Food for Progress Learning Agenda: Agricultural Trade Expansion & Market Development

Prepared for: USDA/FAS, OCBD
Prepared by: Social Impact, Inc.
The Learning Agenda

- To address key knowledge & evidence gaps
- Short, medium & long term research & evaluations
- **Methodologies:**
  - Impact & performance evaluations
  - Policy & macro analysis
  - Systematic & literature reviews
  - Detailed case studies
FOCUS AREAS

1. Market Systems (20 questions)
   - Value Creation
   - Market Linkages

2. Quality and Standards (10 questions)

3. Risk and Uncertainty (9 questions)

Cross cutting: Culture; Demographics; Sustainability
Market Systems

• Value Creation and Market Linkages
  – Transport & post-harvest facilities
  – Long term outcomes - direct & indirect
  – Cultural & demographic factors affecting effective and sustainable outcomes
  – Best linkage models and institutional arrangements to help agricultural actors
  – Use of ICT to improve access & expand markets
  – How combine market & nutrition goals for market expansion with nutritional security
Quality & Standards

• Pre & post-harvest stages; various contexts
  – Effectiveness of policies in enforcing food safety standards
  – Impact of consumer education on nutrition & food safety in improving Q & S
  – Effective & efficient innovations to improve traceability (using ICT; institutions)
  – Price premium for meeting stringent standards
Risk and Uncertainty

• Mitigation & Management of R&U: Price, Production, Weather, Climate Change
  – Methods to educate & train on risk reduction and incentivize adoption
  – Innovations to encourage adoption of innovative practices & climate-smart agriculture
  – Best ways to reduce risks to improve outcome sustainability & minimize unintended effects
  – Effective methods to protect against climate change
Food Aid Quality Review
Project
Overview and Updates

Patrick Webb, Ph.D.
Friedman School of Nutrition Science and Policy
Tufts University
Food systems and diets: Facing the challenges of the 21st century
In 2013, six clusters of risks contributed the most to the Global Burden of Disease. No. 1: Dietary risks, accounting for 11.3 million deaths.
Help USAID/OFFP ensure that food aid products are evidence-based to achieve best outcomes (products fit-for-purpose)

Focus on cost-effectiveness of outcomes, not just price of products

Facilitate efficiency gains across USG agencies and global food aid players
Phase I: Title II food aid ‘fit for purpose?’
- Science, industry, practitioner consultations
- Propose new specifications, products.

Phase II: Building new evidence
- October 2011 – January 2016
- Field studies, engage research, REFINE
- Stakeholder consultations

Phase III: Supporting harmonization, cost-effective choices, global collaboration
- February 2016 – January 2019
A lot going on…

- New specifications adopted for **21 food aid products**:
  - **8 products upgraded specifications** (Wheat Flour, Bread Flour, Bulgur, Soy Fortified Bulgur, Cornmeal, CSB+, Soy Fortified Cornmeal, Oil)
  - **8 products added to Title II list** (Dairy Ingredients (WPC34 and WPC80, HEBs, RUTF, Super Cereal+))
  - **Milled Rice specs. updated** (part of Fortified Rice work)
  - **4 products in development, draft specs** (Rice Soy Blend+/Supercereal Rice, Supercereal +, Rice, Wheat Soy+/Supercereal (Wheat)/Supercereal Plus (Wheat))
A lot going on…

**USAID, USDA, other USG (NIH, CDC, FDA)**

- **Technical working groups** across agencies on auditing, food safety, and quality assurance

**Global (USAID, WFP, UNICEF, MSF)**

- **Formal Terms of Reference adopted**; FAQR as secretariat
- **Harmonization of specs** (premix, macronutrient composition)
- Dialogue on packaging, labeling, programming harmonization
- Food **safety standards, joint-audits**, novel product s
- Engagement with *Codex Alimentarius* on RUF standards
New evidence for programming

FAQR field studies ongoing or complete:

1. **Malawi** – behavior change in CSB preparation

2. **Burkina Faso** – stunting prevention, wasting management (*ongoing, enrollment complete*)

3. **Sierra Leone** – wasting treatment (*Ebola*)

4. **Sierra Leone** - wasting treatment, relapse prevention (*new study*)
Beneficiaries do **add more oil to CSB** (if they have enough oil)

**Messaging did not improve compliance** (on packaging)

But ‘smaller’ **packaging has added benefits**
-- e.g. hygiene, reduced distribution time, preference

**Sharing highest in control group** (i.e. small packaging and messaging leads to focus on target child)
No one food performed best on all growth outcomes
- Different metrics give different conclusions

FBFs had outcomes comparable to RUSFs
- Recovery rate, time taken, rate of weight/length gain

RUSF (at a lower calorie content per dose) most costly per treatment and per recovered child

Recovery rates low (50-60% vz. 70-80%) – Ebola?
Burkina Faso – stunting prevention

Cost per ‘treatment’ (effect achieved), not per ton

**Cost Summary by Component**

- **SCOOPING**
  - Individual cost component

- **TRANSPORT**
  - Individual cost component
  - Adjusts for losses

- **LOSSES**
  - Final calculations

- **REPACKAGING**
  - Individual cost component

- **BENEFICIARY**
  - Individual cost component

- **DISTRIBUTION**
  - Individual cost component

- **STORAGE**
  - Individual cost component

- **Cost-treated child**
KSU Tanzania study
KSU: Tanzania Field Trial Outcomes
(February – July 2016: 2,000 children)

*Preliminary* data suggest:

- Equal or greater **preference for new Sorghum-cowpea blend** by children and caregivers, vz CSB+
- **Positive impact on iron and vit. A** status, but also on height and weight.
- Awaiting more data on growth and micronutrient status, long term acceptance.
New research frontiers

- **Efficacy, effectiveness, cost-effectiveness**
  - Determinants of recovery/optimal growth (what explains relapse, sustained recovery, body mass, cognitive development, long bone growth)
  - Protein quality, nutrient sufficiency,

- **Food technology** innovations (amylase, extrusion, etc.)

- **Packaging** innovations (insect killer bags, sealed bags)

- **Programming** innovations (role of SBCC, true costing of interventions in emergency/non-emergency settings, dual use foods,)
Phase III Work Streams

- Bioavailability, absorption (food matrices)
- Shelf-life, packaging, nutrient protection
- Further enhancing food baskets
- Strategic planning for sudden crises
- Supply chain modelling
- Food safety and quality systems
- Cost-effectiveness tool calculator
- State of Research – Evidence Summit
- Institutionalizing interagency coordination

- New *Food Aid Quality Review* website coming…
Thanks from FFP’s Food Aid Quality Review team

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FFP Food Aid Quality Review Project
USG evidence-based food aid: specific illustrations

Ruffo Perez, Ph.D.
US Agency for International Development
DCHA/FFP- Senior Food Technology Advisor
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Whom do we serve? Why evidence-based food aid?

- Mom to-be
- Lactating teens
- Wasted Children
- HIV-impacted Children
- Refugees

Nutrition Specific Feeding

Specialized Foods

Healthier Communities
Specialized Foods

Foods that provide a health benefit beyond basic nutrition and energy for the intended population.

Examples may include fortified, enriched or enhanced foods, supplementary formulations which provide a value-added nutritional delivery. These foods provide essential nutrients and energy often beyond quantities necessary for normal maintenance, growth, and development, and/or other biologically active components that impart health benefits or desirable physiological effects, such as antiparasitical foods. They may have distinctive packaging indicating their additional nutritional benefits.
# USAID Specialized Food Basket

<table>
<thead>
<tr>
<th>No.</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ready to eat foods (Supplementary and therapeutic foods) RUSF, RUTF, MQ-LNS</td>
</tr>
<tr>
<td>2</td>
<td>Super Cereal Plus</td>
</tr>
<tr>
<td>3</td>
<td>Fortified Corn Soy Blend Flour</td>
</tr>
<tr>
<td>4</td>
<td>Fortified Wheat Soy Blend Flour</td>
</tr>
<tr>
<td>5</td>
<td>Fortified Sorghum Soy Blend Flour (new)</td>
</tr>
<tr>
<td>6</td>
<td>Fortified Vegetable Oils</td>
</tr>
<tr>
<td>7</td>
<td>High Energy Biscuits</td>
</tr>
<tr>
<td>8</td>
<td>Emergency Foods (Meal Replacement)</td>
</tr>
<tr>
<td>9</td>
<td>Fortified Rice (extruded and coated types)</td>
</tr>
<tr>
<td>10</td>
<td>Sorghum-cowpea fortified blended flour (New)</td>
</tr>
</tbody>
</table>

## Treatment of severe and moderate malnutrition

## Prevention of malnutrition

## Emergency Foods
Why Fortified Rice?

If we want to do something about poverty, it is clear that we must invest in rice.

Rice Consumption
Annual consumption per capita
<12kg  12-36  36-72  72-120  >120kg

Poverty
Each dot represents 250,000 people living on less than $1.25 a day, 2005

90% of the world’s rice is produced and consumed in Asia
Over 70% of the world’s poor are in Asia
There are Rice Fortification Technologies available

A. Coating Technology

B. Extrusion Technology

C. Fortified Rice Blending
Research question USDA/USAID & WFP: Is coated comparable to extruded fortified rice?

- **Acceptability compared to normal rice** – Assessment among school children and women in Cambodia; 2 coated, 2 extruded; fortified with 8 MNs, same premix for all

- **Retention** – Test same 4 samples, compare different preparation methods, at ETH, Zurich

- **Absorption (or bioavailability)** – Use stable isotopes for Fe and Zn, with the 6 other MNs; 1 coated, 1 extruded; ETH, Zurich
Where are we at, right now?

**Procurement**

a. Two fortified kernel vendors in U.S. (Heartland Harvest and The Wright Group)
b. Both USDA (McD) and USAID (Tittle II) are procuring FR
c. Goal: every pound of USG in-kind donated rice fortified

**Research (Preliminary Findings)**

a. Both technologies can deliver key micronutrients (Fe, Zn and 6 vitamins);
b. Coated rice more prone to release micronutrients during rinsing and cooking than extruded kernels;
c. Extruded kernels more prone to release micronutrients during excess-water cooking than coated;
d. Equipment and processes have a differential impact on the retention capability of both technologies;
e. Choice of fortified kernel type also to be guided by prevailing rice preparation method(s)
f. More definite data being looked at currently.
A USG Preventive Food Safety and Quality System: 

_Nutrition is undermined with unsafe foods_
Fundamentals: A Preventive Food Safety Approach

"Core" elements of a sound Supplier-owned food safety and quality program

Risk segregation and mapping throughout facility

Hazard Analysis and Critical Control Points

Zoning

Quality Mgmt. System

HACCP

PEM

PRPs

Pre-requisite Programs

Pathogen and Environmental Monitoring

FDA/FSMA
FSSC 22000
Super Cereal Plus: An all-in-one Food Aid Product

Fortified Flour + Fortified Oil + Dairy Protein = Super Cereal Plus

Value adding attributes:

1. Include animal protein to encourage linear growth and cognitive development
2. Minimum handling and lower risk of food safety and quality incidents,
3. Facilitates distribution and dosing
4. May prove to be a more cost-effective nutrition delivery (research)
Variability throughout the food chain is larger than differentiation between RUTF and RUSF.

Basis for Premix Unification:
1. WHO updating evidence
2. Overall specification improved
3. Single premix improves sourcing of product and ease at programming
4. Codex working on a guideline to encourage local production
5. Improving product profile to encourage linear growth

Specialized Food Harmonization Effort
CSWB and CSB+

**Understand Product Stability Throughout the Supply Chain**

**CS+**

**RUSF**

**Vegetable Oil**

**FAQR Shelf Life Studies**

Storage conditions simulating potential Title II supply chain conditions
- 40 degrees Celsius
- 75% humidity

Accelerated shelf life timeline
- 26 week-study per product
- 1 week in storage = 1 month in supply chain
- 7 testing intervals at t = 0, 3, 6, 9, 13, 19, and 26 weeks
**Results: RUSF - Vitamin A**

A n Example: How Stable is Vitamin A in RUSF?

Vitamin A (mcg/100g)

Initial | Week… | Week… | Week… | Week… | Week… | Week… | Week…

Target & Permitted Range

shelf life - 40 C/104 F

shelf life - 30 C/86 F
Bringing children back to normality from malnourishment status is not enough.

Specialized Food Aid Functionalities, ensuring catch-up and linear growth

Linking food design $\Rightarrow$ with nutrition $\Rightarrow$ linear growth and $\Rightarrow$ long-term health
Thank You

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Randomized Evaluations: Use and Practice

Kyle Murphy
Senior Policy Associate, J-PAL Global
October 10th, 2016
Session Overview

I. Background
II. What is a randomized evaluation?
III. Advantages and Drawbacks of RE
IV. Conclusions
Background
Evaluation

Program Evaluation

Impact Evaluation

RCTs
Impact: What is it?

Program starts

Primary Outcome

Time
Impact: What is it?

- Program starts
- Counterfactual
Impact: What is it?

Program starts

Impact

Counterfactual
How to measure impact?

**Impact** is defined as a comparison between:

1. the outcome some time after the program has been introduced
2. the outcome at that same point in time had the program not been introduced (the “counterfactual”)

Impact: What is it?

Program starts

Counterfactual

Impact

Primary Outcome

Time
Impact: What is it?

Primary Outcome

Time

Program starts

Impact

Counterfactual
The Counterfactual

The *counterfactual* represents the state of the world that program participants would have experienced in the absence of the program (i.e. had they not participated in the program)
The Counterfactual

*Problem*: the counterfactual cannot be observed

*Solution*: We need to “mimic” or construct the counterfactual
Constructing the Counterfactual

• Usually done by selecting a group of individuals that did not participate in the program.
• This group is usually referred to as the control group or comparison group.
• How this group is selected is a key decision in the design of any impact evaluation.
Selecting the comparison group

• **Idea:** Select a group that is *exactly like* the group of participants in all ways except one: their exposure to the program being evaluated

• **Goal:** To be able to *attribute* differences in outcomes between the group of participants and the comparison group to the program (and not to other factors)
The problem of selection bias

- Individuals who participate in a program and those who do not are often different
- Comparing outcomes of these groups results in

Impact of the program + impact pre-existing differences
Impact evaluation methods

Randomized Experiments
- Random Assignment Studies
- Randomized Field Trials
- Social Experiments
- Randomized Controlled Trials (RCTs)
- Randomized Controlled Experiments

Non- or Quasi-Experimental
- Pre-Post
- Simple Difference
- Differences-in-Differences
- Multivariate Regression
- Statistical Matching
- Interrupted Time Series
- Instrumental Variables
- Regression Discontinuity
What is a randomized evaluation?
Population is randomly split into 2 or more groups

Intervention

Outcomes for both groups are measured

Comparison
Key advantage of experiments

Because members of the groups (treatment and control) do not differ systematically at the outset of the experiment,

Any difference that subsequently arises between them can be attributed to the program rather than to other factors.

Fewer assumptions, clearly explainable results
What can we learn from randomized evaluations?
NERICA in Sierra Leone

• **Problem:** Adoption of high-yielding crop varieties has been low

• **Potential solution:** Offer subsidies and trainings to increase take-up and yield

What levels of subsidies are most effective? Does agronomic training help increase yields?
120 Communities
120 Communities

- Free Rice
  - Trained
  - Not Trained

- 50% Subsidy
  - Trained
  - Not Trained

- Full Price
  - Trained
  - Not Trained
Free Rice

Trained

Not Trained
Yields only increased with training

- Yield increased 16% for trained farmers
- No increase without training
Yields only increased with training

- Randomized design disentangled intervention components
- Revealed cost to ignoring extension
Benefits and Limitations of Randomized Evaluations
Benefits and Limitations of Randomized Evaluations

• Tailoring the evaluation to the question
• Prospective evaluation
• Few assumptions, transparent findings
When is randomization most appropriate?

• When there is an **important question** you want/need to answer
• When **budgets** are **limited**
• When a program is in a **pilot**
• When programs are **phased in over time** (we select who gets it first).
• An “encouragement design”
When NOT to randomize

- When the program is premature
- When the project is on too small a scale
- If a positive impact has been proven using rigorous methodology and resource are sufficient to cover everyone
- After the program has already begun and you are not expanding elsewhere
Conclusion
Impact evaluations are hard to do well

- **Badly done impact evaluation can be very misleading**
  - Can suggest that ineffective programs work
  - Create noise of competing claims that drown out good evidence

- **Good impact evaluations require:**
  - Good outcome measures
  - Enough sample size to measure impact precisely

- **Do an impact evaluation when we can answer an important question well**
  - Otherwise do a process evaluation and don’t make impact claims

- **Complement impact evaluations with other methods**
Integrating RE into an Evaluation Strategy

• Good descriptive work important for diagnosing problem and selecting possible solutions
  – If children get one vaccine but don’t complete course, probably not cultural barrier.

• Business case assessment
  – What would the impact need to be for this program to be cost-effective?

• Literature reviews tell you existing evidence, don’t reinvent the wheel
Integrating RE into an Evaluation Strategy

• Process evaluation is always needed, can be dramatically improved
  – What % of eligible people are taking up the product?
  – Do people know more at the end of the training than at the beginning?

• If program shown to be effective in many contexts: time to scale
  – Scaling needs to be complemented with a good process evaluation

• Randomized evaluations can be most useful where there is an important question from both programming and academia
FY 2017 Food Assistance

Office of Capacity Building and Development,
Foreign Agricultural Service,
U.S. Department of Agriculture

October 10, 2016
Introductions

Moderator
• Jocelyn Brown, Deputy Administrator, Office of Capacity Building and Development

Panelists
• Nicola Sakhlelh, Branch Chief, Food For Development
• Ingrid Ardjosodoiro, Branch Chief, School Feeding and Humanitarian Assistance Branch
• Shane Danielson, Branch Chief, Transportation and Logistics
• Angela Crooks, Branch Chief, Program Administration and Monitoring
Overview

• Food for Progress
• McGovern-Dole School Feeding
• Local and Regional Procurement Program
• Transportation and Logistics
• Program Administration
• Questions and Discussion
Food for Progress

- **Two development-focused objectives:**
  -(1) to improve agricultural productivity  
  -(2) to expand trade of agricultural products

- **Past projects have:**
  - trained farmers; developed road and utility systems; established producer cooperatives; provided microcredit; and developed value chains.

- **The value of FY 2016 awards was approximately $160 million.**
Active Food For Progress Projects

Grand Total: $854,949,493
Challenges

• Monetization
  – Ensuring no market disruptions occur

• In-country Monitoring
  – Security considerations

• Inter-agency Coordination/Donor Landscape
  – Ensuring non-duplication of efforts and maximizing donor resources
Challenges (continued)

• Sustainability
  – Ensuring an enabling environment including government policies (i.e. land tenure, trade barriers, etc).
Successful Strategies

• Country Prioritization
  – Scoping trips and inter-agency meetings allow us to find sector and country-specific opportunities without donor saturation

• Public and Private Sector Collaboration
  – Providing larger, more sustainable impacts

• Flexible and Adaptive Management
  – Projects respond better to market changes when activities are managed through work plans
Successful Strategies (continued)

• Market-Driven Programming
  – Program objectives aim to expand markets and trade.

• Meeting Documented Demand
  – Working with buyers and producers develops connections that fully flesh out markets.

• Monitoring and Evaluation
  – Focusing on M&E results in better responses to projects challenges and more lessons learned for future programming.
Mozambique: Modernizing the Cashew Value Chain

- $15.1 million FY 2013 grant
- Producer trainings
- Inputs (chemical spraying)
- Renewed tree stock
- Market linkages & bulk purchasing contracts
- Access to financial services (loans)
- Modern equipment
Mozambique: Successes

• The project is engaging with 23,556 producers in the provinces of Zambezia, Nampula, and Cabo Delgado.

• 399,253 seedlings planted.

• Producers’ income increased by 71 percent.

• Cashew tree productivity has increased by 31 percent.
McGovern-Dole Program

- McGovern–Dole International Food for Education and Child Nutrition Program helps support education, child development and food security in low-income countries.

- Two Strategic Objectives:
  - Improved Literacy of School-Age Children
  - Increased Use of Health and Dietary Practices

- In FY 2016, USDA made nine awards ranging from $12 million to $33 million each, with a total value of approximately $204 million.
Active McGovern-Dole Projects

Grand Total: $877,124,350
Local and Regional Procurement Program

• The Local and Regional Food Aid Procurement Program (LRP) supports field-based projects that make local or regional procurements to ensure the cost effective and timely provision of safe, quality foods in support of school-feeding programs, development activities, and food crises.

• **July 1, 2016:** LRP Regulations posted to the Federal Register

• **July 16, 2016:** FAS released FY 2016 Opportunity for Funding Announcement

• **September 2016:** Three two-year awards to field-based projects in Laos, Mozambique, and Rwanda
New Developments

- Inter-agency collaboration opportunities:
  - USAID/Education
  - Let Girls Learn
  - U.S. Government Global Nutrition Coordination Plan

- Learning Agenda

- USDA Cochran Fellowship Program Exchange Opportunities

- New commodity options
Challenges

- **High Demand**
  - Increased costs per beneficiary tied with improved quality of education and nutrition interventions
  - Responding to chronic food security needs (Southern Africa, Ethiopia)

- **Security threats, commodity delivery, and monitoring limitations**

- **Sustainability**
Successful Strategies

- Effective leveraging of partnerships and complimentary programming
- Use of LRP to build structured demand and capacity for sustainability
- Increased engagement with the evidence base on the impact of school-feeding and best practices community
- Flexible and adaptive management
Transportation and Logistics Branch

- Coordinate purchase of all commodities and freight for FFPr and MGD
- Liaise between stakeholders to maximize return on taxpayer dollar and enable programs to meet their objectives
- Comply with Cargo Preference Act
- In FY16, TLB purchased 377,690 metric tons of commodities valued at $135 million, as well as $40 million in freight.
Project Administration and Monitoring Branch

• Branch Chief:
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• Senior Grants Management Specialist:
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PAMB Mission Statement

PAMB is the central project management resource for Food Assistance Division (FAD) staff and award Recipients. PAMB provides the processes, tools and knowledge required for the efficient use of federal funding, and the achievement of FAD’s strategic goals.
PAMB Functions

• Serve as FAD project management resource.
• Assist in the development of regulations and policies at the program level.
• Ensure compliance with 2 CFR 200 throughout the project life cycle, from negotiations through close-out.
• Implement USDA/FAD procedures.
• Provide program management resources for OCBD.
New Regulations for Advances:
7 CFR 1599.6(e)(1-8) - Advances

• For awards signed in FY 2016, advances can be requested for up to a 90 day period.
  – Older awards will have 180 days to liquidate advances.

• All funds must be returned if not disbursed on the 91st day.
  – Prior to the 90th day, the recipient may request to retain the funds and roll it up into a new advance.
Advances – Rollover Requests

• FAS will review all requests to roll over funds and make a decision based on the merits of the request.

• Consideration will be given to:
  – Rollover amount
  – Length of time the funds have been held
  – Performance history
  – Previous spending rate
  – Audit findings
Advances – SF-270

• All requests for advances/reimbursements will be made on SF-270 – Request for Advances/Reimbursements.

• The SF-270 will be submitted to FAS via email.
  – [SF270RequestforAdvance/Reimbursement@fas.usda.gov](mailto:SF270RequestforAdvance/Reimbursement@fas.usda.gov)
Advances – SF-270 (continued)

• The SF-270 will be processed within 5 days unless:
  – The amount reported in the Federal Payments Previously Received does not agree with FAS records.
  – The amount of estimated outlays for the advance period appears unreasonable based on previous burn rate.
Advances – SF-270 (continued)

• If FAS has questions regarding the SF-270, the Grants Management Specialist responsible for the agreement will contact the recipient within 3 days.
  – It is the recipient’s responsibility to respond to questions within 5 days and resubmit a corrected SF-270.

• Instructions regarding the new advance process are posted on the FAIS homepage.
FY 2016 Agreements

- For new agreements, kick-off meetings will be held with TLB, PAMB, MES, and the relevant program branch.
Closing slide