ENDING RURAL HUNGER

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The U.S. response to the challenge of global food and nutrition security

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Executive Summary

The scourge of hunger and malnutrition is felt sharply in the 21st century—our era is marked by record agricultural productivity on one side of the world and stagnant yields on the other. Approximately 793 million people are undernourished and 160 million children under the age of 5 years old suffer from stunting.[1] As the world's single-largest donor, the United States is well positioned to develop solutions to hunger and malnutrition. In 2009, the U.S. launched an initiative known as Feed the Future—led by the U.S. Agency for International Development (USAID) and leveraging the strength of 11 government agencies—to tackle food and nutrition security (FNS) through a new approach focused on agricultural development.

In this case study, part of the Brookings Institution's research project on Ending Rural Hunger, we seek to assess the U.S.'s investments in FNS. We analyze four dimensions of U.S. foreign assistance programs for ending hunger. First, we consider *country selection*, that is whether U.S. assistance for FNS is concentrated in the recipient countries where it is most needed and will have the greatest impact. Second, we consider *project selection*, analyzing what subsectors the U.S. prioritizes in its FNS funding. Third, we consider *project design*, assessing a sample of U.S. FNS projects on four elements of effective aid, namely whether the projects include activities to address resilience, the enabling environment for agriculture, extension services, and inclusive growth. And finally, we consider *project implementation*, where using all Feed the Future projects, we analyze their effects on four cross-cutting priorities, namely gender, science and technology, nutrition, and monitoring and evaluation. Based on these analyses, we then provide a series of policy recommendations to maximize the impact of U.S. FNS aid.

Country selection

Is U.S. foreign assistance for FNS being spent in the countries where it is most needed? The Feed the Future initiative was designed to concentrate resources in fewer places in order to maximize impact and establish long-term results. Initially, 20 countries[a] were selected as focus countries; this country list has not been regularly reviewed for graduation or expansion since.[2] All else equal, FNS aid spent in countries with greater needs, stronger policies, and fewer available resources is likely to have the greatest impact on ending hunger.[b] Based on this country targeting framework, we find the countries which are included in Feed the Future are, on average, poorer and more food insecure than other developing countries and have fewer available resources to support FNS objectives—both indicators of effective targeting—but have relatively weaker policies for FNS.

Of the nearly $10 billion in FNS aid the U.S. disbursed between 2009 and 2013, only about one-third was spent in Feed the Future countries.[3] Thus, while the initiative is clearly important to U.S. FNS policy, two-thirds of American FNS investments still occur in non-Feed the Future partners.

Of the FNS assistance disbursed in non-Feed the Future countries, we find a surprisingly large amount of funding directed toward countries with relatively low levels of need, including Armenia, Colombia, Dominican Republic, Morocco, and Peru. Meanwhile only low levels of FNS funding are deployed in many countries with high need, including Benin, Eritrea, and Togo.

Project selection

What types of projects do American FNS investments support? We find the majority of American FNS aid is devoted to five subsectors: food aid and food security programs (29 percent of total FNS aid); agricultural development (25 percent); agricultural alternative development (12 percent); agricultural policy and administrative management (11 percent); and basic nutrition (7 percent). One of the reasons so much money is spent on food aid and food security is due to extremely high ocean freight costs to ship commodities on U.S.-flagged carriers, as mandated by American policy. Meanwhile other important FNS

[a] Currently, there are 19 focus countries as Nicaragua was later dropped. They were chosen by the USAID administrator and high-level officials on the National Security Council and the State Department.
[b] For more on this needs-policies-resources framework, see the Ending Rural Hunger report at endingruralhunger.org.

priorities received significantly less resources—for example, only 1 percent of American FNS aid went to agricultural extension, education, and training.

Looking specifically at Feed the Future focus countries, does U.S. FNS aid align with these countries most pressing priorities? While there are nuances among countries, in general the answer is a qualified "yes"—for example, countries with significant needs in access to food tend to receive FNS aid for food security, those with needs in agricultural productivity receive funding for agricultural development, and those with high vulnerability receive funding in natural resource management. The primary exception is that there a number of countries with significant needs in malnutrition, yet who do not receive investments specifically targeting basic nutrition.

Project design

Beyond the general subsector, U.S. FNS aid targets, are projects designed to maximize impact toward ending hunger and achieving the United Nations Sustainable Development Goals? To get at this narrower, more nuanced question, we zoom in on a sample of 18 large-scale FNS projects (those disbursing more than $5 million per year) in Feed the Future focus countries to get a deeper analysis of what types of project activities are being funded and prioritized. Specifically, we look at the details for each of these projects to see if they incorporate four proven impactful investments for agriculture development, including resilience, the enabling environment, extension, and inclusive growth.

We find that most projects incorporated some form of resilient agriculture, whether it was to provide irrigation for rain-fed farms or to create rural retail shops that stored improved seed and fertilizer. However, the projects assessed have a strong disposition toward technological interventions to promote resilience, especially costly investments like large-scale irrigation projects. There was also a lack of investment in low-cost interventions that could result in a higher dollar impact per farmer, such as improvements to soil health. On the enabling environment, we found that most projects did not have a substantive enabling environment component and progress on policy reforms as result of assistance from the U.S. is minimal, although this may now be changing. The Feed the Future Monitoring System shows zero policies completed between 2011 and 2013, but then some 39 reforms in 2014 and 79 reforms in 2015. We found promising results for investments in extension, as most of the projects reviewed devoted attention to extension provision, although it should be noted that without better data on the rates of adoption of new technologies and practices it is difficult to determine the success of such project. Finally, on inclusive growth, we find that slightly more than half the projects assessed included an inclusive growth component, with a majority of them geared toward facilitating farmer access to financial services.

Overall, while Feed the Future is making some important investments in these four priority areas, more could be done to better target impactful, lasting investments and provide greater clarity on project activities.

Project implementation

We also assess how Feed the Future programming is addressing several issues related to project implementation, including cross-cutting gender issues, dissemination of science and technology, nutrition, and monitoring and evaluation.

Feed the Future views gender as a cross-cutting theme that needs to be integrated in all projects, and we find Feed the Future countries dedicate 17.8 percent of projects and funding to gender-specific objectives compared to 11.1 percent of projects in non-Feed the Future countries. While this is a positive trend, and in 2014 the percentage continues to rise, there is certainly more to be done to mainstream gender issues across a full spectrum of projects. Feed the Future has also launched an initiative to develop a Women's Empowerment in Agriculture Index to identify where gender issues are most acute. With respect to the dissemination of science and technology, Feed the Future has made important investments in research, including through partnerships with the Consultative Group for International Agricultural Research (CGIAR) and the Alliance for a Green Revolution in Africa. However, the key constraint is delivering all of this high-tech research to farmers' fields, and greater transparency on research delivery mechanisms is needed to

see if these investments are actually leading to farmer adoption. On nutrition, we find that Feed the Future countries receive, on average, higher funding for basic nutrition than non-Feed the Future countries, and that these sums have increased in recent years. However, given that investments in nutrition are growing from very low levels overall, there is likely greater scope to further increase this funding. And finally, we find that though Feed the Future has committed to a rigorous monitoring and evaluation framework, in practice only a few evaluations are publicly available, and even those that are may have poor underlying project data and incomplete reporting. Much more needs to be done to improve transparency of monitoring and evaluation practices to allow external stakeholders to hold the U.S. accountable to its development objectives.

Policy recommendations

Based on our analysis of country selection, project selection, project design, and project implementation, we identify several policy recommendations for how the U.S. can strengthen its global food security strategy, improve the return on investment for its FNS contributions, and ensure progress toward meeting the SDGs.

- **The administration should prioritize FNS aid for Feed the Future focus countries.** Feed the Future focus countries only received a third of FNS aid while the U.S. deploys FNS aid to 105 different recipient countries. The U.S. can achieve greater impact if they focus resources on a smaller set of countries—increasing resources to Feed the Future focus countries is a natural first step.

- **The administration should be more strategic and coordinated when it comes to selecting new focus countries.** More coordination across FNS programs and agencies that invest in FNS would improve the country selection process and may prevent the duplication of projects in the same regions.

- **Congress should pass food aid reform, particularly on cargo preference, to reduce program inefficiencies.** The cost to ship agricultural commodities overseas, through the Food for Peace program, is enormous—over a five-year period approximately $541 million or $108 million per year was spent on freight costs, equal to about 10 percent of Feed the Future's annual budget.

- **Feed the Future should increase investment in delivery systems that bring technologies and tools to smallholder farmers, and prioritize farmer adoption of those technologies.** Feed the Future appears to prefer large-scale, costly investments, however there are many "low tech" interventions that can dramatically improve farmer livelihoods. We recommend that Feed the Future incorporate a metric of "dollar cost per farmer" to determine how many farmers are being reached per investment.

- **Large-scale Feed the Future projects should seek to improve intraregional trade.** None of the projects analyzed were designed to alleviate regional trade barriers between countries. Research shows that there are enormous benefits to transferring agricultural technologies across borders, yet relatively little FNS aid is being targeted to improve regional trade.

- **FNS projects designed to improve "resilient agriculture" should focus more on soil health.** To support Feed the Future's research agenda of "advancing the productivity frontier," research shows that ensuring that crops have essential nutrients to grow is fundamental especially for the long-term health of farms.

- **Feed the Future should improve transparency at all levels to better understand how resources are being allocated.** Better transparency will guide decisionmaking and increase the likelihood that scarce resources will be directed toward investments that achieve high impact.

- **To better inform project design, Feed the Future should improve monitoring and evaluation efforts by raising the standards of project data quality and devoting more resources to**

impact evaluations. Feed the Future should increase funding for monitoring and evaluation to the order of 3 to 5 percent of the program budget to standardize data collection practices and build capacity within implementing partners to adhere to strict data reporting standards.

Introduction

It is unacceptable that, in an age of plenty, one in nine people are undernourished around the world.[4] The success of the Green Revolution in Latin America and Asia led donors to believe the problem of hunger had largely been solved. This false sense of accomplishment created complacency for increasing agricultural productivity in more difficult regions, particularly sub-Saharan Africa and Southeast Asia. Funding for agricultural development fell precipitously in the 1980s and 1990s until the food price crisis of 2007-2008 sent a stark reminder that many food systems remain fragile. After spending several decades in the development doldrums, food and nutrition security is squarely back on the development agenda. Leaders have recommitted to ending hunger and malnutrition—from the G-8 Summit in L'Aquila in 2008 to the adoption of the U.N. Sustainable Development Goals in 2015. To track progress on global food and nutrition security, particularly in rural areas, the Ending Rural Hunger project was developed to inform donor country policymakers of where to invest limited funding according to Needs, Policies, and Resources.[c]

As a major donor to FNS aid, the U.S. is in a strong position to contribute to global progress on FNS.[d] Feed the Future—the U.S. government's global food security strategy—has been described as a new and innovative approach.[5] Thus, *Ending Rural Hunger* requested that One Acre Fund—a non-profit organization that aims to reduce hunger and poverty in East Africa—conduct an analysis of how the U.S. designs and implements its global FNS strategy and investments. As a field-facing organization, One Acre Fund has built a strong expertise on the needs of smallholder farmers and our engagement with global policy issues frames our assessment. We focus our assessment on the return on investment to the U.S. using a metric of dollar impact per farmer—projects that achieve high impact for a large number of farmers are ideal.

The following case study analyzes FNS aid at two levels: On a macro level, we look at the broader FNS strategy—which countries receive aid, what needs are being targeted, how cross-cutting issues are being addressed, and how progress is measured; and on a micro level, we analyze a random group of large-scale projects based on a set of proven impactful investments to gauge how projects are designed and what policy priorities are being funded. Our observations frame our policy recommendations for how the U.S. can improve its global food security strategy, improve return on investment, and ensure progress toward meeting the SDGs.

With the support of influential donors such as the U.S., developing countries can build strong, productive, and inclusive agriculture sectors to establish food security and nutrition for their citizens. What is needed are proven investments that unearth the root causes of poverty and hunger and for those investments to be brought to scale. Determining which countries receive those investments and how they are prioritized is critical in achieving FNS objectives. We hope this case study provides insight to guide decisionmaking and allocations for future investments.

[c] **Needs** tell us how far each country lies from the defined SDG targets and which of the underlying challenges are most pressing. **Policies** matter because we know sound government actions are essential to success – on issues ranging from the rural investment climate to support for women to provision of rural safety nets. **Resources** are essential to financing the necessary actions to end hunger.

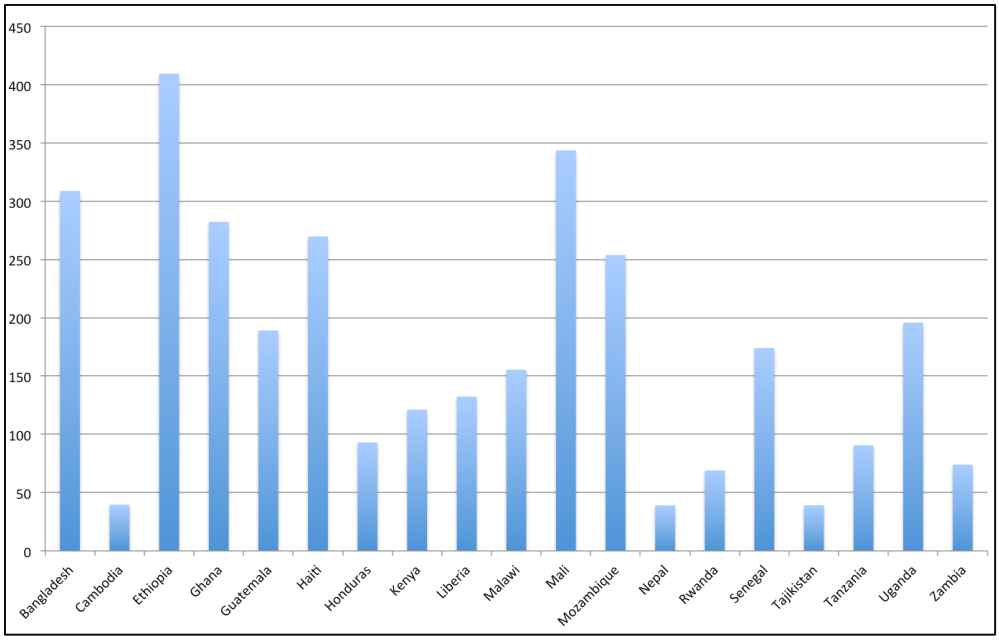
[d] Contributions to Food and Nutrition Security are defined as disbursements to the following OECD Creditor Reporting System (CRS) codes: Basic Nutrition (12240), Agriculture (all codes in category 311), Fishing (All codes in category 313), Agro-Industries (32161), Rural Development (43040), and Food aid/Food security programs (52010)

Section I: Country selection

As the largest single donor to FNS aid, where the U.S. decides to deploy its resources is critical. Between 2009 and 2013, the U.S. disbursed nearly $10 billion to food and nutrition security-focused projects. While this amount may seem significant, it is well short of the additional $125-150 billion needed for the world to meet SDG 2.[6]

Surprisingly, Feed the Future focus countries received only one-third of total FNS aid disbursed by the U.S. (Figure 1). And, FNS aid is a mere 13 percent of total ODA.[7] Furthermore, once a country is deemed a Feed the Future "focus country," aid should be targeted to the country's greatest FNS needs to achieve high return on investment and lasting impact. This section will view Feed the Future on a macro-level and analyze the initiative's country selection criteria and the selection of all countries that received FNS aid.

Figure 1: Total FNS aid to Feed the Future countries (in millions, USD)



Source: OECD CRS

Feed the Future country selection

The U.S. government selects Feed the Future focus countries based on five factors:[8]

1. **Level of need:** The level of need is based on the Global Hunger Index, which uses three weighted indicators to represent a multidimensional measure of hunger: 1) proportion of undernourished as a percentage of the population, 2) prevalence of underweight children under five, 3) under-five child mortality.

2. **Opportunity for partnership:** Feed the Future seeks to work with countries that prioritize food and nutrition security and that are open to working with donors, civil society, international organizations, and the private sector. Their assessment is based on political stability and the absence of conflict, the quality of governance, the overall economic policy environment, and the commitment to design a high-quality country investment plan (CIP).

3. **Potential for agricultural growth:** Feed the Future prioritizes countries with predominantly rural poverty where agriculture-led growth can reduce poverty, increase productivity, and improve market development.

4. **Opportunity for regional synergy:** Feed the Future focuses on countries with strong connections to regional economic entities (e.g., Regional Economic Communities in Africa) that can harness opportunities for intraregional trade and accelerate regional growth.

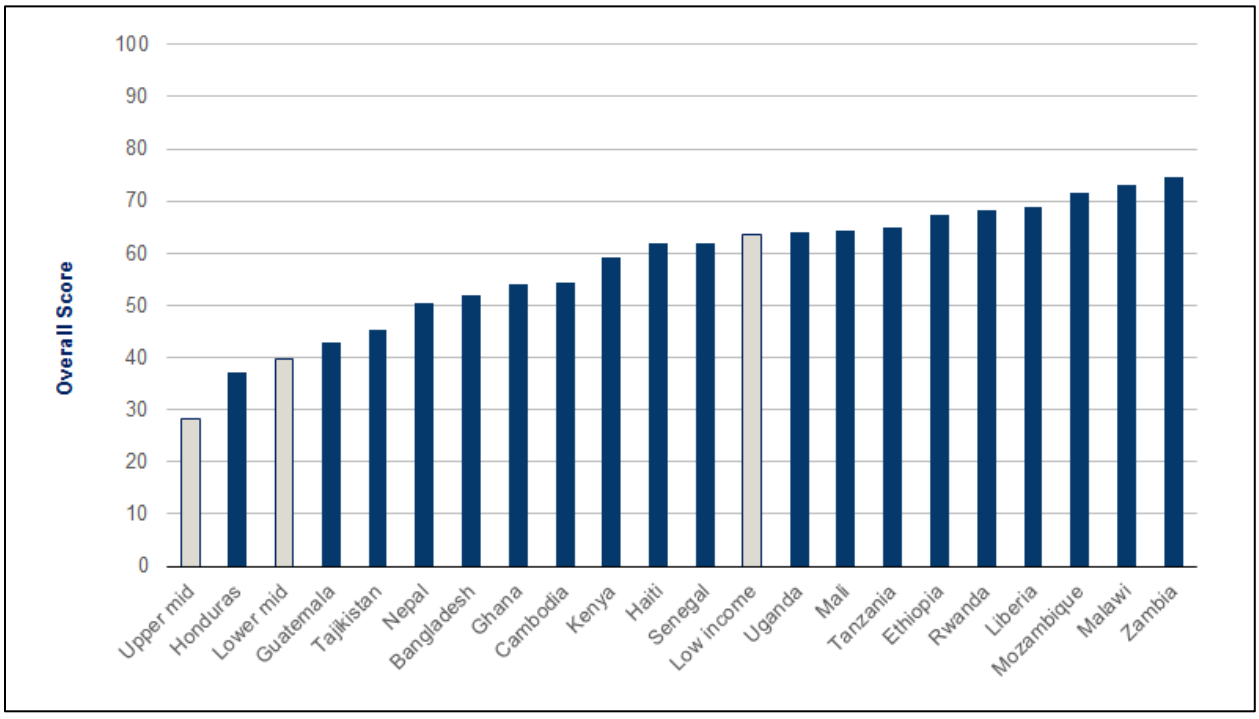
5. **Resource availability:** Feed the Future seeks to work with recipient countries that are prioritizing domestic resource mobilization and putting "skin in the game" to advance food and nutrition security objectives.

Of the five factors to select Feed the Future focus countries, three factors (level of need, opportunity for partnership, and resource availability) roughly parallel the Ending Rural Hunger framework of Needs, Policies, and Resources. Needs refer to specific FNS targets in the SDGs; Policies mean the enabling conditions for progress in FNS; and Resources mean sources of financing directed to FNS available in developing countries.

Needs

Research has shown that by and large, focus countries are poorer, on average, than other countries.[9] According to the Needs index, the average focus country is in the 74th percentile. We can generally infer that FNS aid is being invested in countries with substantial FNS needs. However, only three countries in Feed the Future—Liberia, Malawi, and Zambia—are in the 90th percentile in the Needs index (Figure 2). Honduras, in particular, is ranked low on the Needs index—in the 43rd percentile—yet has weak policies and relatively abundant resources**.**

Figure 2: Feed the Future countries ranked on Needs index (lowest to highest)



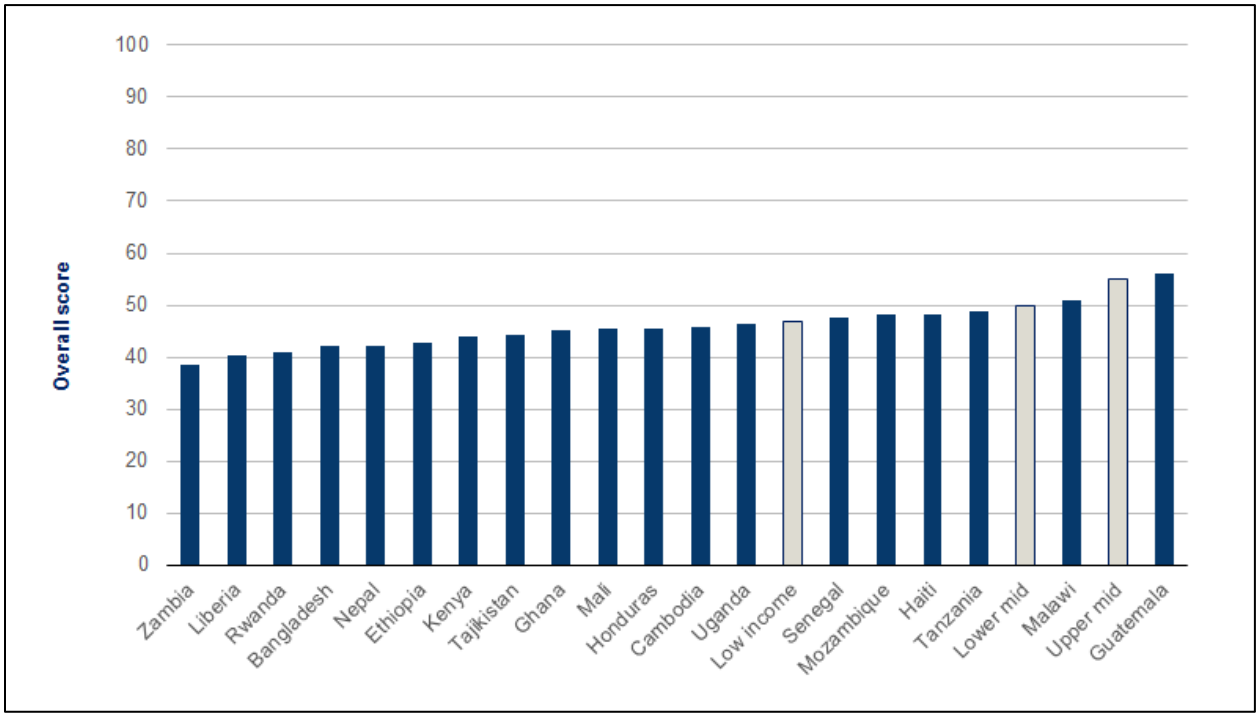
Source: endingruralhunger.org

Policies

Despite strong rhetoric on supporting countries with strong agricultural policies and political will to FNS needs, the average focus country is ranked in the 65th percentile in the Policies index (Figure 3). While

Guatemala and Malawi are on the stronger half of the index, the vast majority of countries are on the weaker half and countries such as Zambia and Liberia are near the bottom.

Figure 3: Feed the Future countries ranked on policies index (weakest to strongest)

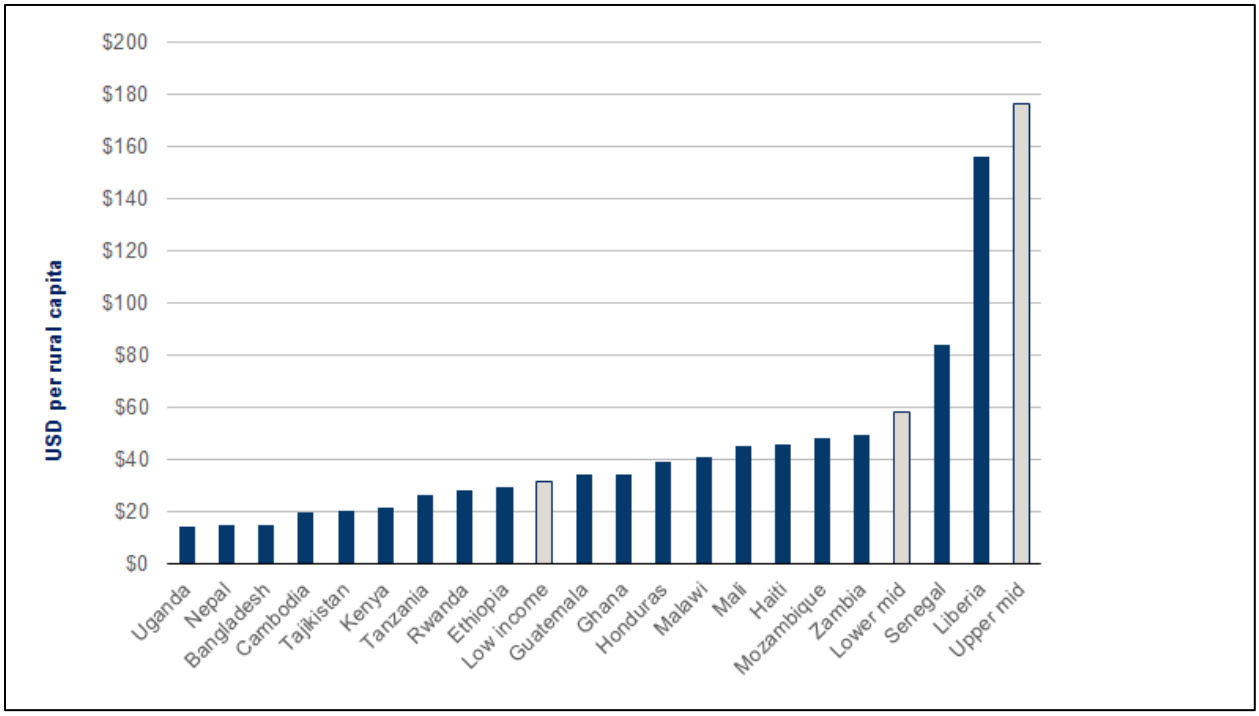


Source: endingruralhunger.org

Resources

On average, focus countries are in the 65th percentile in the Resources index and have relatively few resources (Figure 4). U.S. FNS aid is well targeted in this regard, especially in Bangladesh, Nepal, and Uganda where all three countries are in the 90th percentile. Nevertheless, resources targeted toward Liberia and Senegal may not be strategic as they benefit from a relatively large amount of in-country resources.

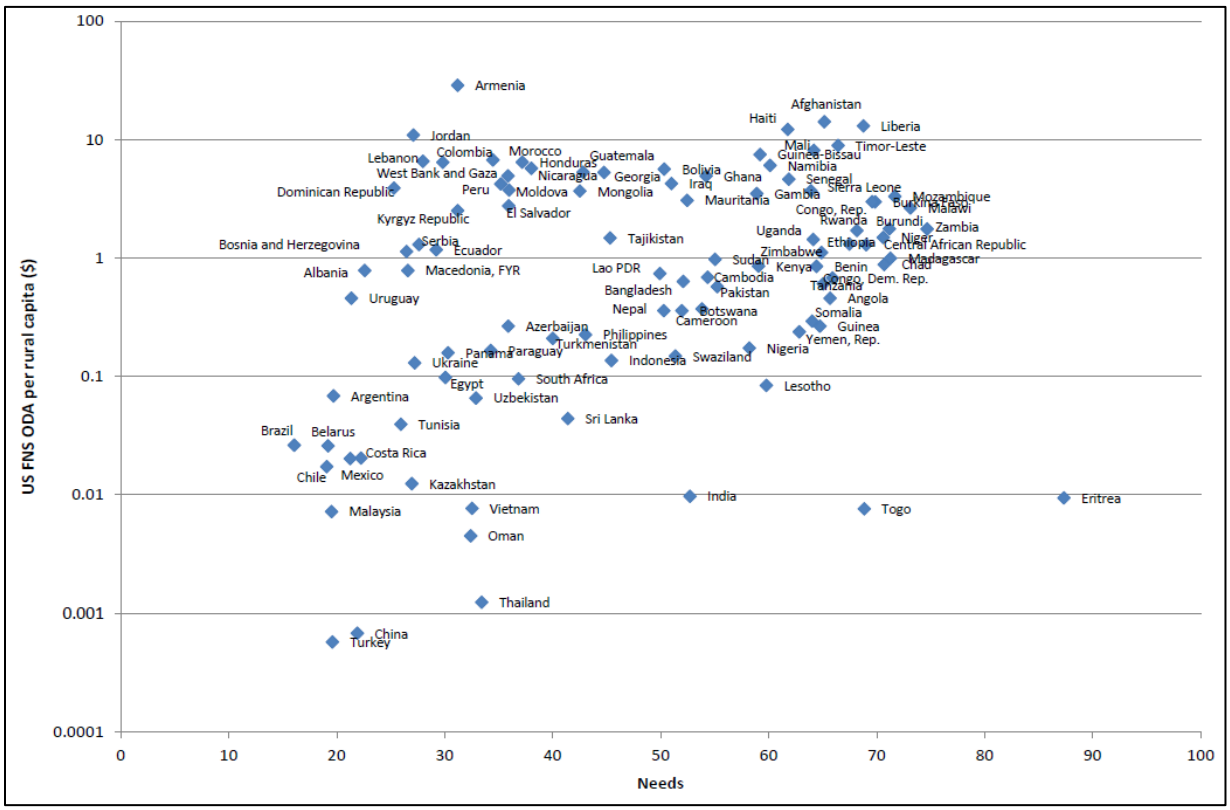
Figure 4: Feed the Future countries ranked on total resources



Source: endingruralhunger.org

Looking beyond focus countries, we mapped all recipient countries based on how much aid per rural capita they received compared to their Needs scores (Figure 5). In visualizing the data, there is a general trend toward providing more funding to countries with greater need, but we also identified a cluster of countries that receive relatively large amounts of FNS aid despite having lower needs (top left hand corner of Figure 5). These 10 countries—Armenia, Colombia, Dominican Republic, El Salvador, Indonesia, Jordan, Kyrgyzstan, Lebanon, Morocco, and Peru—received an average of $346.5 million per year in FNS aid.

Figure 5: U.S. FNS ODA per rural capita spending (2009-2013 average, contast 2013 $)



Source: endingruralhunger.org, OECD CRS, and own calculations

A few countries receive aid targeted toward their needs, for example El Salvador and Kyrgyzstan have low scores on "agricultural productivity gap" and their FNS projects focus on agricultural development. Jordan scores poorly on "vulnerability" and received most of its FNS aid to support refugees from Syria. Investments in Columbia and Peru prioritized agricultural alternative development—projects intended to reduce illicit drug cultivation—which appears to primarily serve the interests of U.S.

Surprisingly, the largest recipient country of FNS aid in 2013 was Morocco, which received $180 million in a single year toward the country's Millennium Challenge Corporation (MCC) compact. Roughly half of the $697.5 million compact is set aside for fruit tree productivity to increase olive, almond, and date production. Morocco is not a country that has major FNS needs (although it suffers from a low score on "vulnerability"), so this level of investment seems at odds with the objective of maximizing impact on global FNS. In addition, Armenia, Dominican Republic, and Peru have low needs as measured by all indicators, yet receive a disproportionate amount of aid given their level of need.

Overall, we find that Feed the Future has selected countries with high needs, below average policies, and few resources; however, far more impact could be achieved with better targeting of countries. The fact that only one-third of FNS aid goes to Feed the Future focus countries means that two-thirds of FNS aid goes to non-Feed the Future countries. This greatly limits the ability for resources to concentrate in areas with high need, strong political, and promising agricultural sectors. The Feed the Future country selection framework should be better aligned with other FNS programs like Food for Peace to ensure that resources target countries that need them and that can use them well. To achieve greater impact, development concerns should receive higher prioritization.

Section II: Project selection

All countries

From a macro-level, a few interesting data trends appear across all recipient countries in terms of project selection.

Purpose codes: Beyond knowing where aid is going, we also need to know what types of projects are being funded. From a high-level, the top five purpose codes are 1) Food aid / Food security programs (29 percent); 2) Agricultural development (25 percent); 3) Agricultural alternative development (12 percent); 4) Agricultural policy and administrative management (11 percent); and 5) Basic nutrition (7 percent). These top five purpose codes comprise 84 percent of all FNS aid disbursed by the U.S. Other purpose codes received significantly less resources—for example, only 1 percent of FNS aid went to agricultural extension, education, and training.

Largest projects: Across the five-year period, the projects receiving the most resources were 1) the Global Agriculture and Food Security Program ($469 million); 2) Afghanistan Vouchers for Increased Production in Agriculture ($278 million); and 3) CGIAR Fund ($191 million). Moreover, large-scale projects comprise a majority of FNS aid—69 percent of total disbursements go toward projects that cost over $5 million annually.

Ocean freight costs: The U.S. delivers much of its FNS aid in the form of food aid—agricultural commodities purchased from American farmers and shipped overseas by U.S.-flagged carriers.[10] The cost to ship these commodities overseas is enormous —over a five-year period approximately $541 million or $108 million per year was spent on freight costs, which is about 10 percent of Feed the Future's annual budget. In recent years, food aid reform designed to lower shipping costs has been a top policy priority at USAID and various congressional offices, but the scale of the benefits accrued by producers and shippers ensure reform will face serious opposition.

Feed the Future countries

For Feed the Future focus countries, a fundamentally macro-level question needs to be asked: are the country's primary FNS needs being targeted by projects?

Using purpose codes from the OECD Creditor Reporting System (CRS), we reviewed the Needs index for each Feed the Future focus country and compared those needs against the country's largest projects. In Table 1, each country's primary needs are listed alongside the largest projects by purpose code and the single largest project in the country.

Where "Access to Food" was a major challenge, each country had significant investments in food aid/food security programs. For "Malnutrition," seven out of 12 countries had a large basic nutrition component, however Bangladesh, Ghana, Mali, Nepal, and Tajikistan did not. There is a clear need to invest in more projects that explicitly target malnutrition. In terms of the "Agricultural Productivity Gap," eight of 11 countries included significant investments in agricultural development, with the exception of Honduras, Malawi, and Mozambique. On "Vulnerability," only Mali and Rwanda have this as a major need and both have significant investments in natural resource management.

Overall, most projects are targeted to each country's greatest needs; however, the lack of transparency for food aid projects in terms of how their activities are reported to the CRS make any conclusions tenuous at best. In the next section, we take a micro-level view and analyze individual, large-scale projects, and their activities—pulled from Feed the Future focus countries.

Table 1

Focus Country	Access to Food	Malnutrition	Agricultural Productivity Gap	Vulnerability	Largest FNS projects (2009-2013)
Bangladesh		×			• Food aid programs (72 percent) • Title II Food aid project: $27.8M
Cambodia		×			• Agricultural development (42 percent), Basic nutrition (38 percent) • HARVEST $10.0M
Ethiopia	×	×	×		• Food aid programs (73 percent), Agricultural development (17 percent), Basic nutrition (6 percent) • Title II food aid project: $69.9M
Ghana		×	×		• Agricultural services (31 percent), Agricultural development (19 percent), Agricultural education / training (18 percent), Agricultural policy and management (13 percent) • MCC Agriculture Project: $139.5M
Guatemala		×			• Food aid programs (59 percent), Basic nutrition (20 percent) • Title II food aid project: $19.7M
Haiti	×				• Food aid programs (46 percent), Agricultural development (38 percent), and Basic nutrition (15 percent) • WINNER: $56.5M
Honduras			×		• Food aid programs (36 percent), Agricultural services (22 percent) • MCC Rural Development project: $23.3M
Kenya	×		×		• Agricultural development (38 percent), Food aid programs (22 percent), Basic nutrition (21 percent)

					• Freight cost for food aid (Food For Education): $14.1M
Liberia	×	×	×		• Food aid programs (54 percent), Agricultural development (20 percent), Basic nutrition (16 percent) • FED: $13.5M
Malawi	×	×	×		• Food aid programs (65 percent), Basic nutrition (15 percent), and Agricultural policy and management (9 percent) • WALA: $17.3M
Mali	×	×		×	• Agricultural water resources (43 percent), Agricultural development (15 percent), and Food aid programs (15 percent) • MCC Alatona Irrigation project: $159.6M
Mozambique	×	×	×		• Food aid programs (51 percent), Basic nutrition (18 percent), Industrial crops / export crops (8 percent) • Food for Progress: $20.7M
Nepal		×			• Food aid programs (47 percent), Agricultural development (40 percent), and Agricultural policy and management (9 percent) • NEAT $7.7M
Rwanda	×		×	×	• Agricultural policy and management (23 percent), Agricultural development (23 percent), Food aid programs (22 percent), Basic nutrition (5 percent) • Freight cost for food aid (Food For Education): $6.9M
Senegal	×		×		• Agricultural development (43 percent), Agricultural water resources (22 percent), and Food aid programs (18 percent) • MCC Irrigation project: $40.7M

Tajikistan		×			• Agricultural development (59 percent), Agricultural policy and management (24percent), Food aid programs (14 percent) • FFP: $12.2M
Tanzania	×		×		• Agricultural development (31 percent), Food aid programs (26 percent), Basic nutrition (22 percent), Agricultural policy and management (13 percent) • Food for Progress: $13.1M
Uganda	×		×		• Food aid programs (52 percent), Agricultural development (31 percent), Basic nutrition (11 percent) • LEAD: $24.8M
Zambia	×	×			• Food aid programs (35 percent), Agricultural development (33 percent), Agricultural policy and management (14 percent), Basic nutrition (12 percent) • C-FAARM: $13.8M

Source: OECD CRS

Section III: Project design

The 19 Feed the Future focus countries received nearly a third of total FNS aid between 2009-2013 and deeper analysis is required to understand what types of project activities are being funded and prioritized. In order to take a closer look at individual projects, we decided to restrict our analysis to a random subset of some of the largest projects within Feed the Future. This section will take a micro-level view and "zoom in" on each of these large-scale projects. According to the CRS, there were 95 projects that were funded over $5 million annually during the five-year period under review and we randomly selected a group of 18 to review in closer detail. The following observations are by no means a comprehensive analysis of Feed the Future activities, but simply a rough approximation of the activities of some of the largest investments in food and nutrition security.

These projects were analyzed in terms of how the U.S. government allocates resources to proven impactful investments[e] in agriculture development, including resilience, the enabling environment, extension, and inclusive growth (see Box 1). Our focus was to assess each projects' return on investment and ability to deliver long-term benefits to farmers. Annex A displays projects that did and did not have each component, as well as projects that did not have enough publicly available data to make an assessment. Annex B lists all project activities that were analyzed. The following section provides our assessment of the ability of the surveyed projects to deliver on our four proven impactful investments.

[e] We define 'proven impactful investments' as projects that have the potential to increase dollar impact for farmers – a metric that measures income gains, a precursor to poverty reduction.

Box 1

From our experience serving hundreds of thousands of smallholder famers in East and Southern Africa, we believe that there is a short list of proven impactful investments that directly benefit smallholders, and donors can increase their return on investment by investing in them. For this case study, we have prioritized four categories of project investment. First, resilience to climate change is paramount for farmers to ensure their household's FNS needs. Second, regulations and policies in developing countries affect smallholder production decisions and need to be designed to support farmer accessibility to agricultural inputs. Third, smallholder farmers often need extension and advisory services to maximize their productivity and incomes. Fourth, distribution models that build rural financial and economic inclusion, particularly access to financial services and rural transportation, are critical to smallholder farmers' market participation.

Resilience

To maximize the U.S.'s return on investment, projects that achieve resilience should be analyzed over a multi-year period as the benefits of certain interventions take several years to materialize. This long-term approach is further animated by the need for interventions to help farmers adapt to the growing impacts of climate change. The projects assessed have a strong disposition toward technological interventions, especially costly investments like large-scale irrigation projects. There is a lack of investment in low-cost interventions that can make a difference in productivity and that typically have a higher dollar impact per farmer. For example, soil health—a long-term concern for many farmers—has not received nearly as much investment and future projects should include a wider array of activities directed at improving farmers' soil.[11] Furthermore, the prioritization of access to resilient seed varieties may come at the expense of investing in other critical farm inputs, such as balanced fertilizer blends that can also close the yield gap. In many cases, the farmer adoption rate of these technologies—an important performance metric that should be tracked when feasible—acts as a bellwether to assess each technologies' chance of success.

With this in mind, we look at three types of resilient activities: 1) soil health, 2) resilient agronomy, and 3) technology. We found that most projects incorporated some form of resilient agriculture, whether it was to provide irrigation for rain-fed farms or to create rural retail shops that stored improved seed and fertilizer.

Soil health

Only one project, the Watershed Initiative for National Natural Environmental Resources (Feed the Future West/WINNER) in Haiti, made soil fertility a major component of project design. This is a clear oversight as soil health is fundamental to increasing agricultural productivity in the long run. Feed the Future West/WINNER implemented a vast agroforestry program and constructed hundreds of hillside greenhouses to grow fruit trees that expanded perennial cover on hillsides, reduced soil erosion, and improved soil conservation.[12] Due to greenhouses, these high-value plants are able to grow year-round. By the end of the project, almost 5 million seedlings were planted across 34,000 hectares of Haitian hillside.

Resilient agronomy

Some projects incorporated agronomy, but it is unclear whether the specific activities would lead to persistent and durable behavior change in the farmers who were targeted. In Cambodia, HARVEST reforested 127.5 hectares of land using seedlings grown in program nurseries and hundreds of households have adopted agroforestry techniques that integrate fruit, bamboo, and fuel trees into their production.[13] In Mozambique, AgriFUTURO trains farmers on conservation agriculture to grow maize and found that, combined with improved seed varieties, yields increased from 800 kilogram per hectare to 1.5 tons per hectare.[14]

Technology

Most projects that focused on technological interventions prioritized costly irrigation activities and access to improved seed varieties. A few others promoted animal husbandry as a way to diversify income streams. In Cambodia, HARVEST is expanding access to technologies such as low-cost drip irrigation and rice varieties that are moderately flood-tolerant or moderately drought-tolerant. They also train farmers on how to use hermetically sealed bags to store rice and to mitigate against postharvest loss.[15] In Senegal, the Economic Growth Project (PCE) works to improve farmer access to high-quality certified and aromatic rice varieties for both irrigated and rain-fed rice. The project has provided financial and technical support for the production of foundation seed, rehabilitated two seed certification laboratories, and led the facilitation of a seed processing plant public-private partnership.

Smallholder farmers are in a precarious position, one that some have referred to as a "high wire act."[16] They face myriad risks: Their soil may be too acidic for fertilizer to increase yields, they may lack the knowledge of how to use compost to provide desperately needed nutrients for plant development, and they may lack access to drought- and flood-tolerant seed during years with extreme weather events. With climate change shifting rainfall patterns and unleashing a higher frequency of catastrophic events, Feed the Future projects must be designed to provide farmers with the tools to adapt to this new era of change.

Enabling environment

Beyond physical isolation, many smallholder farmers face isolation from markets and products that could boost their productivity and in turn enhance their food and nutrition security. This is partly a result of outmoded government policies on farm inputs and regional trade policies that restrict farmer access to input and output markets. In seeking high returns on investment, the U.S. should prioritize policy reform activities based on evidence and research. For example, research points to correlations between a country's restrictive seed policies, including lack of regional harmonization, and the lack of new seed varieties released.[17] Policy reform is a relatively low-cost/high-impact investment that can remove restrictive barriers and increase the access to and availability of farm inputs, and smallholder farmers benefit when regulations enable them to gain access to better technologies. However, we found that most projects did not have a substantive enabling environment component and progress on policy reforms as result of assistance from the U.S. is minimal.[18] Even the New Alliance for Food Security and Nutrition, a public-private partnership that exchanged private investment for reforms in the enabling environment has only made progress on 17 percent of trade and market reforms.[19]

Our analysis posits that there are two primary activities that improve the agriculture sector's enabling environment for smallholder farmers: 1) improving farm input policy that increases the amount of quality seed and fertilizer on the market and 2) streamlining intraregional trade policy to ensure a free flow of farm inputs within regional trade communities (e.g., Common Market for Easter and Southern Africa [COMESA]).

Farm input policy

Most projects focused on alleviating bottlenecks in the seed sector and promoting the production and certification of new varieties. MCC supported the government of Ghana (during the John Atta Mills presidency) to enact a new farm inputs policy, the Plants and Fertilizer Act, to promote private sector growth and improve Ghana's regulatory capacity in the seed industry.[20] In Mali, the Integrated Initiative for Economic Growth in Mali II (IICEM II) works with key stakeholders along the value chain to remove constraints caused by restrictive laws or regulations, particularly around trade and transportation issues. On seed policy, the project has worked to streamline the seed certification process for farmer-based seed production. The project has specific targets to analyze and propose improvements to two policies, regulations, and/or administrative procedures and presenting three recommendations of those for legislations or decree.[21]

Of the projects focused on improving a country's enabling environment, most are focused on the seed and inputs sector. While this is encouraging, there are no projects that work on improving regional trade policy

or implementing regional trade harmonization. For smallholder farmers, having the optimal seed variety and fertilizer for their environment can be the difference between subsistence farming and consistent surpluses. Future projects should focus on improving the enabling environment for integral farm inputs such as seed across national and regional contexts.

Extension

Most of the projects reviewed devote attention to extension provision. It is promising to learn about models that deliver services where smallholder farmers live, in rural and remote areas. However, an assessment of the efficacy of these models is not possible given the lack of specific activities publicly available and the fact that many projects do not appear to measure rates of adoption of new technologies and practices *ex post*. For impact to extend beyond the life of the project, adoption rates need to be requisitely high enough for behavior to change in the long term. To compare discrete projects, return on investment can be calculated by multiplying the total income gains farmers achieved by the rate of farmer adoption of technologies and practices and dividing that sum by the cost to deliver the extension services—this is illustrated in the simple equation below. In our analysis, projects either do not track income gains (or losses) or do not report them publicly. Thus, the first step is to fill this data gap and then deploy resources to projects with the highest return on investment.

Quality of extension services =	Total income gains x Rate of farmer adoption
	Cost to provide extension services

Note: Equates to scale (number of farmers being reached) multiplied by dollar impact (income gains or losses).

Beyond simply providing extension, investments should target effective extension models based on principles of content, timing, quality, and suitability of the trainings. In particular, innovative and scalable models should be supported. Our analysis reviewed projects based on 1) their inclusion of these principles of extension and 2) their ability to scale and innovate on current models. We found that half of the projects have some element of extension; however, none of the projects' public reporting provided enough detail to determine whether trainings were guided by the principles of content, timing, quality, and suitability.

Innovative models

A few projects stood out by offering a wide array of innovative services: rural centers for smallholder farmers to attend trainings; soil testing; and geo-reference tools to monitor farmer compliance with good agricultural practices. In Haiti, FTF West / WINNER established seven rural centers for sustainable development (CRDDs) that offered smallholder farmers the ability to attend trainings and learn modern agronomic practices through demonstration plots, specifically training on soil conservation, composting, and reforestation. Some locations had labs for soil testing and greenhouses. At the end of the project these centers were transferred to farmer organizations to ensure sustainability beyond the life of the project—a key element to sustaining farmer behavior change.[22] PCE, in Senegal, developed a geo-reference database so that producers can monitor the progress of their activities from planting to harvest at the plot-level. Women trained in this system now apply the same techniques as their male counterparts.[23] Furthermore, being able to track farmer compliance enables project managers to identify farmers that may need further training or education.

The unfortunate reality is that many smallholder farmers lack training and expertise on modern agronomy. Public extension systems—which were designed to provide farmers advice and training—are often underfunded and ineffective in much of the developing world. Extension investments should equip smallholder farmers with the training they need to maximize their farm profits and ensure long-term productivity.

Inclusive growth

An underlying reason many smallholder farmers lack access to the products and services they need is that there is a lack of infrastructure and transportation connections to rural areas where farmers live. In combining these disparate constraints, we use the term “inclusive growth” to describe projects that address either one. Slightly more than half the projects assessed included an inclusive growth component with a majority of them geared toward facilitating farmer access to financial services. To assess return on investment, the U.S. should mandate that projects divide the income gains realized by farmers by the cost of providing the service. Projects that achieve high return on investment should be supported and scaled up.

Access to financial services

Providing access to financial services is a major challenge for rural communities—without credit, productive assets such as hybrid seed and fertilizer are often unaffordable for smallholder farmers. Despite a large concentration of projects offering access to financial services, it is unclear how flexible and adaptive these offerings are for farmers. Beyond the design of the financial services, most projects are unable to continue service provision once the life of the project (and funding) ends. Given that farmers need to purchase critical inputs like seed and fertilizer seasonally, a lack of access to credit means that short-term gains are vulnerable to poor productivity in subsequent seasons.

A majority of projects focused on helping smallholder farmers gain access to financial services, including credit, savings products, and insurance. In Honduras, the Food for Progress MAS project helped strengthen networks of rural microcredit banks and helped thousands of farmers access finance.[24] In Tanzania, Soya Ni Pesa has linked hundreds of farmer groups with financial institutions to enable farmers to open bank accounts and deposit savings as well as access lines of credit.[25] These projects have focused on supporting farmer access to existing financial institutions, thus increasing the probability that farmers continue to have access to financial services after the project ends.

Rural infrastructure

Additionally, research shows that distance to markets affect poverty rates and the development of rural feeder roads can lower the costs of distribution. While at times road rehabilitation and construction projects can be costly, only two projects assessed improved rural transportation. One project originally had road rehabilitation in its scope of work, but had to drop those activities due to budget constraints.[26]

Two projects were able to improve rural transportation for smallholder farmers and improve their access to input and output markets. In Ghana, the MCC compact was designed to rehabilitate and construct rural feeder roads to reduce travel costs and improve market access for agricultural areas. The project constructed 357 kilometers of feeder roads and upgraded 74 kilometer of trunk roads.[27] Between 2005 and 2013, PSNP in Ethiopia constructed 617 kilometers of feeder and access roads.[28]

Box 2: USG Coordination

Whole of government approach

In response to the global food price crisis of 2007 and 2008, world leaders gathered at the 2009 G-8 Summit in L'Aquila to commit to dramatically increasing aid for global food security and nutrition. In 2010, during the Quadrennial Diplomacy and Development Review, the U.S. crafted a global food security strategy—initially developed within the State Department—that eventually became Feed the Future.[29] In creating Feed the Future, the U.S. had developed a "whole of government" approach—a strategy designed to leverage the comparative advantages of 11 government agencies such as the State Department, MCC, U.S. Department of Agriculture (USDA), and Treasury Department, among others.[30] Initially, the thought of USAID as Feed the Future's lead agency was met with skepticism from other cabinet-level agencies; however, then USAID Administrator Raj Shah argued for USAID to be the lead agency of Feed the Future despite such criticism.[31]

Challenge of coordination

With USAID designated as the lead agency, the challenge of coordinating activities across 10 other government agencies became apparent. The Government Accountability Office found that meetings have been formalized—there is a biweekly Feed the Future interagency meeting and all Feed the Future country-level staff meet twice a year.[32] Additionally, the top-level officials tasked with coordination, Nancy Stetson, special representative for Global Food Security at the Department of State, and Beth Dunford, deputy coordinator for Development for Feed the Future, meet regularly.[33]

Still, observers note that coordination is difficult to measure and exactly what a whole of government approach looks like in practice is hard to define.[34] With the lack of a single coordinator that sits above agencies it is unclear who is accountable for Feed the Future's results and who is given the authority to influence how other agencies are performing. Initially, Feed the Future had designed a role entitled "U.S. global hunger and food security coordinator" with two deputy coordinators, but in the end only the deputy coordinator positions emerged. Due to the lack of transparency, it is nearly impossible to determine to what extent this lack of coordination and direct accountability has on program effectiveness.

Furthermore, financial contributions to Feed the Future from other partner agencies are unknown. Although the Treasury Department and MCC report contributions to Feed the Future, most partner agencies do not. At a minimum, the U.S. should publicly report all financial contributions to Feed the Future, disaggregated by agency and activity. Several organizations have called for a Feed the Future whole of government budget, which is a good starting place.[35] Furthermore, the selection process for which countries are designated as "focus countries" should be coordinated or harmonized across programs and agencies, including Food for Peace and the Millennium Challenge Corporation. Feed the Future focus countries were chosen in 2009, yet have not been reconsidered since then.

From the field

While certainly not representative, a few examples from the field may be illustrative of Feed the Future's ability to coordinate across partner agencies. USAID's Office of Inspector General found that beneficiaries in Haiti were receiving project interventions from two separate, large-scale development projects: Feed the Future West/WINNER implemented by Chemonics and a Title II development project funded by USDA and implemented by World Vision.[36] Both projects assisted mango farmers in the same geographic area, resulting in project overlap. The report concluded that overlap occurred due to a lack of communication, especially at the mission in Port-au-Prince. In another instance, coordination and communication with other U.S.-funded projects has gone well. In Uganda, there are monthly coordination meetings held in the north of the country that has led to open information sharing with partners. Where there has been overlap in project activities and targeted value chains, project leaders were encouraged to be more strategic and divert project activities toward gaps.[37]

Recent research shows a significant financing gap of over $200 billion for an estimated 270 million smallholder farmers across various regions.[38] And in sub-Saharan Africa, only one-third of residents live within two kilometers of an all-season road, half the rate of other developing countries.[39] Therefore, it is critical for projects under Feed the Future to devote more resources toward stimulating inclusive growth in rural areas.

Through our analysis, it is clear that Feed the Future is targeting some impactful investments; however, more can be done to ensure a higher return on investment and longer lasting effects of project interventions. For focus countries to achieve food and nutrition security and graduate from development aid, a shift in priorities is a prerequisite. The Section IV will discuss specific actions Feed the Future can take.

Section IV: Project implementation

Previous sections analyzed how the U.S. selected recipient countries for Feed the Future and broader FNS aid and assessed how Feed the Future designed projects based on a lens of proven impactful investments. This section analyzes how Feed the Future integrates cross-cutting issues such as women producers, research delivery, nutrition, and evaluating the impact of projects.

Gender

From the outset, Feed the Future has featured gender as a cross-cutting theme, along with environment and climate change, as a priority area that all projects should integrate. Ensuring that projects benefit women and men equally is built into the Feed the Future guide and into the recently developed agency-wide reform program USAID Forward.[40] In fact, select performance indicators are even disaggregated by sex. And household-level data collection is done in an improved manner that avoids designating a "head of household"—households are categorized as 1) households with male and female adults, 2) households with male adult, no female, 3) households with female adult, no male. This avoids using a loaded term like "head of household" and potentially avoids bias from the researcher and respondent.[41]

Women's empowerment in agriculture index

Taking this approach further, USAID, together with International Food Policy Research Institute and the Oxford Poverty and Human Development Initiative, created a tool to quantitatively measure women's empowerment, called the Women's Empowerment in Agriculture Index.[42] The index attempts to measure women's engagement in agriculture across all Feed the Future focus countries using five domains: 1) decisions about agricultural production, (2) access to and decisionmaking power over productive resources, (3) control over use of income, (4) leadership in the community, and (5) time use. Baseline data for 13 countries has been released and found that women's empowerment varies significantly across countries and geographies. On a scale of 0 to 1, Cambodia had the highest empowerment score (0.98), while Bangladesh scored the lowest (0.66). [43]

Interestingly, Women Thrive Worldwide conducted an initial assessment of Feed the Future country strategies and found Bangladesh's plan to be woefully inadequate—gender analysis and gender-specific indicators were not included in the country investment plan. It appears that the gap between theory and practice has not been bridged in certain countries and that it may take a significant amount of time for the index to start demonstrating results. Overall, the greatest constraints on empowerment are a lack of access to credit and the power to make credit-related decisions, excessive workloads, and low group membership or agriculture associations.

Based on the CRS, we find that on average, Feed the Future projects prioritize gender interventions more than non-Feed the Future projects, especially when funding FNS-related activities. Between 2011 and 2013, 17.8 percent of funding in Feed the Future countries have either a "principal" or "significant" gender component compared to 11.1 percent of non-Feed the Future funding (Table 3). While outside the scope of this report, the trend for figures significantly increased in 2014 to 32.9 percent and 31.5 percent of Feed the Future and non-Feed the Future countries, respectively.

Table 2: Volume and count of projects with gender marker for U.S. FNS ODA to FTF, non-FTF countries

Year	Volume of FNS projects marked significant or principal (disbursements, nearest million, current $)		Volume weighted share of projects marked with gender component (see methodology, nearest 0.1 percent)		Number of FNS projects marked significant or principal		Project count weighted share of projects marked with gender component (see methodology, nearest 0.1 percent)	
	FTF	Non-FTF	FTF	Non-FTF	FTF	Non-FTF	FTF	Non-FTF
2011	135	174	11.4	7.0	179	157	8.1	5.8
2012	206	238	18.2	11.7	230	168	8.6	5.0
2013	251	277	24.1	15.1	231	144	12.6	6.2
Total 2011-13	593	688	17.8	11.1	640	469	9.5	5.6
2014	436	538	32.9	31.5	376	245	17.3	9.0

Source: OECD CRS, own calculations

*Note: As for the calculation of shares, we follow the widely used method of weighting the volume/count of projects marked as principal 2x that of projects marked as significant, summing the two numbers and dividing by the total volume/count of projects screened for the gender marker. Algebraically, this works out to (Principal + 0.5*Significant)(Total Screened)*

On the ground, however, others find discrepancies in practice. Oxfam reported that while Feed the Future references gender frequently in project documents, assessments of projects found that there were no indications that projects had activities that specially targeted women or the specific constraints they face.[44] More analysis needs to be conducted to determine if these anecdotal findings are more representative of projects in the entire Feed the Future portfolio.

Science and technology

From the beginning, agricultural research and innovation was built into Feed the Future's overall strategy.[45] Investments to support breakthroughs in science and technology, to reverse the decline in agricultural productivity, and to respond to challenges such as climate change and climate scarcity are high on the agenda. Feed the Future has emphasized three research themes: 1) advancing the productivity frontier, 2) transforming production systems, and 3) enhancing nutrition and food safety. This approach identifies production constraints at the micro- and macro-level and seeks to increase farmer adoption of new technologies that will increase their yields and incomes.

Feed the Future's commitment to addressing climate change is somewhat evident in the data available through the CRS. While only two percent of all U.S. ODA is marked as climate change mitigation sensitive/principal, FNS aid is better targeted, at around four percent for both FTF and non-FTF countries. On climate change adaptation, however, U.S. ODA to Feed the Future countries is marked as significant/principal in double the funding compared to non-FTF countries, which holds as well when only examining U.S. FNS aid.

Food Security Innovation Center

To operationalize this agenda, Feed the Future created the Food Security Innovation Center with a remit to address seven key challenge areas: 1) climate-resilient cereals, 2) legume productivity, 3) advanced approaches to combat pests and diseases, 4) research on nutritious and safe foods, 5) markets and policy research, 6) sustainable intensification, 7) human and institutional capacity development.[46] In partnership with U.S. universities, Feed the Future established 24 "innovation labs" that conduct the research and development to bring innovations and products to market.[47] For example, Kansas State is developing heat-tolerant, high-yielding, farmer-accepted wheat varieties and Purdue University is developing new post-harvest storage technologies to address food waste and malnutrition.

To realize the full potential of these new technologies, Feed the Future created Scaling Seeds and Technologies Partnership—a three-year, $47 million partnership with the Alliance for a Green Revolution in Africa—to increase the production of high-quality seeds by 45 percent and ensure that 40 percent more farmers gain access to innovative agricultural technologies.[48] Already in the pipeline are investments to increase maize seed production in Ghana, new information and communications technology extension interventions in Malawi, and a forthcoming grant to the Alliance for Commodity Trade in Eastern and Southern Africa to develop an online plant variety catalog and database to support the implementation of the Harmonized COMESA Seed Trade Regulations.[49]

However, with such robust investment, a major challenge remains to be the relatively low adoption rates of smallholder farmers. Farmers, naturally skeptical of the effectiveness of new technologies, need to see compelling benefits to be convinced to adopt a new technology or agronomic technique. Therefore, more investment should be directed toward the delivery of agricultural innovations and research and removing inefficiencies that prevent technologies from moving from the lab to the field.

The U.S. has continued to support the front end of agricultural research—$374 million was disbursed to the CGIAR Centers and Research Programs from 2009 to 2013 and 4.4 percent of total FNS aid is targeted at agricultural research and development.[50] Yet, funding for research delivery is unknown. While the CRS tracks funding to agricultural research centers such the CGIAR and its affiliated research centers, there is no disaggregation for projects that focus on research delivery.

Nutrition

Feed the Future was designed, in large part, to address malnutrition and the particular burden poor nutrition inflicts on women and children. Research shows that reducing poverty alone will not necessarily lead to improved nutritional outcomes, thus one of the two primary impact objectives to reduce the prevalence of underweight children specifically addresses stunting, wasting, and micronutrient deficiencies. In 2015, Feed the Future released the first set of impact indicators for select countries (Bangladesh, Cambodia, Ghana, Honduras, and Kenya), and it is expected that data for additional countries will be released in 2016.[51]

Many Feed the Future projects tout activities that are “nutrition-sensitive” such as biofortification, home gardens, and dietary diversity, among others. Yet despite the strong focus on nutrition investments, there is no standardized, universal system to determine nutrition-specific funding. The CRS does not have separate code or marker to differentiate nutrition-sensitive investments. Several donors use the Scaling Up Nutrition (SUN) framework, but the U.S. uses its own separate methodology, which inhibits the ability to create an “apples to apples” comparison with other donors. According to SUN, the U.S. committed to $3.1 billion in nutrition-sensitive funding in 2012. However, in reporting to the *Global Nutrition Report*, the U.S. only disbursed $1.8 billion in funding.[52] Third party organizations, such as AidData, have even attempted to track nutrition-sensitive investments by manually reviewing projects tagged with over 200 nutrition-related keywords.[53] They developed an activity coding scheme to determine each project’s level of nutrition sensitivity and found that the U.S. focus its investment on nine categories, led by reproductive health (30.4 percent), food aid and security programs (14.1 percent), and emergency food aid (13.2 percent).

There are many limitations to the tools created by civil society organizations. They are costly, onerous, imprecise and difficult to sustain without significant donor funding. To determine future aid flows to nutrition, the OECD and donors will need to come to a consensus for how to accurately track nutrition-sensitive projects across a range of sectors. Given that some countries are creating their own measures, such as the U.S., it will be challenging to harmonize individual country measures, much less agree on a universal tool. Fortunately, there is momentum to harmonize data—several organizations we spoke with are developing a proposal to the Working Party on Statistics to ensure all donors use the same methodology.

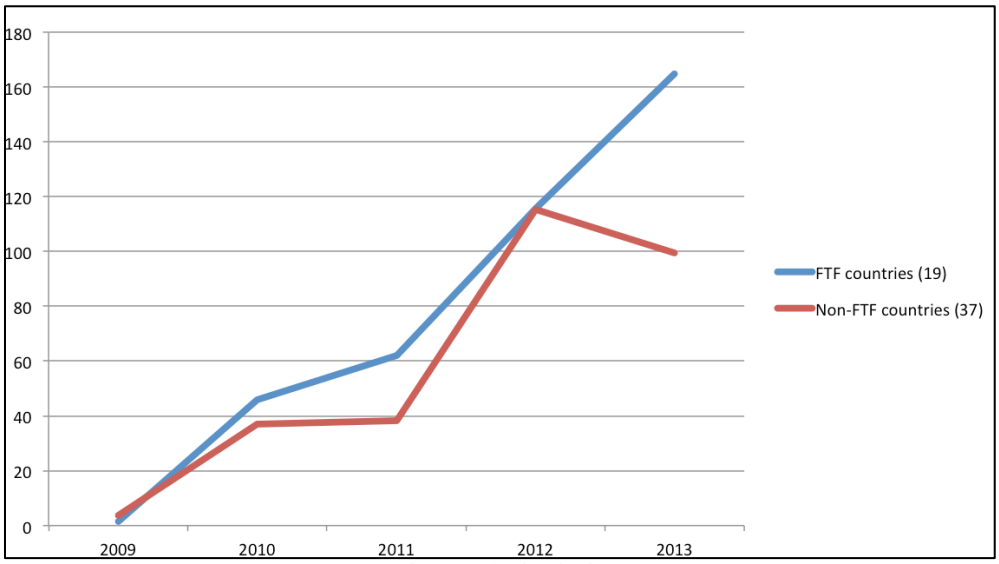
In spite of the complications tracking nutrition-sensitive investments, we can still approximate how the U.S. is investing in nutrition activities by reviewing the CRS purpose code for “basic nutrition,” which counts direct feeding programs and projects that address micronutrient deficiencies, among others.

Table 3

	2009	2010	2011	2012	2013	Total
FTF countries (19)	1.38	45.82	62.09	115.68	164.79	389.76
Non-FTF countries (37)	3.68	36.98	38.43	115.18	99.51	293.78
All countries	5.06	82.80	100.52	230.86	264.30	683.54

Source: OECD CRS

Figure 6: U.S. Basic nutrition disbursement, 2009-2013



Source: OECD CRS

There is an upward trend in funding for basic nutrition activities, especially in Feed the Future focus countries given that there are nearly twice as many non-Feed the Future countries that received funding for basic nutrition (Figure 6).[54] However, many observers note that nutrition has been a long-neglected development issue and note the "low base" in 2009 of nearly zero funding from which current funding is compared to.

Monitoring and evaluation

In project documents, Feed the Future has committed to a rigorous evaluation strategy to use data to inform program design and transparently report on the initiative's progress.[55] Feed the Future is using six main tools to accomplish its evaluation goals: 1) results framework, 2) performance monitoring process and standard performance indicators, 3) local capacity building, 4) impact evaluations, 5) performance evaluations, and 6) knowledge management. The results framework articulates Feed the Future's theory of change and includes four levels of results and associated indicators to track over time. There are 53 indicators total, however most of them track project outputs. In its annual reports, Feed the Future only releases select performance indicators—not the entire list—which prohibits the ability of external stakeholders to track progress over time on all indicators.

Impact evaluations

To determine success at the project-level, Feed the Future has committed to conducting impact evaluations —experimental, quasi-experimental, and mixed methods approaches—on select projects.[56] In fact, broader USAID evaluation policy instructs that "any activity within a project involving untested hypotheses or demonstrating new approaches that are anticipated to be expanded in scale or scope" will undergo an

impact evaluation—the agency has even committed to devoting three percent of total program dollars toward impact evaluations.[57] In FY12, Feed the Future reported conducting 42 impact evaluations and had a target of 55 for FY13, however only three baseline evaluations are available on Agrilinks, Feed the Future's knowledge management portal.[58] Recently, Feed the Future released a synthesis report, compiling near 196 impact and performance evaluations, however, summaries for only 11 impact evaluations were included.[59]

On the other hand, the Global Agriculture and Food Security Program (GAFSP) plans to conduct experimental evaluations of 10-30 percent of total projects and non-experimental evaluations for the remainder.[60] To be sure, this is a costly approach—GAFSP estimates that experimental evaluations will cost, on average, 16 times more than non-experimental evaluations. However, in other sectors such as global health, some large-scale initiatives—i.e., the President's Emergency Plan for AIDS Relief (PEPFAR)—spend significantly more resources on monitoring and evaluations than Feed the Future. PEPFAR recommends 5-10 percent of the program budget to go toward such activities, while Feed the Future spends approximately 1 to 2 percent.[61] For many Feed the Future projects—especially small-scale ones—the costs of measuring impact will be prohibitive and less rigorous performance evaluations that focus on descriptive and normative questions will have to suffice.

Data quality

Impact evaluations are only as good as the underlying data that they use. Thirty-three of the 53 total Feed the Future indicators are collected by implementing partners, who have varying levels of data quality. While certainly not representative of the entire initiative, several of the large-scale projects we analyzed in the previous section had major flaws in data quality. In Mali, IICEM II officials could not provide supporting documentation for three of the six indicators they reported under the project.[62] The PCE project in Senegal had two indicators (of seven total) that could not be verified and in Tajikistan tests of 15 indicators showed that results of 14 could be not be supported.[63] [64] These cases demonstrate the need for performance indicators to adhere to the highest levels of data quality, or else the impact data could be called into question.

Beyond the data that is being reported, data that is not being tracked may be an even greater issue. To take the example of extension services, the results framework includes the "number of farmers using improved technology or management practices," but does not include farmer adoption rates as a percentage of total project beneficiaries or the types of technologies being disseminated. Viewing time-bound data that shows the direction of adoption rates provides insight into how farmers view the effectiveness of the project's interventions.

From the project-level data we reviewed, many projects delivered a facet of extension services—e.g., training, demonstration plots, starter kits, etc.—yet research has shown that simply providing training is insufficient.[65] From our field experience, design of the content (based on good agricultural practices), timing (close enough to when important seasonal activities occur), quality (interactive, in-person training), and suitability (picture-based guides for illiterate farmers) of extension are critical to its effectiveness. Currently, projects do not report against these criteria and without this knowledge Feed the Future will not be able to inform future program design for how to improve extension projects.

Section IV: Policy recommendations

There is no doubt that the U.S. is a major player in helping countries achieve food and nutrition security. Thus, it is all the more reason that decisions made by the U.S. regarding FNS aid have far-reaching consequences throughout the developing world. The challenge of ending rural hunger is a tremendous one, and we will only be able to solve it if we fully leverage every FNS aid dollar. Our recommendations are cast through the lens of achieving the highest possible return on investment—either with scale, impact, or both—and we believe that an optimal global food security strategy is one that generates the most impact at the lowest cost to the U.S.

USAID, together with other Feed the Future agencies, should use the passage of the Global Food Security Act to reflect on what it has learned over the last seven years and double down on the most efficient and impactful investments. Fortunately, for those outside the government, we are beginning to build an evidence base of how to improve the next phase of Feed the Future, maximize the return on investment for the U.S., and ultimately reduce hunger and poverty for hundreds of millions of smallholder farmers around the world.

Feed the Future should increase investment in delivery systems that bring technologies and tools to smallholder farmers, and prioritize farmer adoption of those technologies. From our review of large-scale Feed the Future projects, it is evident that the initiative is committed to investing in technologies that support farmers; however, a significant amount of resources go toward costly projects like large-scale irrigation schemes and upstream research at CGIAR centers. And yet, existing technologies and low-cost tools that have high return on investment are not reaching many smallholder farmers. We recommend that Feed the Future use a metric of "dollar cost per farmer" to determine how many farmers are being reached per investment. This could support better resource allocation; projects that achieve scale and cost-effectiveness should be prioritized over those that are costly and fail to benefit a multitude of farmers. Additionally, more attention should be directed at identifying the most effective drivers for farmer adoption to match demand with supply and to collect adoption and impact data to inform future project decisions.

Large-scale Feed the Future projects should seek to improve intraregional trade. None of the projects analyzed were designed to alleviate regional trade barriers between countries. Research shows that there are enormous benefits to transferring agricultural technologies across borders, yet relatively little FNS aid is being targeted to improve regional trade. While the U.S. supports a few projects that seek to improve seed trade, other products that would benefit smallholder farmers—like different fertilizer blends—need funding to organize stakeholders and create a reform agenda. There are low-cost activities, such as coordinating relevant actors and convening policy fora, that can have an enormous return on investment if policy reforms are made. Feed the Future should support harmonization efforts for additional farm inputs in regional trading blocs like COMESA in East and Southern Africa. Donor-supported activities have led to progress with the seed harmonization process, however fertilizer harmonization is at a much earlier stage and needs funding to move forward. Relatively moderate investments to reforming trade policy can have enormous effects on smallholder farmer productivity in the long run.

FNS projects designed to improve "resilient agriculture" should focus more on soil health. In our analysis of large-scale projects, only one project specifically targeted soil health. To support Feed the Future's research agenda of "advancing the productivity frontier," research shows that ensuring that crops have essential nutrients to grow is fundamental especially for the long-term health of farms. In fact, all of the current projects that promote the adoption of costly farm inputs such as fertilizer require healthy soils to deliver returns to a farmer's investment. Interventions such as agricultural lime can make a dramatic difference in soil health, and many sub-Saharan African countries have local limestone deposits that preclude the need for imports. In fact, lime, while bulky and challenging to distribute, is a relatively low cost option that can deliver benefits to soil health for years to come.

Feed the Future should improve transparency at all levels to better understand how resources are being allocated. At the country-level, determining whether countries receive FNS aid targeted to their needs is difficult to assess. For instance, Feed the Future does not disaggregate funding based on types of FNS activities (e.g., biofortification, access to fertilizer, etc.) nor do they report which projects are considered a part of the initiative to the OECD Creditor Reporting System. Instead, they report projects as

broad categories such as “agricultural development” and “agricultural policy and administrative management” that fail to provide specificity. Moreover, projects funded by Food for Peace and administered by USAID—known as Food for Peace development programs—are tagged as one broad category (“Food aid/Food security programs”) and do not disaggregate project activities by sector even though these projects typically include a range of social sector components, including health, education, and food security. This is a significant oversight—29 percent of FNS aid was directed toward these projects, yet we cannot observe what percentage of activities address food and nutrition security. Furthermore, our analysis of large-scale Feed the Future projects shows that reported activities in terms of extension and access to financial services do not provide enough detail to assess project effectiveness. As the lead agency, USAID should report project activities more transparently and in richer detail. Enhanced transparency in terms of resource allocation is fundamental to guide better decisionmaking and achieving high return on investment.

The administration should prioritize FNS aid for Feed the Future focus countries. It is no secret that geopolitics plays a role in development priorities and funding destinations. On a closer look, it appears that these interests have significantly influenced resource allocations for FNS aid. Feed the Future focus countries only received a third of FNS aid while the U.S. deploys FNS aid to 105 different recipient countries. Countries such as Armenia, Colombia, Dominican Republic, Morocco, and Peru receive what appears to be a disproportionate amount of aid given their level of need and status as non-focus countries. For example, Colombia—a non-focus country and a country that scores well on the Needs index— received more FNS aid than every single focus country except Ethiopia. The U.S. can achieve greater impact and return on investment if resources are concentrated in focus countries; they have already proven their ability to be strong partners in agricultural development. The administration should shift more resources toward focus countries in future Congressional Budget Justifications.

The administration should be more strategic and coordinated when it comes to selecting new focus countries. As the U.S. designs the next phase of its global food security strategy, as required by the Global Food Security Act,[66] FNS aid should be directed to countries in a coordinated manner. To maximize impact, Feed the Future, Food for Peace, Food for Progress, and the Millennium Challenge Corporation should select recipient countries using a harmonized or unified approach. The rigor of the country selection process varies widely across agencies and creates challenges of duplicative projects and fragmented development objectives. Stronger coordination through a higher-level body could be a useful reform.

Congress should pass food aid reform, particularly on cargo preference, to reduce program inefficiencies. Ocean freight costs from Food for Peace—artificially high through a cargo preference mandate to ship commodities on U.S.-flagged vessels—divert an enormous amount of resources to shipping companies, not project beneficiaries. The U.S. purchases agricultural commodities (“food aid”), transports them from the U.S. to remote locations around the world, donates them in-kind to private voluntary organizations, and who then turn around and sell them locally to generate funding for their development programs, a process called monetization. Instead, the U.S. could simply provide cash directly to such organizations, a much more efficient approach, and save millions of taxpayer dollars each year. Champions in Congress have attempted to drive forward food aid reform in the last few years, but special interests and lobby groups pose formidable opposition. Despite these challenges, Congress should continue to urge reform of Food for Peace development programs, particularly on cargo preference rules.

To better inform project design, Feed the Future should improve monitoring and evaluation efforts through raising the standards of project data quality. Feed the Future has committed to rigorous monitoring and evaluation of projects, in line with the USAID evaluation policy. Yet, data quality issues continue to undermine the experiences and lessons learned of executed projects. Feed the Future should increase funding for monitoring and evaluations to 3 to 5 percent of the program budget to standardize data collection practices and build capacity within implementing partners to adhere to strict data reporting standards. Without these improvements, the integrity of impact evaluations is a concern. To inform where to increase (or decrease) resources, sound evaluations are critical.

Conclusion

As a global community, we have made tremendous progress in reducing extreme poverty and hunger. The Millennium Development Goal to reduce extreme poverty in half was met years ahead of schedule and the goal to cut hunger in half was nearly achieved. But there is plenty of work remaining—11 percent of the global population remains chronically undernourished and a majority of them live in rural areas. In 2015, the world adopted the Sustainable Development Goals (SDGs) to meet these challenges head on. FNS objectives are heavily featured in the SDGs and achieving them is not a question of whether it is possible, but if we have the will to do so.

As the largest single donor to FNS, the U.S. has a crucial role to play. The funding levels, strategies, and development objectives of the U.S. send influential messages to donor and recipient countries alike. Recognizing its leadership in the world, the U.S. will need to continue robust support for FNS to achieve the SDGs and should double down on efficient and impactful investments that reach the largest number of farmers and achieve the highest amount of social good. This approach can lead to a virtuous circle—effective investments lead to impressive poverty reduction results, which then strengthen the case for increasing these investments in future federal budgets. Key to this is whether or not the next administration and Congress keep FNS as a high priority. Feed the Future has created a strong foundation to build upon, and policymakers at USAID and other agencies will be responsible for carrying it forward.

With the recent enactment of the Global Food Security Act of 2016 (Senate Bill 1252), Congress now has a mandate to provide oversight of the U.S. government's global food security strategy. Engaged members should use their authority to improve upon existing programming, achieve a high return on investment for project activities, and build opportunities to advance long-term FNS goals. Overall, policymakers should push for a sharp increase in the level of transparency regarding Feed the Future investments in order for external stakeholders to better understand policy priorities and to "follow the money." This will improve the ability for Congress, and other stakeholders, to provide effective oversight.

But it is not all on the government's shoulders. Donors, developing country governments, non-governmental organizations, and the private sector all have a unique role to play and should coordinate efforts. As an implementing partner and field-facing agriculture organization, One Acre Fund is committed to maximizing the social impact for the millions of smallholder farmers at the bottom of the pyramid. We believe that the world can only achieve food and nutrition security through allocating scarce resources to the most efficient and impactful projects. If stakeholders could agree to and act on this principle, it would radically increase the pace of progress toward SDG 2. It will take all of us to end rural hunger and improve nutrition for millions of smallholder farmers and their families, but as history has shown, these goals are within our reach.

Annex A – Feed the Future project mapping

Table 4

Project Name	Resilience			Enabling Environment			Extension			Inclusive Growth		
	Yes	No	ND	Yes	No	ND	Yes	No	ND	Yes	No	ND
Cambodia: Helping Address Rural Vulnerabilities and Ecosystem Stability (HARVEST)	✓			✓			✓			✓		
Ethiopia: Productive Safety Net Program (PSNP)	✓				✓				✓	✓		
Ethiopia: Title II			✓			✓			✓			✓
Ghana: MCC Agriculture Project (Feeder Roads Activity)		✓			✓			✓		✓		
Ghana: MCC Agriculture Project (Irrigation Activity)	✓			✓				✓			✓	
Haiti: Kole Zepole (Title II MYAP)	✓				✓		✓			✓		
Haiti: Feed the Future West / Watershed Initiative for National Natural Environmental Resources (FtF West/WINNER)	✓				✓		✓				✓	
Honduras: Food for Progress (MAS)	✓					✓	✓			✓		
Mali: Integrated Initiatives for Economic Growth in Mali II (IICEM II)	✓			✓				✓		✓		
Mozambique: Food for Progress	✓				✓		✓				✓	
Mozambique: AgriFUTURO	✓			✓				✓		✓		
Rwanda: Land Husbandry, Water Harvesting, and Hillside Irrigation (LWH)	✓				✓		✓			✓		
Senegal: MCC Agriculture Project: Irrigation and Water Resource Management (IWRM)	✓				✓			✓			✓	
Senegal: Economic Growth Project (PCE)	✓			✓			✓				✓	
Tajikistan: Family Farming Project (FFP)	✓			✓			✓				✓	
Tanzania: Soya Ni Pesa (Food for Progress)	✓				✓		✓			✓		
Uganda: Livelihoods and Enterprises for Agricultural Development (LEAD)	✓			✓			✓			✓		

Source: OECD CRS
Note: ND = no data

Annex B – Activity level mapping

Resilience

Agronomy

- Haiti: Kole Zepole trained hundreds of farmers in agroforestry systems as well as soil and water conservation.[67] In FY13, 154 ha of agroforestry plots were established and tree plants have been intercropped with food and feed crops including cassava, pigeon peas, corn, and elephant grass.
- Haiti: Both Feed the Future West/WINNER and Integrated Initiatives for Economic Growth in Mali II (IICEM II) utilize the System of Rice Intensification with rice farmers.[68]
- Senegal: In FY14, PCE began to utilize the principles of conservation agriculture across all of its cereal value chains.
- Uganda: The Livelihoods and Enterprises for Agricultural Development reintroduces coffee growing under an agroforestry production system and will intercrop the trees with legumes or bananas.[69]

Technology

- Ethiopia: The Productive Safety Net Program project rehabilitated watersheds in nine woredas to prevent flooding, manage soil erosion, and create river diversions for small-scale irrigation.[70] In addition, the project provided beneficiaries with honey processing equipment, drought-tolerant seed, and certified potato seed.
- Ghana: The MCC irrigation activity expanded irrigation to over 500 hectare of farmland, albeit well short of the project's goal of 4200 hectare.[71]
- Haiti: Kole Zepole held seed fairs and provided seed vouchers to thousands of beneficiaries.[72] The project also supported the planting of improved varieties of beans by Association des Producteurs de Semences de Les Anglais members, a farmers association that focuses on improved seed varieties.
- Haiti: Feed the Future West/WINNER created a network of input supply shops called Boutiques d'Intrants Agricoles that provided farmers access to improved seeds, fertilizer, pesticide, and mechanization.[73]
- Honduras: Food for Progress projects worked with bean producers to provide smallholder farmers access to certified bean seed of improved varieties.[74]
- Mali: IICEM II project rehabilitates and expands irrigated agriculture across sites in the north and south. In 2011 alone, the project expanded irrigation to 850 hectares.[75]
- Mozambique: Food for Progress funded the Manica Smallholder Dairy Development Program and provided dairy cows to smallholder farmers through procurement and pass-on schemes, conducted artificial inseminations, and trained farmers in dairy husbandry.[76]
- Mozambique: AgriFUTURO has facilitated the introduction and promotion of improved maize and soybean varieties as well as providing farmer organizations with small-scale irrigation schemes.[77]
- Rwanda: The Land Husbandry, Water Harvesting, and Hillside Irrigation Project (LWH) has expanded small-scale irrigation schemes on Rwanda's hillsides and has a Life of Project (LoP) goal to eventually irrigate 12,000 hectare.[78]

- Senegal: Through MCC, Integration Water Resources Management is expanding large-scale irrigation networks to an additional 7,800 hectare of land and will rehabilitate irrigation networks on over 26,000 ha of land.[79]

- Tajikistan: The Family Farming Program (FFP) has facilitated the creation and formalization of Water Use Associations (WUAs) to manage public irrigation systems and has rehabilitated components of the network, including water control gates and irrigation canals.[80]

- Tanzania: Soya Ni Pesa provides improved soybean seed and rhizobia to smallholder farmers and works with International Institute of Tropical Agriculture (IITA) to submit new varieties for national performance trials.[81] The project also renovates existing storage facilities in order for farmers to aggregate their production. To diversity income, select farmers are given a "starter pack" of day old chicks, feed, vaccines, and medicines for poultry husbandry and egg production.

- Uganda: LEAD has LoP targets that include introduction of new technologies for transfer, new technologies under field-testing, and new technologies under research.[82]

Enabling environment

- Cambodia: HARVEST has worked directly with the General Directorate of Agriculture to finalize a draft of the national seed policy and the official process to certify seed quality. They will continue to work through official government channels to finalize and formally adopt the drafts. Once adopted, the policies will alleviate the burden for private seed companies to register and certify seed and thus expand the availability of high-quality seed in the future.[83]

- Mozambique: The lack of coordinated stakeholder base to advocate for necessary reforms in the agriculture sector is a major constraint to policy reform. Therefore, AgriFUTURO is organizing a diverse stakeholder base to attract participants from the private sector to represent the broad interests of all actors along the value chain from producers and processors to seed companies and financial service providers. In addition to creating new associations, the project will also devote resources to strengthening existing local organizations that represent stakeholders in select value chains and geographic areas.[84]

- Senegal: PCE, together with other donors, supported the creation of a new government agency, Comité National de Réflexion sur les Engrais et la Fertilité des Sols (CNREFS), to monitor and improve the fertilizer subsidy program. In the 2013/2014 crop year, CNREFS made recommendations to improve the efficiency of the system to avoid recurrent delays. They also suggested that fertilizer be packaged into smaller sizes (i.e. 5, 10, 20kg) to match the input needs of smallholder famers.[85]

- Uganda: LEAD organizes a monthly breakfast with the Ministry of Finance, Planning and Economic Development (MoFPED) to identify and discuss possible solutions to certification and financial services, particularly agricultural lending. In addition, LEAD worked with agro-inputs associations to provide research support and help them develop important recommendations to alleviate input bottlenecks for farmers.[86]

- Tajikistan: FFP conducted a legal analysis of current Water User Association (WUA) law and drafted a revised version to include recommendations and broader irrigation sector reform. This was part of a larger road map to develop national strategies for strengthening WUAs.[87]

Extension

Innovative models

- Cambodia: HARVEST trains rice farmers in certified seed varieties, plant nutrition, and good agricultural practices, including integrated pest management techniques to maximize yields. The input suppliers HARVEST works with have set up demonstration plots and provided extension to over 25,000 smallholder farmers thus building loyalty and customer knowledge on the returns to high-quality inputs.[88]

- Uganda: LEAD uses Farmer Field Schools to train farmer-members of Producer Organizations (POs) on improved crop management techniques. These farmer-members will also receive training in business management, finance, and marketing, with the goal, for some, to upgrade their legal status to limited companies. Targets included 50 percent of trained farmers adopting new technology/management practices, and 250,000 ha under improved technologies or management practices.[89]

Other models

- Haiti: Kole Zepole is encouraging farmers to establish vegetable gardens and training them on good agricultural practices for vegetable gardening, livestock management, and cassava production.[90]

- Honduras: USDA's Food for Progress project is helping farmers track and respond to signs of coffee leaf rust disease by regulating shade and weeding, using fertilizers and fungicides appropriately, and using new planting techniques. Extension services on bean cultivation is also offered and farmers have been trained how to use inoculants, improved irrigation and weed management, and postharvest management techniques. As a result, some farmers' input costs have decreased because of the training they received on targeted fertilizer applications.[91]

- Mozambique: The Manica Smallholder Dairy Development Program has trained thousands of smallholder farmers on how to properly care for dairy cows and keep mortality rates below five percent. They also trained farmers on animal traction and other draft power techniques.[92]

- Rwanda: LWH recognizes the need for a strong extension system to support smallholder farmers and is designed to set up a common framework for "participatory extension," to define a clear mechanism to plan extension services between farmers and extension agents via face-to-face and mass communication, and to define how to validate the results of farmer adoption of new technologies and practices.[93]

- Tajikistan: FFP created 14 crop and animal production guides and three household nutrition and budgeting guides to share with project beneficiaries. The project facilitated demonstrations of improved agricultural techniques, how to plant and manage new crop varieties, and ways to improve soil fertility.[94]

- Tanzania: Soya Ni Pesa trains farmers on the use of inoculants, fertilizer application techniques, land preparation, appropriate plant spacing, timely wedding, and pest and disease control.[95] The project also documents and tracks planting compliance through surveys.

Inclusive growth

Access to financial services

- Cambodia: HARVEST has built linkages between producers and buyers and has helped facilitate access to finance – to date 2,357 of farmers have received loans through the project totaling $1.43 million.[96]

- Haiti: Kole Zepole has organized women into mother's clubs that form savings groups and provide group members with small loans.[97]

- Mali: IICEM II is designed to facilitate smallholder farmers gain access to credit by providing short-term partial loan guarantees to banks to lower the risk profile of farmers themselves. Other activities include helping the organizational capacity for farmer cooperatives to provide access to farm input credit and to monitor loan repayment by members.[98]

- Mozambique: AgriFUTURO rolled out and expanded farmer-owned service centers that provide financial services—including inputs on credit—to members or associations that belong to or own the service center.[99]

- Rwanda: LWH seeks to finance projects that address improving rural access to financial services, including savings, credit, and insurance. Activities include product development of financial products (including index-based weather insurance), financial literacy training for farmer organizations, and providing financial support to the Access to Finance Rwanda initiative.[100]

- Uganda: LEAD seeks to connect producer organizations and their members to local financial institutions—both informal and formal—to open savings accounts. Farmer Field Schools will encourage farmers to save more during periods of income surpluses and will offer basic financial management and savings trainings.[101]

Annex C – ERH indicators and Feed the Future country selection

Examining the criteria in detail, we examine a series of indicators (from the ERH database) and evaluate Feed the Future versus non-Feed the Future countries to detect the "appropriateness" of Feed the Future country selection.

Level of need			
Indicator	**All countries**	**FTF countries**	**Significant difference between non-FTF and FTF?**
Undernourishment	15.4%	24.5%	Yes
U5 Wasting	6.3%	6.9%	No
U5 Stunting	26.3%	37.0%	Yes
U5 Anemia	44.5%	57.9%	Yes

Opportunity for partnership			
Indicator	**All countries**	**FTF countries**	**Significant difference between non-FTF and FTF?**
Agricultural Spending Intensity	8.6%	6.4%	No
Allocation and management of resources for rural development	3.9	3.9	No
Food safety net programs	1.8	1.3	Somewhat
Social Safety Nt Coverage	45.3%	30.2%	Yes
Secure access to land (female)	0.43	0.5	No
Corruption (index)	-0.56	-0.66	No
Political Stability (index)	-0.59	-0.60	No

Potential for agricultural growth			
Indicator	**All countries**	**FTF countries**	**Significant difference between non-FTF and FTF?**
Rural poverty rate	30%	48%	Yes
Cereal yield	2432	1964	No
Agricultural value added per worker	$3421.5	$635.7	Yes
Family Farm prevalence	60%	79%	Somewhat
Agricultural TFP growth	0.02%	0.02%	No
Percent of area devote to modern varieties of crops	21.4%	25.2%	No

Opportunities for regional synergy			
Indicator	**All countries**	**FTF countries**	**Significant difference between non-FTF and FTF?**
Average applied tariff, agriculture	15%	15.5%	No
Non-tariff barriers (% of all non-tariff barrier proceedings)	0.01%	0.01%	No
Trade Bias index (Higher deviation from 0 is worse for trade)	0.22	0.27	No
Peak tariffs	0.43%	0.55%	Somewhat

Resources availability			
Indicator	**All countries**	**FTF countries**	**Significant difference between non-FTF and FTF?**
Domestic Public Investment	$71	$13.8	Somewhat

Source: endingruralhunger.org, own calculations

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