful record of providing high quality volunteers to address key agriculture constraints. These volunteers can work at many value chain levels addressing identified constraints that keep women from accessing or entering the high value chains. These interventions can be targeted to ensure that women's incomes are increased as the result of the intervention.

Works Cited

FAO. (2006). *Agriculture, Trade Negotiations and Gender*.

FAO. (2011). *The State of Food and Agriculture: Women in Agriculture - Closing the Gender Gap for Development*.

Gurung, C. (2006). *The Role of Women in the Fruit and Vegetable Supply Chain in Maharashtra and Tamil Na Du India: The New and Expanded Social and Economic Opportunities for Vulnerable Groups Task Order Under the Women in Development IQC*.

World Bank. (2007). *Agriculture for Development: The Gender Dimensions*.

World Bank. (2008). *Doing Business Report*.

World Bank. (2007). *Gender and Economic Growth in Kenya: Unleashing the Power of Women*.

VOLUNTEERS FOR FOOD SECURITY⁸

With the onset of food price 2007/08, the world has become aware of the precarious basis for food security in many countries. Food security requires more than just food production. Food security requires availability of, access to, and proper utilization of nutritious food. Nearly all FTF volunteer assignments contribute to food security in one way or another. However, with the increasing global concern and challenges relating to food security, FTF programs can sharpen their focus on this issue and pay more attention to food utilization and nutrition issues.

The rapid rise in food prices, which took place in 2007 through mid-2008, has had serious implications for food and nutrition security, macroeconomic stability, and political security. While the global economy was able to recover and grow stronger during 2009 and 2010, the impacts and lessons learned from the recession and the rapid price increases during this time put the issue of food insecurity back on the development agenda.

Driving forces behind the soaring food prices were many and complex, where both supply-side and demand-side factors played a part. Long-term structural trends and underlying growth in demand for food coincided with short-term cyclical or temporary factors affecting food supply, resulting in the growth in demand for food commodities outstripping the growth in supply. Growth in population and incomes, in India and China in particular, growing urbanization and the growing demand for subsidized biofuels contributed to a surge in the consumption of agricultural products. On the supply side land and water constraints, underinvestment in rural infrastructure and agricultural innovation, lack of access to and/or higher prices for agricultural inputs and weather disruptions impaired productivity growth and the needed production response. Falling global stocks of food grains, due in part to the changes in buffer stock policies in the United States and the European Union, also contributed to the upward pressure on prices.⁹

Major Issues and Options

Country impacts: Increases in world food prices provided some benefits to commodity exporting countries, raising income from exports and having a positive effect on economic growth. But increased exports also drove up local prices and domestic inflation rates, although the degree to which the global food price changes were transmitted to local prices differed across countries depending on factors such as transportation costs, domestic policies and market structures. Commodity importing countries, on the other hand, found that food price increases had negative effects on both economic growth and inflation. Many food importers temporarily eliminated or reduced tariffs on imported food and/or reduced domestic taxes. These actions helped mitigate the effects of the food price increases on consumers, but also left governments

⁸ Based on a paper prepared by Roberta van Haften.

⁹ FAO, "The State of Food Insecurity in the World in 2008: High food prices and food security – threats and opportunities," Rome, 2008. Ronald Trostle, "Global Agricultural Supply and Demand: Factors Contributing to the Recent Increases in Food Commodity Prices," WRS-0801, Economic Research Service, U.S. Department of Agriculture, Washington, D.D., July 2008. Joachim von Braun, "The World Food Situation: New Driving Forces and Required Actions," Food Policy Report, IFPRI, Washington, D.C. December 2007.

with fewer resources to finance more targeted assistance programs, and/or programs designed to stimulate increases in local food production. A number of countries also restricted food exports, a policy counter-productive to food security because of its adverse effects on domestic producer incentives as well as on global food supplies.

Food insecurity was already a problem in many developing countries prior to these crises, with some experiencing problems with all three dimensions of food insecurity – food availability, access and utilization. Knowing which countries fall into the more food insecure category and more about the nature and causes of their food insecurity is needed as a basis for designing appropriate responses overall and at the country level.

Consumer impacts: These food price increases had an adverse effect on consumers, with poor households dependent on food purchases the most adversely affected. This tended to be true for poor rural as well as urban households. Poor consumers were affected disproportionately more, as food accounts for a greater share of their household budgets, food prices rose faster than the general rate of inflation, and the prices of many of the poor’s basic staples – grains in particular – rose faster than average food prices. These dynamics drove more people into poverty and could impact adversely on their nutrition, if the poor consume less food and/or substitute less nutritious food in response to these higher food prices. A rough estimate by World Bank staff is that these price increases could have translated into an increase in the poverty headcount of 105 million people in the low-income countries (out of the low income population of 2.3 billion).¹⁰ According to FAO, there were 75 million more chronically hungry people in 2007, over and above its estimate of 848 million undernourished in 2003-05, with much of this increase due to the higher food prices.¹¹

Definition of food insecurity: Many countries have been adversely affected by these crises, but it is the poorer and more food insecure that are most vulnerable and most in need of assistance from the development community. Food insecurity involves more than just a lack of supply, with lack of access to food, or low purchasing power, the underlying problem in many countries. According to USAID, food utilization is also a major element of food insecurity (See Box 1 for USAID’s definition of food security), as is vulnerability, which can be thought of as the limited ability of countries

Box 1: USAID’s Definition of Food Security

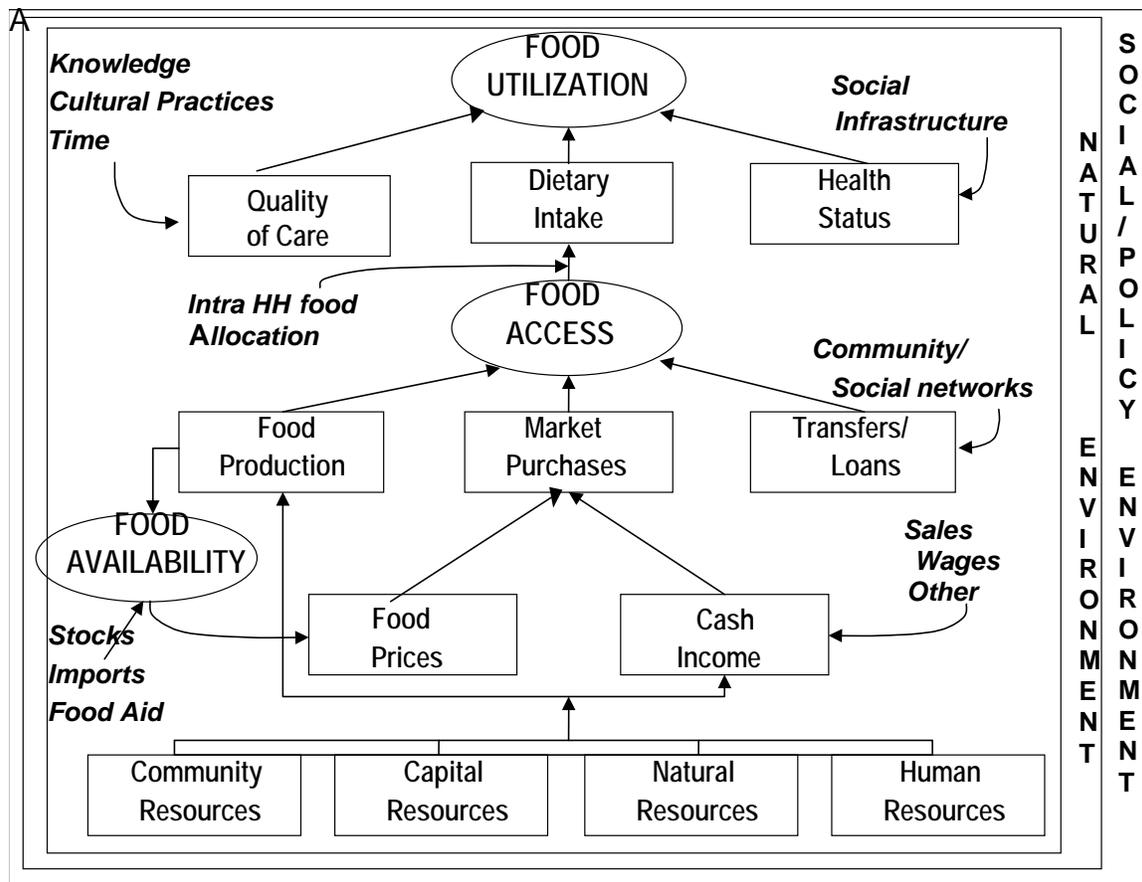
USAID’s 1992 “Policy Determination (PD) 19” defines food security as existing “... when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.” PD 19 also identified and described the three distinct but interrelated elements that are essential to achieving food security: **food availability:** sufficient quantities of food are available from household production, other domestic output, commercial imports, or food assistance; **food access:** resources adequate to obtain appropriate foods for a nutritious diet, which depends on available income, distribution of income in the household, and food prices; and **food utilization:** proper biological use of food, requiring a diet with sufficient energy and essential nutrients, potable water, and adequate sanitation as well as knowledge of food storage, processing, basic nutrition and child care, and illness management.

¹⁰ Maros Invanic and Will Martin, “Implications of Higher Global Food Prices for Poverty in Low-Income Countries.” Policy Research Working Paper 4594, World Bank, Washington, D.C. April 2008, p. 20.

¹¹ FAO, “The State of Food Insecurity, 2008.”

and/or households to manage risk.¹²

Figure 1: A Food Security Conceptual Framework



Source: Adapted from Frank Riely, Nancy Mock, Bruce Cogill, Laura Bailey, and Eric Kenefick, “Food Security Indicators and Indicators for Use in the Monitoring and Evaluation of Food Aid Programs,” Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, DC, 1999, p. 13

Figure 1 provides a graphic representation of the many elements involved in food security and the relationships among them. Annex A contains a list of countries categorized as “low” and “lowest” food security according to a typology developed by IFPRI to assess food insecurity in developing countries. IFPRI identified four clusters of food insecure countries (1) lowest food security countries with favorable weather but infertile soil, (2) low food security countries with consumption variability, (3) low food security countries with inclement weather and low soil fertility and (4) low food security countries with an urban profile.¹³

¹² Additional information on how USAID has integrated the concepts of risk and vulnerability into its food security framework can be found in Food for Peace’s “Strategic Plan for 2006-2010,” dated May 2005, pp. 19-23 and 86-89.

¹³ Bingxin Yu, Shenggen Fan and Anuja Saurkar, “Towards a Typology of Food Security in Developing Countries under High Food Prices: A Cluster Analysis,” Draft, International Food Policy Research Institute (IFPRI), December 28, 2008. (Yu, Fan, & Saurkar, 2008)

Good Practice

FTF program managers and implementers need to reassess the FTF program in light of the changes that have occurred in the global economy over the past few years due to the food and financial crises:

Reassess planned activities and assignments: Some of the changes that have occurred may provide new opportunities for the program, the implementing organizations, their volunteers and their clients. Other changes could make it more difficult to implement activities already programmed and threaten their success. Markets may be less attractive, for example, costs increased and profits reduced. The implementing organizations should reassess the activities and assignments in light of these changes and make adjustments as necessary. Volunteers, to be successful, will also need to be aware of these changes and be able to adapt and tailor their assistance to the new realities.

Consult with the USAID Missions in the countries that are developing programs for a potential food security plus-up: A number of USAID Missions are currently in the process of developing food security programs and could be interested in having specific ideas as to where and how FTF volunteers could be integrated into these new programs. Implementing organizations can also assess the food security situation in other countries to determine whether the program might also have a positive role to play there. The FTF program is not a food security program per se and not all the countries where it is working are food insecure.

For those countries that are food insecure, program managers and the implementing organizations should make an assessment of the nature and causes of food insecurity on a country by country basis to determine whether food security oriented activities could and should be added to their programs and what the nature of those activities should be. This country by country approach is necessary, because of the differences among countries and within countries. Countries will differ in the extent to which they have been affected by the food price crisis and economic slowdown, for example, the types of responses needed to cope with the adverse affects of these crises, and their ability to implement these responses. Countries will also differ in terms of the availability of capable organizations with whom the FTF may partner.

Options in addressing food security: A wide range of options are available to the FTF programs with respect to the objectives and types of activities they could focus on.

- ***Expand food availability.*** -- Many countries responded to the food crisis with actions to stimulate local food production, and many of these programs were focused on small producers. One would expect that higher prices would make producing food more profitable than before, at least at the margin. But their impact on producers depends on several factors, including the extent to which price increases are transmitted to farmers; transaction costs; availability and cost of finance and inputs (including seeds and fertilizers, the costs of which also have been rising); and the extent to which farmers sell part of their output in the marketplace. FTF volunteers might be able to help mitigate some of these constraints. Countries can also benefit from taking steps that help lower shipping and logistics costs for imported foodstuffs and improving the efficiency of domestic food markets, which are other types of activities that the FTF program might be able to support.
- ***Expand access to food.*** -- Since lack of access to food — or poverty — is the underlying cause of food insecurity in many countries, policies and programs are also needed that will result in the creation of more and better-paying jobs for those at the lower end of the income distribution. Here too, FTF volunteers could play a positive role, for example, by assisting small farmers, who are likely to be among the more food insecure. Volunteer technical assistance has the potential to expand small farmers' production and sale of higher valued cash crops, crops for which they have a comparative

advantage. In other words, the FTF program may also have a role to play in helping food insecure people expand their access to food, including by providing assistance with cash crops that are produced by small farmers, value added activities and agribusiness development.

- ***Increase potential for food utilization.*** – The proper biological uses of food, as well as adequate sanitation and knowledge of food processing and storage are crucial to decreasing the rates of malnutrition in food insecure countries. FTF volunteers can use their extensive knowledge of the value chain, including production, storage, marketing, and consumption, to impact health and nutrition in the countries where they work. For example, FTF volunteers can transfer their commercial farm skills to help household and school gardens/homesteads increase their food diversity. They can also help with breeding crops with higher levels of micro-nutrients like iron and vitamin A – this too can have a positive impact on nutrition. FTF volunteers’ knowledge of sanitation also can be harnessed to create better access to safe drinking water and food. And finally, there are several post-harvest opportunities that volunteers’ expertise can be tapped into, such as better storage and transport, and developing communication strategies that emphasize the nutritional value of the local food produced. All of these activities would have a positive impact on food and nutrition.

Potential Roles for Farmer-to-Farmer Volunteers

Food security programs are not necessarily about producing more food. Volunteer assistance may target improvements in food availability, access, or utilizations.

- Volunteers can assist with increasing agricultural productivity and production, either directly working with producers or working to improve support services and markets. This is the most obvious and direct approach to improving food security. Targeting may be an important issue here, as increasing productivity and production for smaller farmers may have more direct impact on food security to these producers. This is not always the case. Assistance to larger producers with more resources may result in greater impact of production, lower food prices, and improved access to food by the poor. These typologies of food insecure countries present implications for the investments and strategies needed to improve the food security situation. Consideration of the nature of food insecurity may also influence the opportunities for voluntary technical assistance to address food security problems.
- Volunteers can assist in agribusiness development, market linkages, and value-added processing that generates employment and increases incomes for workers and suppliers of the agribusinesses. This increased income improves access to food through markets.
- Volunteers can contribute to improved food utilization. This is the most often neglected aspect of food security in development programs and one in which the Farmer-to-farmer program has been least active. Volunteer assignments can involve:
 - Nutritional education program development and training
 - Food safety standard and regulatory systems development and implementation
 - Food processing and formulation of nutritious foods for vulnerable populations
 - Instruction of new, nutritious food products, crops, food storage techniques, and/or nutrition supplements
 - Establishment of nutrition supplementation programs
 - Development, testing, dissemination, and training relating to bio-fortification of crops (e.g., yellow sweet potatoes, golden rice).

- Volunteers can assist in planning, development, and improvement in management and oversight of food safety net programs, including food-for-work, food-for-education or community-managed food assistance programs.

Works Cited

Braun, J. v. (2007). *The World Food Situation: New Driving Forces and Required Actions*. Washington, D.C.: IFPRI.

FAO. (2008). *The State of Food Insecurity in the world in 2008: High Food Prices and Food Security - Threats and Opportunities*. Rome.

Invanic, M., & Martin, W. (2008). *"Implications of Higher Global Food Prices for Poverty in Low-Income Countries"*, Policy Research Working Paper 4594. Washington, D.C.: World Bank.

Trostle, R. (2008). *Global Agricultural Supply and Demand: Factors Contributing to the Recent Increases in Food Commodity Prices*. Washington, D.C.: WRS-0801, Economic Research Services, U.S. Department of Agriculture.

Yu, B., Fan, S., & Saurkar, A. (2008). *"Towards a Typology of Food Security in Developing Countries Under High Food Prices: A Cluster Analysis" Draft*. IFPRI.

Annex A: Low Food Insecure Countries According to IFPRI's Typology

Cluster	Sub-Saharan Africa	East Asia	South Asia	East Europe Central Asia	Middle East and North Africa	Latin America and the Caribbean
1. Lowest food security countries with favorable weather but infertile soil	Burundi CAR Congo Dem Rep Congo Liberia Rwanda Sierra Leone Uganda Zambia	Cambodia Laos Solomon Islands				
2. Low food security countries with consumption variability	Benin, Burkina Faso, Cameroon, Comoros, Cote d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea Bissau, Guinea, Kenya, Madagascar, Malawi, Mozambique, Sao, Tome, Senegal, Swaziland, Tanzania, Togo, Zimbabwe	Timor-Leste	Bangladesh Nepal Sri Lanka	Tajikistan		Bolivia Guatemala Haiti
3. Low food security countries with inclement weather and low soil fertility	Botswana Chad Mali Mauritania Namibia Niger Sudan		Pakistan		Djibouti Yemen	
4. Low food security countries with an urban profile	Gabon	Indonesia Philippines				Antigua and Barbuda, Colombia, Dom Rep, Honduras, Nicaragua, Panama, Peru, Saint Vincent/Grenadines Trinidad/Tobago Venezuela

VOLUNTEER TECHNICAL ASSISTANCE FOR NATURAL RESOURCE MANAGEMENT—ADAPTING TO AND MITIGATING GLOBAL CLIMATE CHANGE¹⁴

Agriculture relies on and influences the natural resource base—land, water, biodiversity, and forests. Agricultural production processes and agricultural processing may deplete or pollute natural resources. Farmer-to-farmer volunteer assignments quite frequently impact on natural resource management, conservation, and use by farmers and agribusinesses. With global concerns over climate change and resource depletion, agricultural systems will come under increasing pressure to adapt to changing resource availabilities and to mitigate the effects of changes. Relatively few FTF volunteer assignments have had specific natural resource or environmental objectives, but the need for improved management and use of advanced technologies in this field is increasing and may justify increased attention in country projects and individual volunteer assignments.

Our natural environment is a universal heritage of immeasurable value. But continuous and increasing exploitation of our natural resources is approaching an alarming level. Over-exploitation and environmental degradation need to be checked, and proper planning and policies need to be implemented for sustainable development and management of our environment. This is the challenge faced by many nations around the world: to achieve development without compromising the nature, richness, and integrity of the natural environment.

One prominent issue threatening the nature, richness and integrity of the environment is climate change. Climate change is not a new phenomenon; it has been a defining natural factor throughout much of earth's history. However, what is new is the speed of climate change today and the growing certainty that that speed is a consequence of human actions.

The effects of climate change are being felt most acutely in the poorest countries of the world. Few of these countries are well equipped to deal with even natural climatic stressors. The accelerated climate change we experience now is predicted to increase the variability and frequency of extreme events in ways that are outside the realm of our experience. But even with no historical analogue upon which to lean, adapting to climate variability is essential for achieving long-term food security and development and is, quite simply, an imperative for our time. Climate change-related research will be needed to develop new technologies and approaches that both minimize the negative impact of food production on climate and better adapt food production practices to climate change.

Strategies that can address the current risks of climate variability will go a long way towards helping countries address the future negative consequences of climate change. Managing for climate change—whether through mitigating or adaptive strategies—is fundamental for preserving and enhancing development. The more such management is directly linked to national development priorities and business opportunities, whether they be found in increased energy efficiency, renewable energy, sustainable livelihoods, and environmental protection, the better.

¹⁴ Prepared by Albert Yeboah (USAID) and Andrew McCown (USAID)

It is not only climate change that presents a threat to food security and our productive capacities. Deforestation, erosion, water contamination, and a loss of genetic diversity all threaten the environments of people, plants, and animals around the globe. Multi-faceted, specific, and aggressive approaches will be needed to address these challenges. The Farmer to Farmer program is uniquely positioned to offer expertise, shared experiences, and close attention to local contexts that can help overcome many of the hurdles we face in natural resource management.

This guidance note is meant as a first step in encouraging greater use of Farmer to Farmer volunteers into the field to tackle the issue of natural resource management as it relates to food security and agriculture. Being a first step, it is meant to be both modified and expanded upon as the conversation moves forward. A guiding principle throughout the following note is that agriculture can and should be equated with natural resource management. Agriculture is, after all, a kind of productive and culturally-specific management of natural resources.

Major Issues and Options

Our natural environment forms the entire basis for food production; it provides all biotic and abiotic components required for its success. Whether we are talking about managing our water, soils, terrestrial and marine life, or even our climate, sound stewardship of ecosystems and the goods and services they provide is critical to food production and food security. It is, in fact, a prerequisite.

Land resources: Cropland available for food production may be reduced by 20 percent by 2050 due to land degradation, urban expansion, and conversion of cropland to non-food production. It is likewise expected that there will be corresponding pressure to convert critical forests and marginal lands for agricultural production as demand for food in a growing world population increases. The combined effects of these threats may cause agricultural yields to be anywhere from 5 to 25 percent short of demand by 2050, creating an acute threat to food security worldwide.

Water resources: Agriculture accounts for nearly 70 percent of water consumption. With water already scarce in many developing countries, with estimates stating that water demand is likely to double by 2050, water-related causes of food insecurity are of growing concern. As the water supply becomes more stressed in parts of the world, innovative strategies for addressing water conservation become paramount. Complementing and, in some cases, preempting conservative measures are a host of adaptive strategies needed to build resilience to flooding and water contamination caused by increased run-off from deforested areas and washed-out, fertilizer-laden agricultural lands. Both water scarcity and poor water quality will increase disease, undermine economic growth, limit food production, and become an ever-increasing threat to peace and security.

Climate change: Climate change and its effects on our natural environment, though largely unpredictable, promise to create undue stress on all of our productive systems and the natural environments upon which they rely. In parts of the world where we can expect to see an increase in temperature, we can also expect to see changes in crop yields and a likely increase in outbreaks of pests. Integrated pest management must, therefore, be considered a crucial and increasingly adaptive component in responding to climate changes.

Economic viability: Farmers are generally quite concerned with and sympathetic to environmental issues. They recognize that their livelihood depends on these resources. But, they also must make a living to support their families. Quite often, they are unwilling or unable to sacrifice immediate economic returns for long term environmental benefits. This necessitates a search for and promotion of win-win options that provide short-term economic benefits coupled with long-term environmental benefits. The emerging

environmental services markets are one approach to this. The trade-offs between long-term and short-term benefits are a frequent dilemma, but for planning environmental technologies or management systems must be financially viable for the producer.

Good Practice

The challenge is for improved management of natural resources in agricultural systems is multi-faceted and daunting. But there is reason for optimism. Proven strategies for managing natural resources are available, in fact, there are many. But these strategies are not silver-bullets and they are certainly not all equally applicable across space and time. So, rather than relying on a list of specific best practices in natural resource management, implementing organizations must consider three critical issues in program design and natural resource management planning. From these three pillars, best practices in natural resource management can be defined, implemented, experienced, and shared.

Stakeholder analysis: The very first step toward achieving sound natural resource management is performing a robust stakeholder analysis. This comes before anything else, and is essential for two reasons. First, it will help gauge the relative receptivity of a given community to management plans. Second, a stakeholder analysis helps to identify the diversity of interests involved in the management of natural resources. This in turn allows for a more targeted and contextualized management plan, one that can adequately address the inevitable trade-offs and conflicts that arise between interested parties. Stakeholder analyses are particularly important for situations where there exists a resource that is “cross-cutting” like an aquifer, watershed, or forest. Such cross-cutting areas typically have multiple uses and users and, as a result, can be complicated in terms of equitably managing natural resources. More than anything, though, a stakeholder analysis gives a holistic view of the system in which the management practices will be proposed and eventually performed. It is an absolute requirement for successful implementation of any program. *For more in depth information on stakeholder analysis and natural resource management please see “Stakeholder Methodologies in Natural Resource Management” by Robin Grimble, The Natural Resources Institute, The University of Greenwich 1998.*

Local knowledge: Valuing local knowledge of human-environmental interactions—the practical cultural ecology of a place—is the second building block towards sound natural resource management. (Here, for the purpose establishing best practices within the Farmer to Farmer program, it is important to equate agriculture with natural resource management. Agriculture is, after all, nothing more than a kind of *productive* management of natural resources). Western development practitioners, agronomists, and natural resource managers are sometimes guilty of taking modern technology for granted, as a panacea. In fact, valuing appropriate technologies and smaller programs (ones that focus on the community instead of the society) are often eschewed by decision-makers as antiquated or wholly inappropriate for achieving results. But research has shown that Western style agriculture can prove just as inappropriate, and worse still, counterproductive¹⁵. There is a real danger in relying solely on Western scientific forecasts and knowledge of the environment, especially in an era of rapid climate change: it risks excluding farmers and their knowledge of the environment from decision-making and planning¹⁶. Furthermore, it runs the risk of being reductionist and failing to see the totality of a particular context, focusing instead only on relationships among individual variables¹⁷. It should, therefore, be a fundamental premise of the Farmer to Farmer program’s assistance in the arena of natural resource management to give equal or more space

¹⁵ Monu, E. 1982. “Improving Agricultural Practices Among African Small Holders.” *African Studies Review* 25: 117-126.

¹⁶ Gilles, J., and C. Valdivia. 2009. “Local Forecast communication in the Altiplano.” *Bulletin of the American Meteorological Society (BAMS)* 90:85-91.

¹⁷ Kloppenburg, J. 1991. “Social Theory and the deconstruction of agricultural science: Local Knowledge for an Alternative Agriculture.” *Rural Sociology* 56 (4): 519-548.

for the incorporation of local knowledge. By engaging farmers and their intimate knowledge of their own natural environments the program can hope to develop a range of comprehensive productive techniques that will reduce risk and maintain the integrity of local environmental conditions¹⁸.

Planning for resilience: The third and final principle that, when incorporated into a natural resource management plan, will help ensure success is that diversity breeds resilience. Farmers, or anybody for that matter, manage for risk by seeking the most diverse portfolio of activities possible¹⁹. Their ability to cope with stressors of all kinds, acute or chronic, hinges on the level of diversity found on their plots, in the households, or in their communities. That diversity, in turn, provides for greater environmental and economic sustainability²⁰. In designing and implementing programs for natural resource management a diversity of activities must be promoted. A community or individual that manages a plot of forest for timber extraction; produces shade grown coffee, corn, and pineapple; and owns pastureland for cattle is much more likely to take a comprehensive view of the natural environment, managing for sound use of water, soil, and all other biotic and abiotic resources.

Potential Roles for Farmer to Farmer Volunteers

Farmer to Farmer volunteer integration of these three principles into specific natural resource management activities is critical to ensuring food security and the conservation and long-term productivity of agricultural land and water resources. Farmer to Farmer Volunteers can help develop and identify such practices, but in order to do so they will need to cultivate as comprehensive a knowledge as possible of the local interactions between people and their environment. Volunteers will need sound knowledge of both the human and physical geographical contexts in which they are working. With this familiarity, a whole host of specific practices can be reinforced or developed that adhere closely to natural resource management best practices. Such practices might include:

- Volunteers can introduce and promote good soil management to improve soil quality while reducing erosion, salinization and other forms of land degradation. This might include the incorporation of bunds, vegetative wind-breaks, living fencerows, terracing, or contours, all of which are activities that can be executed at the scales at which the volunteers work.
- Volunteers can promote good practices when it comes to the use of pesticides and herbicides. This can include training on safe application; the use of integrated pest management; and management of crop and tree residues, crop rotation and crop diversification.
- Volunteers with expertise in plant pathology can help identify crop diseases, helping farmers to plan specific, agro-ecological measures to combat their effects.
- Volunteers can work to maintain or create habitats that support wildlife and conserve biodiversity, including the establishment of vegetation corridors or patches. This can go a long way towards encouraging better gene flows across space through seed dispersal and species distribution.

¹⁸ Bebbington, Anthony. 1990. "Farmer Knowledge, Institutional Resources and Sustainable Agricultural Landscapes: A Case Study from the Eastern Slopes of the Peruvian Andes." *Bulletin of Latin American Research* 9 (2): 203-228.

Richards, P. 1985. *Indigenous Agricultural Revolution, Ecology and Food Production in West Africa*. Hutchison (London).

Wilken, G.C. 1987. *Good Farmers, Traditional Agricultural Resource Management in Mexico and Central America*. University of California Press (Berkeley).

¹⁹ Valdivia, C. 2004. "Andean Livelihoods and the Livestock Portfolio." *Culture and Agriculture* 26 (1-2): 19-29.

²⁰ Netting, R. and P. Stone. 1996. "Agro-Diversity on a Farming Frontier: Kofyar Smallholders on the Benue Plains of Central Nigeria." *Africa* 66 (1): 52-70.

- Volunteers can help encourage or implement crop diversification schemes to help farmers mitigate the risks associated with plagues and climate change.
- Volunteers can help work on activities to prevent pollution of water supplies by agricultural wastes and chemicals. This ties in closely to promoting responsible use of pesticides and herbicides and might include educational campaigns on the proper times to spray, soil conservation techniques, maintaining safe distances from water supplies, and constructing vegetative barriers between agricultural fields, water sources, and populated areas.
- Volunteers might also work on the reduction of agricultural greenhouse gas emissions. Possibilities for collaboration here include looking at the notion of appropriate technologies and resisting the urge to “over mechanize” small farm agriculture. It might also include a variety of methane capturing options, especially in areas characterized by a heavy presence of livestock. This has the added benefit of opening up the opportunity of introducing cleaner cooking technologies by incorporating combustible gases and materials produced on the farm.
- Volunteers can promote alternative livelihoods in agriculture like beekeeping and fish farming. These, and other similar activities, can complement a robust and diversified farm sector at the household, community or regional level. Such programs promote sound stewardship of forest and water resources and provide ample opportunity for closing the loop on outside inputs to the farmstead, encouraging natural or alternative pollination, fertilization, and irrigation options.
- Volunteers can promote other “off the farm” areas of focus that are important to natural sound resource management and environmental sustainability. Forest management and agro-forestry can serve as means for diversifying production systems as well as a tool for mitigating and adapting to the effects of climate change. Afforestation and reforestation programs can help reduce wind erosion, something likely to have a more marked effect in areas of increased desiccation and/or warming. They can also help to preserve forest watersheds, protect native ecosystems, and act as carbon sinks.

The context within which these kinds of activities take place is extremely important. Promoting good governance practices, working on issues of land tenure where politically appropriate, and supporting local management and decision-making when it comes to a community’s natural resources are all topics that need attention. They are crucial to creating incentives for long-term investment in sustainable agriculture and the natural resource base. They also provide, what might be termed, an “enabling environment” for successful volunteer experiences. How the Farmer to Farmer program will use these areas as criteria for placing volunteers and how, specifically, it can scale up is an area for further future discussion.

Works Cited

- Bebbington, A. (1990). Farmer Knowledge, Institutional Resources and Sustainable Agricultural Landscapes: A Case Study from the Eastern Slopes of the Peruvian Andes. *Bulletin of Latin American Research* 9 (2) , 203-228.
- Gilles, J., & Valdivia, C. (2009). Local Forecast Communication in the Altiplano. *Bulletin of the American Meteorological Society (BAMS)* , 85-91.
- Kloppenborg, J. (1991). Social Theory and the Deconstruction of Agricultural Science: Local Knowledge for an Alternative Agriculture. *Rural Sociology* 56 (4) , 85-91.
- Monu, E. (1982). Improving Agricultural Practices Among African Small Holders. *African Studies Review* 25 , 117-126.
- Netting, R., & Stone, P. (1996). Agro-Diversity on a Farming Frontier: Kofyar Smallholders on the Benue Plains of Central Nigeria. *Africa* 66 (1) , 52-70.
- Richards, P. (1985). *Indigenous Agricultural Revolution, Ecology and Food Production in West Africa*. London: Hutchinson.
- Valdivia, C. (2004). Andean Livelihoods and the Livestock Portfolio. *Culture and Agriculture* 26 (1-2) , 19-29.
- Valdivia, C., Seth, A., Giles, J., Garcia, M., Jimenez, E., Cusicanqui, J., et al. (2010). Adapting to Climate Change in the Andean Ecosystems: Landscapes, Capitals, and Perceptions Shaping Rural Livelihood Strategies and Linking Knowledge Systems." *Annals of the Association of American Geographers* 100 (4) , 818-834.
- Wilken, G. (1987). *Good Farmers, Traditional Agricultural Resource Management in Mexico and Central America*. Berkeley: University of California Press.

AGRICULTURAL EDUCATION AND TRAINING OPPORTUNITIES IN FARMER TO FARMER PROJECTS²¹

Though largely ignored for the last two decades, policy-makers and international donors are reawakening to the need for concentrated efforts in the field of agricultural education and training (AET). The Farmer to Farmer program is uniquely positioned to offer a great deal of assistance in these efforts. Through innovative use of volunteers and reaching out to new hosts, FTF can provide well-qualified experts and a new generation of AET expertise to the field to introduce new technologies, practical training and education approaches, and improved results-oriented management systems to host countries. Strategic volunteer assignments can achieve broad impact, as volunteers train trainers and strengthen institutions that will continue training the human resource base for agriculture and rural development.

Over the past 20 years, agricultural development has been a relatively low priority for USAID and other international donors. Within the reduced funding for agriculture, investment in Agricultural Education and Training (AET) systems has been minimal, or perhaps negligible. This lack of support has constrained growth of AET institutions and programs, and, in some cases, has resulted in diminished capacity and decline of previously robust institutions. One contributing factor to the decline is the aging of AET staff and scientists trained from 1960-1980; the majority of these individuals are either now retired or will soon be retiring from their institutions. Thus, countries and institutions are losing a large segment of institutional memory and capacity in this field. In addition, limited donor interest and investment in agricultural education and training institutions, coupled in many cases with inadequate local funding for such programs, has resulted in few innovations in programs, institutions, and outreach.

Many AET institutions are behind the times - inadequately addressing emerging issues in agriculture and rural development. There appears to remain an excessive focus on farm level production technology and supply of graduates oriented to public sector employment. The Farmer to Farmer stands at a unique point that can allow it to make valuable contributions to larger efforts to reinvigorate the field of Agricultural Education and Training.

Major Issues and Options:

With the new interest in AET there are many opportunities to be taken advantage of as well as pitfalls that should be avoided. By better understanding these benefits and banes the Farmer to Farmer program can successfully navigate them. Some of the current issues facing the field include:

Developing a new generation of agricultural experts: As mentioned previously, there has been little attention paid to agriculture in the developing world in the last twenty years. Since the 1980's funding for agriculture projects has been hard to come by from major international donors and as such there has been little human growth in this field. Many of the experts at the surviving agriculture institutions are now nearing retirement or are already retired. If there is not immediate action taken, their extensive knowledge will be lost. However, this large gap in new experts to the field has the possibility of being a blessing in disguise. With renewed interest in agriculture this presents an opportunity to bring a new generation of bright and dedicated practitioners into the field that will bring an entirely different skill set

²¹ Prepared by Matt Pierson (Weidemann Associates, Inc) with inputs from others

and mentality to the table. If AET institutions are able to expand the understanding of what agriculture is, and move away from its perception of hard work toiling on a farm to cutting edge scientific research in state of the art laboratories, or marketing and distribution of goods this will have greater appeal on today's technology driven youth.

Creating an interdisciplinary understanding of agriculture:²² One of the problems facing agriculture in the developing world today is that of perception. It is often perceived by policy makers, the younger generation and even some of the technicians in the field as consisting of nothing but hard labor in the fields. This is a misconception that must be remedied in order to bring new ideas into the field and a younger generation. This can easily be done focusing on the many other concepts that fall under the agriculture umbrella. AET institutions can push to develop interdisciplinary curriculum for agriculture students that focuses not only on the more traditional aspects of farming but also business development, marketing, non-profit management, environmental concerns, bio-engineering and other technological aspects. By broadening the understanding of what agriculture is, AET institutions can open up avenues of research and understanding that will strengthen AET institutions in the developing world and help them to be more sustainable in the long run.

Exploiting the powers of new technologies:²³ In the last twenty years since USAID and other international donors have moved away from their support of agriculture there have been considerable technological advances that can be taken advantage of. Advances in bio-engineering have made crops more resistant but also bring a whole new level of science to the field of agriculture. The increase in access to the internet has opened up opportunities to information for vast swaths of the world population that previously had to rely on outdated photocopies of textbooks that professors brought back with them from their own studies in foreign countries. There are countless new possibilities for agriculture because of scientific advancements over the last twenty years that are just waiting to be discovered and exploited.

Moving from a supply driven model to a demand driven model: One of the most valuable opportunities that has presented itself with the resurgence of interest in AET is to move the emphasis in AET from being supply driven to demand driven. Previously AET efforts were designed to provide the government and the public sector with workers. Agriculture students were often taught by professors that received their education in western countries but whom had done very little research in their own countries often leading to incongruities between the skills being offered by the agricultural technicians and the needs of the farmers they were attempting to help. However, this area can be remedied by more closely linking AET efforts with companies and sectors that require agricultural experts. By going straight to the future employer and determining what skills they are searching for in future job candidates, AET institutions are able to better prepare their students for finding good paying jobs once they leave school. By combining this coordinated effort between AET institutions and the private sector along with a new emphasis on the interdisciplinary nature of agriculture, students will be prepared to make a lasting impact for themselves, their families and their communities.

Minimizing "brain drain": Brain drain is a constant problem facing all aspects of development economics. It is multiplied however in AET. Firstly, AET has the problem that in developing countries most of the students that make it to the university level are from the cities and urban areas and have very little experience with agriculture. Thus, those that do receive an agricultural education often attempt to leverage their education into bigger and better opportunities. The brain drain dilemma is compounded

²² The World Bank. (2007). *Cultivating Knowledge and Skills to Grow African Agriculture*. Washinton, D.C.: The World Bank.

²³ Eicher, C. (2009). Building African Scientific Capacity in Food and Agriculture. *Review of Business and Economics Vol LIV.3 July-September* , 238-257.

with agriculture though, because the small portion of students with an agriculture background that do make it to the university level often have little interest in returning to the rural portions of the country to practice and disseminate their knowledge to the wider communities. So we see that the rural areas are being left devoid of their brightest minds which are being attracted to the urban centers, and the urban centers are being decapitated of some of their brightest minds by the west.

Increasing the appeal of agriculture:²⁴ Agricultural education and training institutions must increase the desirability of studying agriculture. Currently, the perception of agriculture is not very high and it holds little appeal for new students. Many of the students in agriculture programs are there because they were not able to get in to the field of study that they wanted to and agriculture was all that was open to them. As such, if these students are offered the opportunity to enter their desired field they quickly do so. This leaves the field of agriculture with students that are not motivated and have very little actual interest in the field. This can be combated by reshaping the perception of agriculture from backbreaking labor in hot fields to embracing the entire range of issues and skills that it encompasses. It can also be addressed by improving curricula and improving training to improve career opportunities for graduates.

Potential Roles for Farmer to Farmer Volunteers :

The Farmer to Farmer program has been actively involved in AET efforts in many innovative and useful ways. The Farmer to Farmer volunteer program model lends itself to even more activities in this field and has the promise of being quite effective. While FTF volunteer efforts are focused on reaching the small farmer and rural society, agricultural universities and technical training schools are open to accepting volunteers, welcoming the international collaboration and contacts and the opportunity to share ideas. This provides the volunteer an entrée and the opportunity to leverage their assistance by training trainers and strengthening institutions with a large “reach” in terms of impact.

Farmer to Farmer has a wealth of potentially qualified volunteers that are interested in AET issues. The pool of volunteers experienced in extension work and formal AET institutions in the US can be tapped for these assignments. US universities are an excellent source of volunteers. Many universities offer their faculty paid leave to participate in international work. Connecting volunteers from US universities with local AET institutions has the added benefit of continued interactions with the volunteer after the assignment is over. By establishing initial links between volunteers and hosts, there is a high probability of continued cooperation and collaboration between the volunteer and his/her institution and the host AET organization.

The Farmer to Farmer volunteer experience also serves as an excellent way to involve a rising generation of new experts in the international agricultural education and training. Many AET experts are quickly approaching retirement and there is a need to involve a new generation in the field. Short term FtF assignments are a perfect way to do this.

The FTF program can contribute to AET programs and institutional capacity development in many ways:

- Volunteers can assist institutions with course and curricula reform and development, particularly updating curricula to incorporate new technologies, agribusiness and commercial perspectives, nutritional perspectives on agriculture, and environmental and natural resource issues.
- Volunteers can advise on and assist in planning and implementation of AET program outreach activities that involve faculty and students in practical extension, research, and development

²⁴ Rivera, W. (2006). *Transforming Post-Secondary Agricultural Education and Training by Design: Solutions for Sub-Saharan Africa*. Washington, D.C.: World Bank.

activities within the host country. This helps build linkages with stakeholders and potential employers of graduates and helps to improve the relevance of the AET training programs, grounding them in practical experience in the country.

- Volunteers can assist AET faculty and staff to develop and pilot test practical experiential learning and laboratory work in the courses of the curricula. This is often a weakness in AET programs.
- Volunteers can help plan and develop school farms or agribusinesses associated with AET institutions, incorporating them into the course curricula and learning experience for students.
- Volunteers can provide refresher short course for faculty and/or co-teach short courses or provide seminars. Often it is useful for volunteers working on other assignments to present seminars at AET institutions.
- Volunteers can assist with administrative reforms and institutional planning and strategy development. This is often an area of weakness in AET institutions with problems difficult to address. Sharing experience of senior AET institution administrators can be an effective support to reform.
- Volunteers can assist AET institutions to improve their support services – record keeping, budgets and accounting, maintenance, use of ICTs, and others.

Works Cited

Eicher, C. (2009). Building African Scientific Capacity in Food and Agriculture. *Review of Business and Economics Vol LIV.3 July-September* , 238-257.

Rivera, W. (2006). *Transforming Post-Secondary Agricultural Education and Training by Design: Solutions for Sub-Saharan Africa*. Washington, D.C.: World Bank.

The World Bank. (2007). *Cultivating Knowledge and Skills to Grow African Agriculture*. Washinton, D.C.: The World Bank.