



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



John Bowman

Current ARP Highlights/Priorities
Office of Agricultural Research and Policy
Horticulture Innovation Lab Annual Mtg

Antigua (March 7, 2017)



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

1 FEED THE FUTURE (FTF)



- **Whole of Govt. Presidential Initiative (USAID, STATE, USDA, MCC, PEACE CORPS, ETC.)**

- Consultative process, USAID leads implementation with partners

2 USAID BUREAU FOR FOOD SECURITY (BFS)



- **Newly created USAID FTF Implementation Arm:**

- **CSI Office** (relationships with field Missions)
- **SPMM Office** (budget, finance, accounting)
- **MPI Office** (markets, public/private partnerships)
- **ARP Office** (research + policy))

3 OFFICE OF AGRIC. RESEARCH & POLICY (ARP)



- **Research Division**

- **Policy Division**
- **Scaling division**
- **Knowledge Management Division**
- **HICD/BIFAD**

4 AGRIC. RESEARCH DIV. (R)

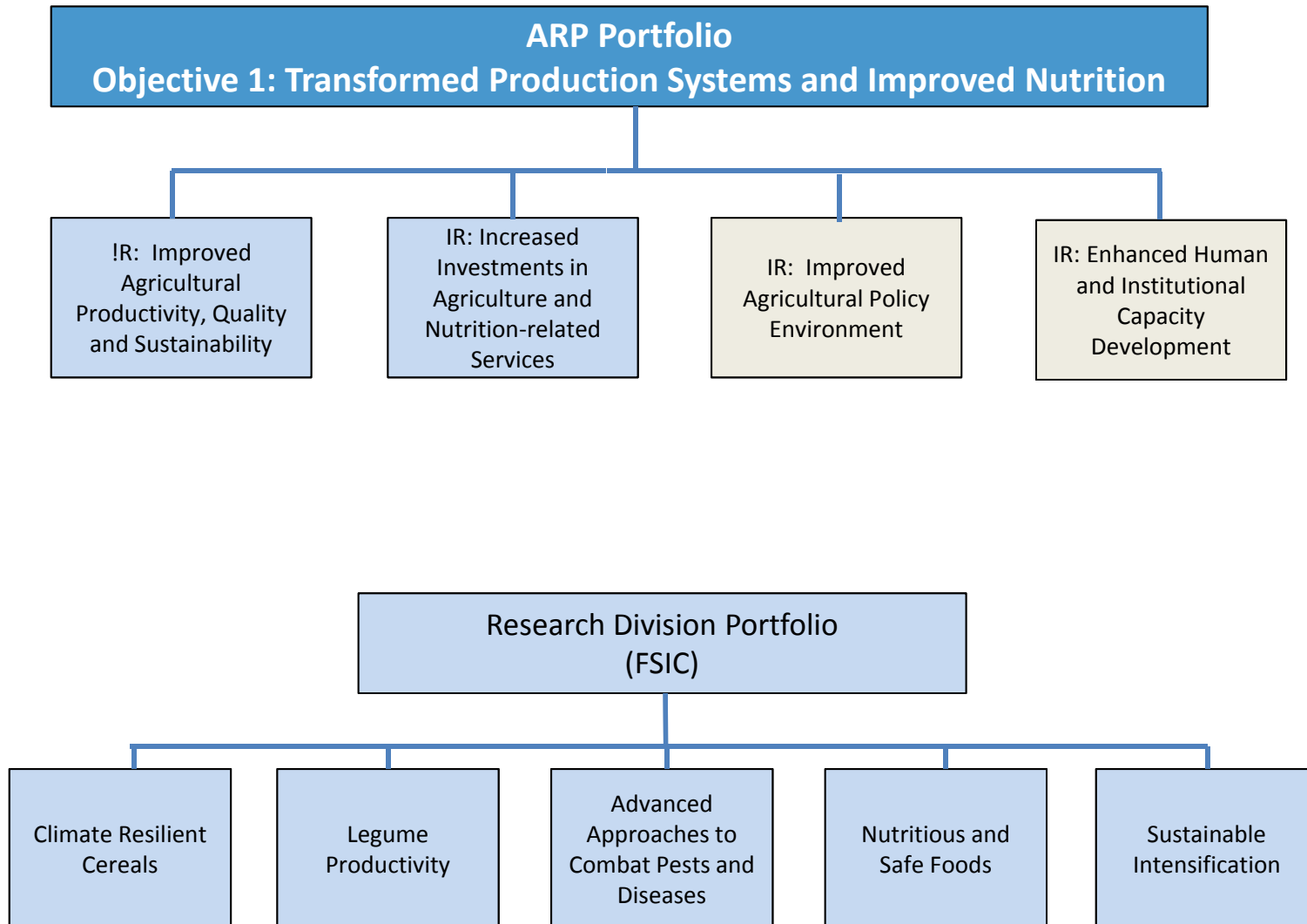


- **USAID/BFS/ARP/R**

- **Innovation Labs**
- **CGIAR, AVRDC, etc...**
- **Biotech Projects**

Implement FTF/USAID Agric. Research Strategy

ARP Results Framework: Research Division Portfolio



Research Division Staff/Organizational Chart



Program for Research on Climate Resilient Cereals

Help smallholder farmers adapt to climate change and build resilience by developing new cereal varieties with enhanced yield and tolerance to drought, heat, salinity and low soil fertility and delivering these varieties in diversified, sustainable farming systems.

Program Area Technical Lead: Nora Lapitan

Current Research Projects	Activity Manager	Lead Institution
FTFIL for Climate Resilient Millet	Joe Huesing	University of California, Davis
FTFIL for Climate Resilient Wheat	Nora Lapitan	Washington State University
FTFIL for Applied Wheat Genomics	Nora Lapitan	Kansas State University
FTFIL for Climate Resilient Sorghum	Nora Lapitan	University of Georgia
FTFIL for Sorghum & Millet	Angela Records	Kansas State University
AATF - Water Efficient & Bt Maize for Africa	TBD	African Agricultural Technology Foundation
Drought Tolerant Maize for Africa/Heat (DTMA/Gates)	TBD	CIMMYT
Improved Maize for African Soils (IMAS) (Pioneer/Gates)	TBD	CIMMYT
Abiotic Stress Tolerant Rice (Ceres)	Joe Huesing	Ceres, Inc
Abiotic Stress Tolerant Rice/Wheat (Arcadia)	Joe Huesing	Arcadia Biosciences
Heat Stress Resilient Maize for South Asia	Nora Lapitan	CIMMYT
Heat Tolerant Wheat for South Asia (Arcadia)	Nora Lapitan	Arcadia Biosciences
Cereal Systems Initiative for South Asia – Breeding for Heat and Drought Tolerance in Rice and Wheat	Biniam Iyob	CIMMYT
International Wheat Yield Partnership	Nora Lapitan	CIMMYT
Abiotic Stress Tolerant Bioengineered Cereals (ACPFPG)	Nora Lapitan	Australian Center for Plant Functional Genomics
AATF - NEWEST Rice	Joe Huesing	African Agricultural Technology Foundation
CGIAR Research Program – WHEAT	Nora Lapitan	CIMMYT
CGIAR Research Program – MAIZE	TBD	CIMMYT
CGIAR Research Program – Global Rice Science Partnership (GRiSP)	Nora Lapitan	IRRI
CGIAR Research Program – Dryland Cereals	Angela Records	ICRISAT

Program for Research on Legume Productivity

Legumes research focuses on increasing the production and availability of nutritious legumes to improve food security, nutrition, soil health, and economic opportunities for poor farmers – particularly women.

Program Area Technical Lead: Vern Long

Current Research Projects	Activity Manager	Lead Institution
FTFIL for Soy Value Chain Research	Ahmed Kablan	University of Illinois, Urbana-Champaign
FTFIL for Climate Resilient Beans	Tracy Powell	The Pennsylvania State University
FTFIL for Climate Resilient Cowpea	Vern Long	University of California, Riverside
FTFIL for Climate Resilient Chickpea	Tracy Powell	University of California, Davis
FTFIL for Collaborative Research on Peanut Productivity & Mycotoxins Control	Vern Long	University of Georgia
FTFIL for Grain Legumes	Vern Long	Michigan State University
Insect Resistant Bt cowpea	Joe Huesing	African Agricultural Technology Foundation
USDA/NBCRI - Legumes (Common Bean Genetic Improvement Project)	Tracy Powell	USDA/ARS
CGIAR Research Program – Grain Legumes	Vern Long	ICRISAT

Program for Research on Advanced Approaches to Combat Pests and Diseases

The Program for Advanced Approaches to Combat Pests and Diseases harnesses U.S. scientific expertise and emerging molecular tools to develop new animal vaccines and crops and animals resistant to pests and diseases that cause significant production losses in tropical systems.

Program Area Technical Lead: Joe Huesing

Current Research Projects	Activity Manager	Lead Institution
FTFIL for Rift Valley Fever Control in Agriculture	Lindsay Parish	University of Texas, El Paso
FTFIL for Genomics to Improve Poultry	Lindsay Parish	University of California, Davis
Virus Resistant Cassava for Africa (VIRCA)	Joe Huesing	Danforth Center
RNAi approaches to disease resistance in potato, wheat and maize	Joe Huesing	Venganza
Banana Bacterial Wilt Resistance	Joe Huesing	International Institute of Tropical Agriculture (IITA)
Late Blight Resistant Potato	Joe Huesing	International Potato Center (CIP)
FtF South Asia Eggplant Improvement Partnership	Joe Huesing	Cornell University
FtF Biotechnology Potato Partnership	Joe Huesing	Michigan State University
USDA/NBCRI - Goat Genomics	Lindsay Parish	USDA/ARS
USDA/NBCRI - East Coast Fever Vaccine	Lindsay Parish	USDA/ARS
USDA/NBCRI - Whitefly Genomics (RNAi)	Joe Huesing	USDA/ARS
CGIAR Research Program – Roots, Tubers and Bananas	Joe Huesing	International Potato Center (CIP)

Program for Research on Nutritious and Safe Foods

The Program for Nutritious and Safe Foods Links research on the production and processing of safe, nutritious agricultural products to a learning agenda on household nutrition, including the utilization and access to fruits, vegetables, meat, fish, dairy and legumes with the goal of improving child survival, securing family investments in agriculture, and preventing and treating under-nutrition.

Program Area Technical Lead: John Bowman

Current Research Projects	Activity Manager	Lead Institution
<i>FTFIL for Horticulture</i>	<i>John Bowman</i>	<i>University of California, Davis</i>
FTFIL for Reduction of Post-Harvest Loss	Ahmed Kablan	Kansas State University
FTFIL for Food Processing and Post-harvest Handling	Angela Records	Purdue University
FTFIL for Livestock Systems (NEW)	Elaine Grings	University of Florida
FTFIL for Nutrition	Maura Mack	Tufts University
FTFIL for Aquaculture & Fisheries	Shivaun Leonard	Oregon State University
World Vegetable Center (AVRDC): Core	John Bowman	AVRDC
World Vegetable Center (AVRDC): Vegetable Post Harvest Handling Project	John Bowman	AVRDC
Golden Rice	Joe Huesing	IRRI
Harvest Plus	Vern Long	CIAT
Collaborative Research in Aquaculture and Horticulture for Improved Nutrition	Maura Mack	Tufts University
CGIAR Research Program – Livestock and Fish	Shivaun Leonard	International Livestock Research Institute (ILRI)
CGIAR Research Program – Nutrition	Maura Mack	International Food Policy Research Institute (IFPRI)
USDA/NBCRI – Aflatoxins	Lisa Wilson	USDA/ARS

Program for Sustainable Intensification

Works with smallholder farmers to identify and adopt sustainable, productivity enhancing technologies and farming practices in major production systems where the poor and undernourished are concentrated; and through intensification and diversification of these systems, to enhance resilience, nutrition and agricultural growth.

Program Area Technical Lead: Jerry Glover

Current Research Projects	Activity Manager	Lead Institution
FTFIL for Small-Scale Irrigation	Biniam Iyob	Texas A&M University
FTFIL for Integrated Pest Management	John Bowman	Virginia Tech University
FTFIL for Sustainable Intensification	Jerry Glover	Kansas State University
Cereal Systems Initiative for South Asia (CSISA)	Biniam Iyob	CIMMYT
Africa RISING - E. & S. Africa	Jerry Glover	IITA
Africa RISING - W. Africa	Jerry Glover	IITA
Africa RISING - Ethiopian Highlands	Jerry Glover	ILRI
Water and Livelihoods Initiative	Scott Christiansen	ICARDA
Virtual Fertilizer Research Center	John Peters	IFDC
CGIAR Research Program – Aquatic Agricultural Systems	Shivaun Leonard	World Fish
Coffee Rust Initiative	Angela Records	Texas A&M and World Coffee Research

Capacity Building

- Capacity building is an integral part of FTF Innovation Labs
- ***FTF Innovation Labs are training 105 graduate students from the 32 countries (including the U.S.).***
- Strengthening of NARS through institutional and human capacity building.



Genomics/Bioinformatics training for plant breeding students in India



Phenocart with sensors and GPS used in field measurements



Field day testing heat tolerant maize varieties developed by HTMA

Other Team Accomplishments

New award:

FTF Livestock Systems Innovation Lab (USAID/W, USAID/Missions: RFPs still out for Burkina Faso/Niger, Cambodia; no work in Tanzania)

Critical hires:

Ag Advisor – Dan Bailey (from Guatemala Mission; Peanut Lab)

AAAS Fellow – Tyrell Kahan (Scaling Portfolio)

Genomics Advisor – Tracy Powell (Legume Lab)

Breeder – Hailu Tefera (DTMA, Scaling)

Nutrition Advisor - Open

Implementation of new processes:

Open Data Policy (ADS 579)

Peer review process aligned with USAID's Scientific

Research Policy

Trainet Reform (!?)

ARP Policy Division

Organizational Chart

Jeff Hill

Policy Division Chief

David Atwood
Policy Advisor
Agricultural Inputs

Brian Bacon
Policy Advisor
Agricultural Risk
Management and
Resilience
Climate Smart
Agriculture

Patterson Brown
*Agricultural
Development Officer*
Agricultural Trade

Courtney Buck
Policy Analyst
Institutional
Architecture

James Oehmke
*Agricultural
Development Officer*
Mutual Accountability,
Nutrition, Gender,
Agricultural
Transformation

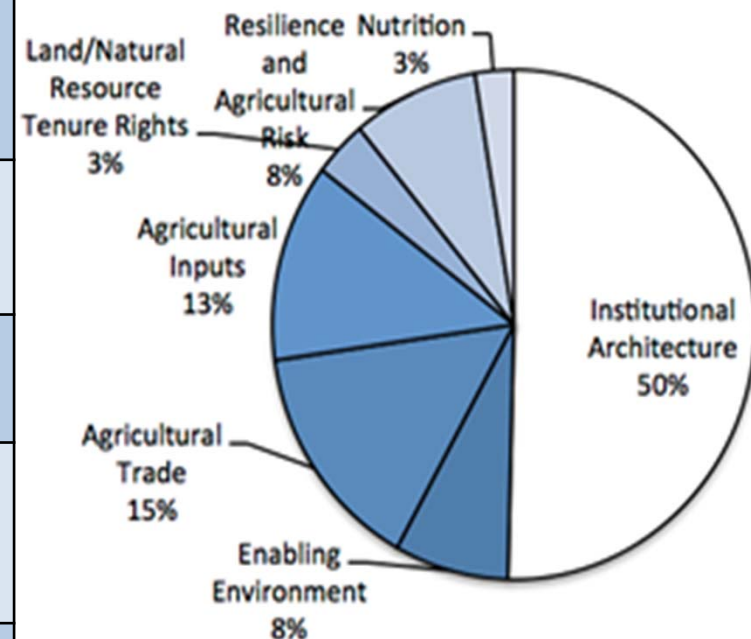
Emily Weeks
AAAS Fellow
Natural Resources
Management and Land
Tenure
Climate Smart Agriculture

William Akiwumi
Program Analyst
(part time)

TBD
*Agriculture
Development Officer*
Value Chain and
Employment

FTF Policy Priority Areas

Area	Objective
Institutional Architecture	Develop predictable, transparent, inclusive, evidence-based policy for accelerated policy improvement and implementation to support poverty reduction and improved nutrition.
Enabling Environment for Private Sector Investment	Increase competitiveness and reduce barriers to stimulate private investment in agriculture, which increases incomes for smallholders and firms, and generates employment.
Agricultural Trade	Increase efficiency, stability, and transparency in domestic and cross-border trade consistent with international agreements to spur inclusive economic growth and foster increased private sector investment in agriculture.
Agricultural Inputs	Enable the private sector to develop, commercialize and broadly disseminate improved inputs to smallholders to increase smallholder productivity and incomes.
Land and Natural Resources Tenure Rights	Establish effective institutional arrangements, rules, and mechanisms that recognize the legitimate land and resource rights of all users, to stimulate transformative and sustainable investments
Resilience and Agricultural Risk Management	Enable smallholders, communities, and countries to mitigate and recover from risks, shocks, and stresses to agriculture, in a manner that reduces chronic vulnerability and facilitates inclusive growth.
Nutrition	Reduce under-nutrition with a focus on women and children, less than 5 years of age, – in particular the 1000-day period from pregnancy to a child’s second birthday.



Top Challenges to Implementation of Programs

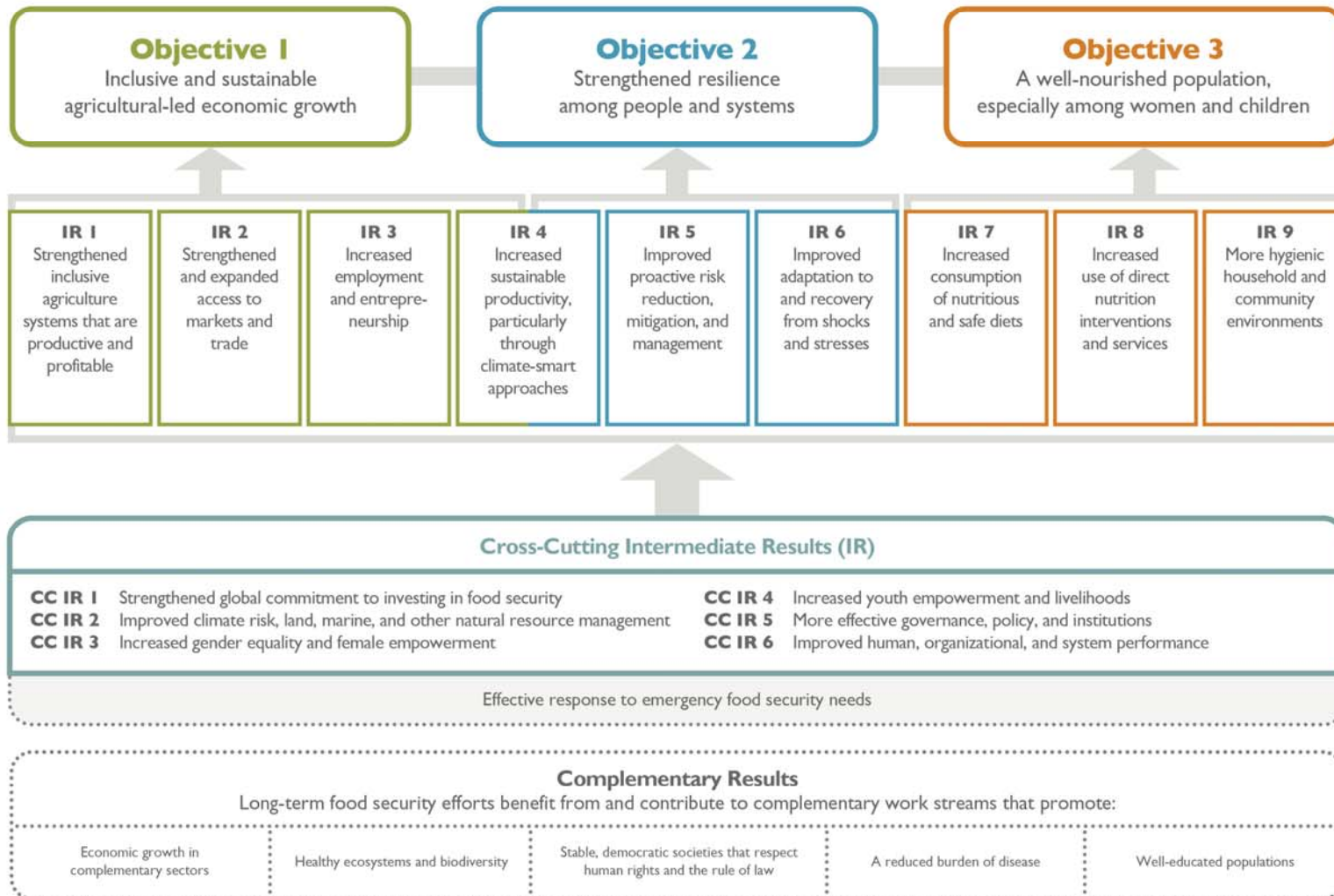
Research Division-wide 2017 Challenges:

- Funding Uncertainty: Earmark protection of IIs, non-IL portfolio most at risk (CG, Biotech)
- Senior Leadership Uncertainty: Administrator s/jort list, many political appointments vacant
- Portfolio review process suspended
- “Tiger Teams” formed for 4 countries
- Internal budgeting decisions (end of year status) will be made earlier – June??)
- Limited chance for “forward funding”
- Mission engagement/relevance (CeSAIN Model)
- New ILs under development: Biotech, Legume, Peanut, Food Safety (?)
- FTF “Looking Back Looking Forward” (which countries? Terrorism? VCs? SDG alignment? Urbanization focus? Ag/Nutrition linkages? Host country leadership?)
- CGIAR CRP shake-up
- Participant Training
- Future of Scaling programming?
- New “Nutrition Division” in CSI Office (upgrade from being part of CSI Technical Division)
- GLOBAL FTF EVALUATION FINISHED
- NEW FTF RESEARCH STRATEGY IN PROCESS (E-CONSULTATION IN MAY)

GLOBAL FOOD SECURITY STRATEGY

- Strategy developed over 10 weeks by **11 Feed the Future agencies and departments**
 - **External consultations held** with key nongovernmental and private sector stakeholders
 - **Reflects learning and analysis** over the past year through *Looking Back, Looking Forward* learning process, the Feed the Future Global Performance Evaluation, roundtables on emerging issues, and other evaluations
- Strategy covers **FY2017-FY2021**
 - Includes **implementation plans** for individual agencies and departments outlining each's financial, technical, and in-kind contributions to the strategy for FY17
 - Builds on Feed the Future experience and reflects changes in global context since 2009.

Goal: Sustainably reduce global hunger, malnutrition, and poverty



Illustrative Activity Outcomes: Building Blocks to Achieve Our Goals

Objective 1

- Increased sustainable productivity of all types of small-scale producers (also Obj 2)
- Stronger inclusive market systems (also Obj 2)
- Increased access to business development and financial services (also Obj 2)
- Improved infrastructure, including digital and other ICT solutions (also Obj 2)
- More efficient land, water, and input use
- Technology and innovations developed through research and adapted to local conditions
- Increased access to and wide adoption of inputs, and other technology and innovation
- Expanded access to knowledge through agricultural extension
- Increased access to market infrastructure, such as improved storage systems and basic retail marketing structures
- Reduced time and cost of moving goods across borders
- Improved quality of produce that meets market standards

Objective 2

- Increased use of risk management services and practices
- Improved safety nets (also Obj 1,3)
- Improved social capital (also Obj 1, 3)
- Diversified livelihood risk (also Obj 1)
- Expanded livelihood opportunities (also Obj 1)
- Application of risk reduction tools such as improved water management and drought/flood tolerant seeds (also Obj 1)
- Increased household and community assets, including savings
- Improved access to communal natural resources
- Improved use of early warning information
- Increased access to hazard, index, and other insurance
- Increased adoption of climate-smart practices (also Obj 1)

Objective 3

- Improved access to diverse and nutritious foods
- Increased demand for diverse and nutritious foods
- Improved access to nutrition services
- Improved demand for health services
- Improved infant and young child feeding practices and women's diets
- Increased commercial production of safe and nutritious food products, including fortified food (also Obj 1)
- Increased availability of evidenced-based food information for consumers (also Obj 1)
- Improved food safety systems (also Obj 1)
- Improved safe handling practices (also Obj 1)
- Improved access to clean water
- Improved access to sanitation
- Schoolchildren nourished through school feeding programs (also Obj 2)
- Improved access to handwashing facilities

Cross-Cutting Intermediate Results

CC IR 1 Strengthened global commitment to investing in food security

- Increased public and private investment in food security
- Strengthened bilateral and regional investment platforms

CC IR 2 Improved climate risk, land, marine, and other natural resource management

- Improved land and soil management
- Improved sustainable management of wild fisheries
- Improved and sustainable utilization of ecosystem services

CC IR 3 Increased gender equality and female empowerment

- Increased women's leadership skills and opportunities
- Increased women's decision-making power
- Strengthened women's access to financial services

CC IR 4 Increased youth empowerment and livelihoods

- Improved youth entrepreneurial skills
- Improved access to nutrition services for adolescent girls

CC IR 5 More effective governance, policy, and institutions

- Natural resource governance, including land and marine tenure
- Improved evidence-based policies
- Improved institutional architecture
- Improved mutual accountability systems
- Well functioning sanitary and phyto-sanitary systems
- Strengthened regional harmonization

CC IR 6 Improved human, organizational, and system performance

- Improved research, policy, regulatory, education, finance, data, and extension systems
- Improved skills for producers, scientists, civil society, private sector, and government actors
- Promotion of science, technology, and innovation

STRATEGY'S GOAL AND OBJECTIVES

- The strategy is heavily built around an **updated results framework**
- The goal is to sustainably reduce global hunger, malnutrition, and poverty
 - Consistent with current Feed the Future goal plus **elevation of malnutrition** into the goal statement in alignment with SDG 2 and the GFSA
- Three mutually reinforcing and interdependent objectives to achieve this goal, two of which are similar to current Feed the Future results framework:
 - Inclusive ag-led economic growth
 - A well nourished population
 - **Resilience (elevated as a third objective)**

CONTINUING AREAS OF FOCUS

- **Focus on high impact interventions:** Prioritization of evidence-based interventions that will deliver impact at scale
- **Gender and female empowerment:** Dedicated intermediate result, which commits us to measuring progress against it
- **Country-led and local ownership:** At the heart of our approach for sustainability
- **Policy and governance:** Dedicated intermediate result; land tenure mentioned multiple times in the GFSA
- **Capacity building:** Improved human, organizational, and system performance is a new intermediate result
- **Partnerships** with governments, the private sector, civil society, research and university community
- Harnessing the **power of research, science, technology, and innovation**

WHAT'S NEW

- **Elevation of malnutrition** into the goal statement
- **Elevation of resilience** as a third objective next to agriculture and nutrition
- **Doubling down on holistic nutrition approach**, including WASH
- **Taking a systems approach** that prioritizes facilitation and works throughout value chains and supporting systems (e.g., policy)
- **Breaking down silos** across sectors and between development and humanitarian assistance
- Recognizing **different pathways out of poverty** and strengthening **rural/urban linkages**
- **Natural Resource Management approaches**, with more attention to **fisheries**
- Dedicated intermediate result on **youth**
- **Finance, investment, and financial inclusion**

STRATEGY ROLL-OUT & NEXT STEPS

- Country selection process and graduation criteria
- Monitoring, evaluation, and learning plan (e.g., indicator selection, target-setting, baselines, etc.)
- Guidance for country and regional strategies
- Stakeholder collaboration platforms
- Whole-of-government coordination platforms and country-level interagency teams

Field Lessons from Designing and Evaluating FTF Activities

Issues to discuss

- Confusion about how to reduce poverty
- Disconnect bet evidence-based theory of change, our results frameworks and metrics
- Implications for FTF moving forward

Presentation does NOT focus on the stunting goals of FTF

Confusion about how to reduce poverty

Missions are confused about how they should be reducing poverty

- The global evaluation asks: (1) should we work directly with the very poor? Or should we focus on growth and assume it will raise all boats?

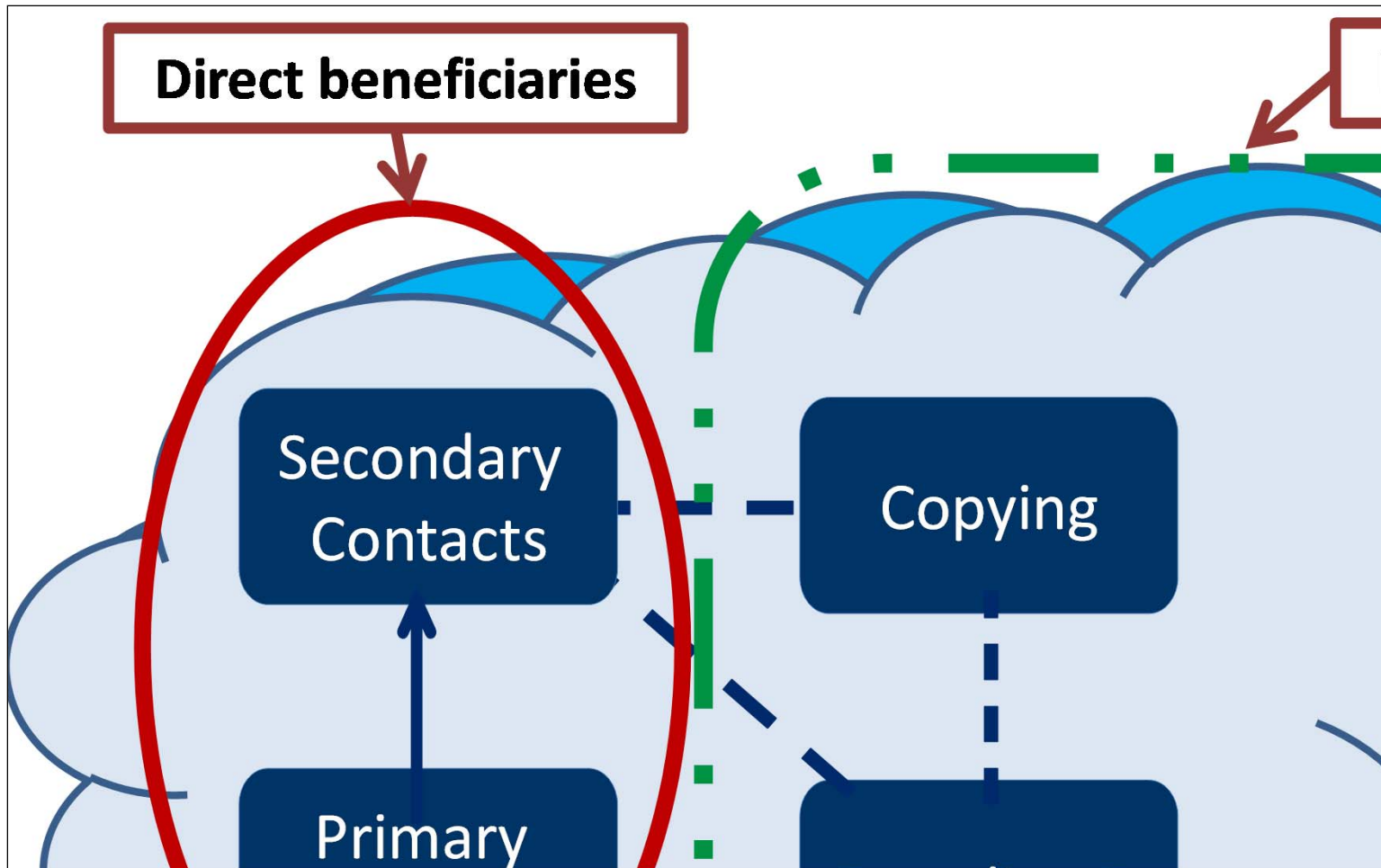
BUT WHAT ABOUT

- *Structural transformation and ...*

USAID's 50-year investment in research and evidence on how to reduce poverty through agriculture

The DISCONNECT between this evidence and our strategies and results frameworks

M&E system is not being used to capture transformation



Outcomes from the confusion about how to reduce poverty

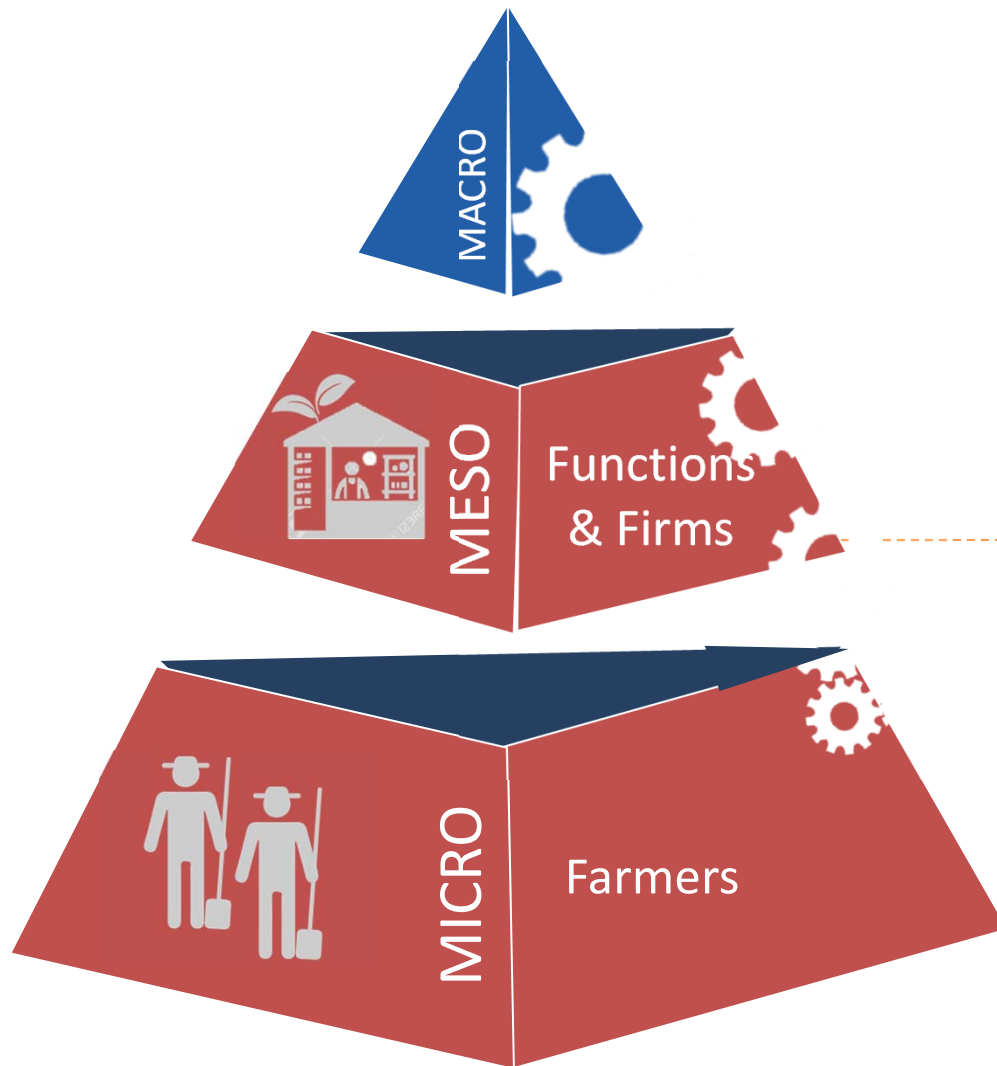
- *Too much focus on production*

Driven by a set of outcome targets overly focused on production

- *Insufficient focus on market systems*, including linkages, investment in processing, commercializing input supply, finance, BDS – i.e., developing the whole market system

Driven by a misunderstanding of the theory of change

Need to work at multiple levels



- Systemic change requires change at micro, meso AND macro levels
- Working at one level is less durable and limits effectiveness
- There is a growing perspective that systemic change is most effectively catalyzed at the meso level

Outcomes of the confusion about how to reduce poverty, continued....

- ***Too much focus on atomized indicators, e.g., number of farmers trained*** without ensuring farmers' return on investment, i.e., the ability to turn this knowledge into higher returns
- ***Over emphasis on farmers with very small landholdings*** & little chance of getting very far above the poverty line from agricultural alone
- ***Focus on PSE – the private sector*** – without empowering farmers to be more than price takers
- ***Insufficient focus on resilience*** to weather the shocks related to transformation (to not lose gains made due to shocks)

Driven by a lack of agreement or misunderstanding of the FTF theory of change

*Let's further explore the research
and
OTHER pathways to poverty reduction*

Poverty reduction strategies: Who are we targeting?

IFPRI's categories of smallholders:

- #1 Commercial farmers
- #2 Subsistence farmers with profit potential
- #3 Subsistence farmers without profit potential

Subsistence farmers without profit potential – make up as much as 70 percent of farmers in some land scarce countries – e.g., Kenya, Ethiopia, Malawi, Rwanda, Uganda, Nigeria

Sources: MSU/Jayne, IFPRI, WB

Different strategies of the 3 categories of smallholders

Types of Farmers	Possible household strategies	Illustrative intervention strategies
#1 Commercial farmers	stepping up into competitive value chains	Link to competitive value chains
#2 Subsistence farmers with profit potential	stepping up into competitive value chains	Expand adoption of improved inputs, build skills and business practices Link into competitive value chains
#3 Subsistence farmers <u>without</u> profit potential	hanging on to less sustainable subsistence production branching out into <u>diverse farm and nonfarm activities</u> moving away from to engage in new, viable livelihoods	Productive safety nets New resilience capacities Nutritional services Diversification Nonfarm activities in towns Workforce development

Different strategies needed for some farmers without profit potential

What are the implications for FTF moving forward

Need for a strategy and results framework that....

- supports transformation processes (intensification, diversification, multipliers) to help those with profit potential **“move up”**
- creates opportunities and incentives for those seeking to **“branch out or move away”** from subsistence agriculture
- supports **“hangers-on”** to increase their ability to feed themselves, enable them to be more resilient, and improve their nutritional status

Need an M&E system that...

- ***Streamlines reporting & number of indicators***
 - IP technical staff are spending an inordinate amount of time collecting data – e.g., one key informant claimed 50% of time of technical staff is devoted to collecting monitoring data
 - Too much of the data collected has limited use for improving implementation
- ***Focuses on measuring systemic change and learning to improve implementation & results***
 - Some IPs are investing in learning but are not rewarded for their efforts
 - Only rewarded for meeting targets

In conclusion: Why is all of this so important?

- The FTF Results Framework is based on a theory of change
- The indicators IPs report on are based on the results framework
- **The indicators and targets drive and shape IP implementation for better and worse**