



# FEED THE FUTURE

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

## Feed the Future Enabling Environment for Food Security Project

### Monitoring and Evaluation Within Market Systems Development: Literature Review Summary Report

May 2018



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*This publication was made possible through support provided by the Bureau for Food Security, U.S. Agency for International Development, through the Feed the Future Enabling Environment for Food Security project under the terms of BPA Contract No. AID-OAA-E15-00001, Call Order 4 Contract No. AID-OAA-BC-17-00032 in coordination with Fintrac Inc., EcoVentures International, and Elizabeth Dunn. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.*

## ACRONYM LIST

<b>AAER</b>	Adopt-Adapt-Expand-Respond
<b>BEAM</b>	Building Effective and Accessible Markets
<b>BFS</b>	Bureau for Food Security
<b>CLD</b>	causal loop diagram
<b>DCED</b>	Donor Committee for Enterprise Development
<b>GFSS</b>	Global Food Security Strategy
<b>GIIN</b>	Global Impact Investing Network
<b>ICT</b>	information and communications technology
<b>IRs</b>	Intermediate Results
<b>KDAD</b>	Feed the Future Knowledge-Driven Agricultural Development project
<b>LEO</b>	Leveraging Economic Opportunities activity
<b>M4P</b>	Making Markets Work for the Poor
<b>MSS</b>	market system strengthening
<b>SCP</b>	structure-conduct-performance
<b>SNA</b>	social network analysis (or network analysis)
<b>SPRING</b>	Strengthening Partnerships, Results, and Innovations in Nutrition Globally project

The [Feed the Future Enabling Environment for Food Security](#) project is a global support mechanism for Feed the Future-focused and aligned Missions and Washington-based USAID offices to address policies, as well as legal, institutional, and regulatory factors that function as market constraints affecting food security.

Launched in September 2015, the project enables the rapid procurement of technical analysis, advisory services, and strategic knowledge management. For more information, contact Lourdes Martinez Romero (COR) at [lmartinezromero@usaid.gov](mailto:lmartinezromero@usaid.gov) or Nate Kline (Project Director) at [nkline@fintrac.com](mailto:nkline@fintrac.com).

## I. BACKGROUND

### I.1 FEED THE FUTURE LEARNING AGENDA

The Bureau for Food Security (BFS), through its Feed the Future Learning Agenda, seeks to improve the effectiveness and efficiency of all programs in the short and long term by generating, synthesizing, and communicating evidence related to key questions in specific areas, including market systems. Evidence from the Learning Agenda will inform the design of Feed the Future-related strategies, programs, projects, and activities.

The main assumption of the Feed the Future Learning Agenda with regard to market systems is that a growing, resilient, competitive, inclusive, nutritious, and sustainable agriculture and food market system increases producers' income through productivity and profitability improvements. Market system strengthening (MSS) contributes to the achievement of Intermediate Results (IRs) across the Global Food Security Strategy (GFSS) results framework, which supports the overarching goal of GFSS “to sustainably reduce global hunger, malnutrition, and poverty” through three interrelated and interdependent main objectives:

- Inclusive and sustainable agricultural-led economic growth;
- Strengthened resilience among people and systems; and
- A well-nourished population, especially among women and children.

The Market Systems Learning Agenda considers how development approaches influence the ways markets evolve in order to inform best practices in GFSS strategic programming. The learning agenda is centered on this main question: “What are the most effective approaches to sustainably strengthen food and agriculture market systems in ways that benefit the poor, women, and youth through production, employment, and other avenues, both directly and indirectly?”

### I.2 APPROACH TO THIS STUDY

This report highlights key insights and information obtained through a rapid literature review. The key insights focus on two related learning areas:

- Learning Area 1: How do we measure a strengthened market system?
- Learning Area 2: How do market system approaches maximize indirect impacts?

A total of 65 pieces of literature were identified and then examined to feed into addressing these two questions. These are summarized in the Appendix I Market Systems Resource Tracker.

This report explores the two learning areas through four subsections each:

- **Context:** How does the literature reflect the contextual environment of the topic area?
- **Concept:** What are the key concepts inherent to the topic area, and how does the literature define these concepts?
- **Indicators:** What are some of the indicators for measurement as identified in the literature?
- **Practice:** How does the literature report practical issues, such as monitoring tools, cost-effectiveness, and working in developing country environments?

Specifically, each subsection addresses the questions outlined below.

#### **Measuring a strengthened market system:**

- **Context:** What is the context for understanding changes in market systems?
- **Concept:** How do we define MSS?
- **Indicators:** What kinds of indicators can be used for measuring MSS?
- **Practice:** What monitoring tools and indicators best capture market systems change, are cost-effective, and work well in developing country operating environments?

#### Maximizing indirect impacts:

- **Context:** What is the context for understanding changes in market systems?
- **Concept:** How does Feed the Future define direct and indirect beneficiaries?
- **Indicators:** What do we know about outreach, outcomes, and inclusion? What evidence do we have about the number of people reached by interventions in agricultural market systems? Which market systems development approaches have the largest positive impact on women, youth, the poorest households and traditionally marginalized groups?
- **Practice:** Does increased nutritious food trade lead to a well-nourished population, especially for women and children?

## 2. MEASURING A STRENGTHENED MARKET SYSTEM

The Market Systems Learning Agenda asks how development approaches influence the ways in which markets evolve. A key aspect of this discussion is how to measure a strengthened market system.

### 2.1 WHAT IS THE CONTEXT FOR UNDERSTANDING CHANGES IN MARKET SYSTEMS?

Some of the key highlights from the literature regarding the context for understanding changes in market systems include:

- An essential feature of **market systems** is that they **are continually changing**.
- Markets and value chains are **inherently dynamic** because they are **adjusting constantly** to new and changing prices, products, competition, and technologies. In addition, they must adjust to the political, institutional, and regulatory environments plus changes in interlinked systems, especially supporting markets (i.e., financial, information and communications technology [ICT], transport, etc.). This dynamic feature provides openings for GFSS interventions to facilitate improved productivity, inclusion, and resilience in agricultural market systems.
- The context of constant change within market systems requires thinking more in terms of **attractors, boundaries, feedback loops, local equilibria, disruption, and interlinked systems** rather than in the more traditional expectation for market systems to move toward a relatively stable, general equilibrium over time.<sup>1</sup>
- This feature highlights the limitation of defining sustainability in terms of a stabilized market system while shifting greater emphasis toward **resilience**.

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<sup>1</sup> See the [Systems Theory Terms](#) for background context to the terminology being used more frequently in market systems development contexts.

Historic and recent **patterns associated with agricultural transformation** provide a sector-specific context for understanding background changes in food and agriculture market systems. (See Journal of Development Studies 2018:54(5) and entries co-authored by T.S. Jayne.)

- Transformation of the agricultural sector has historically included increases in agricultural productivity through new technologies, higher value-added products, and economies of scale, generating a steady supply of food while gradually releasing labor to off-farm and urban employment.
- Some of these trends have been observed in sub-Saharan Africa since the early 2000s but with differences between countries and limitations due to shortages of arable land in some areas.

## 2.2 HOW DO WE DEFINE MARKET SYSTEM STRENGTHENING?

As with the more general concept of systems change, market system strengthening can be defined relative to three distinct change domains:

1. **Outcomes/impacts:** The performance of the market system, in terms of generating favorable outcomes and impacts, is the most commonly considered change domain within development programs. These are reflected in the intermediate outcomes and final impacts that are typically included in results frameworks. For the GFSS results framework, some of these changes include increased productivity, profitability, market access, employment, and nutrition.
2. **Inclusion/actors:** An increase in inclusion, as reflected in the number of members of marginalized populations (smallholder farmers, women, and youth) who are included as productive actors in the market system, represents a change in the structure of the market system. Another type of structural change would be new **connections/relationships** between actors in the system.
3. **Conduct/governance:** Changes in governance that affect conduct and behavior across the system represent the third, less frequently cited, change domain. This would include analysis of changes in **system governance, system health, market behavior, and informal social and business rules.**

These three change domains are related to the **structure-conduct-performance (SCP) framework** for analyzing firm and industry behavior. There are also emerging tools that are helping practitioners make sense of monitoring and evaluation as well as systems thinking.

- One emerging tool that looks at causal connections is called a mind map. It connects various domains to each other and lays out a framework for gathering data. Software such as [SimpleMind](#) is being utilized by activities such as USAID’s Feed the Future Inova activity in Mozambique.
- In the monitoring and evaluation space, there are emerging tools like the Agricultural Market Systems Change Wheel (USAID Feed the Future Agricultural Value Chain activity, 2017) that look for additional domains where evidence needs to be gathered, connections need to be understood, and evidence around those connections needs to be collected.

## 2.3 WHAT KINDS OF INDICATORS CAN BE USED FOR MEASURING MARKET SYSTEM STRENGTHENING?

There are several approaches for identifying indicators of systems change (sometimes referred to as “systemic change”). Some of the key frameworks and approaches identified in the literature are as follows:

- As with the concept of systems change, indicators of systems change are sometimes defined in terms of beneficial outcomes or impacts for the target (beneficiary) populations. Over time, the state of practice has evolved to identify more indicators that reflect changes within the system.

As such, some of the systems-oriented indicators focus on key behavior changes by actors within the system, such as adoption, imitation, adaptation, and innovation. Other indicator domains focus on changes in the structure of the network, such as new entrants and greater inclusion, and/or on changes in the nature of relationships between actors in the system, such as changes in information flows, financial flows, churn rates, and trust.

- A review of approaches for defining indicators of systemic change in inclusive market development programming identified two types of indicators that were common across the different approaches (Fowler and Dunn, 2014):
  - **Buy-in indicators** include adoption of new practices, initial and continued investment, and satisfaction.
  - **Imitation indicators** include copying of new practices and crowding in by competing and supporting businesses.
- The most widely used framework for identifying indicators of market systems change is the **Adopt-Adapt-Expand-Respond (AAER) framework** (Nippard, Hitchens, Elliot, 2014), developed jointly by the Springfield Centre and the Katalyst project in Bangladesh. The AAER framework has gained widespread use as a recommended approach under the Donor Committee for Enterprise Development (DCED) Standard for Results Measurement for “capturing wider changes in the system or market” (see DCED literature). The four elements of the AAER framework are described in Taylor (2016) and in the DCED resources are:
  - **Adopt:** Over time, the project-introduced change (innovation) is adopted by the actors in the system. Once established, there is “player-level institutionalization,” and the project no longer needs to provide support to system actors in the same way.
  - **Adapt:** Actors’ supportive behavior changes are sustained over time.
  - **Expand:** More benefits accrue to more people, such as through new actors, imitation, roll-out, and further innovations.
  - **Respond:** Additional changes in supporting functions or rules support increased adaptability.
- Building on the earlier literature review, several complementary frameworks for selecting indicators of systems change were developed under USAID’s Leveraging Economic Opportunities (LEO) activity.
- A detailed framework for identifying indicators of systemic changes was defined in terms of two indicator domains, reflecting the depth and strength of changes. Greater depth relates to **changes in the structure (network) and conduct (norms) of the market system** (Fowler, Merkel, Sparkman, 2016).
- Another framework provides indicators of **market systems health**, including **churn rates in business relationships, financial flows, information flows, and rates of innovation in business models** (Sparkman, Derks, Field, 2016).

## 2.4 WHAT MONITORING TOOLS AND INDICATORS BEST CAPTURE MARKET SYSTEMS CHANGE, ARE COST-EFFECTIVE, AND WILL WORK WELL IN DEVELOPING COUNTRY OPERATING ENVIRONMENTS?

- Over the past three to four years, there have been several successful efforts to identify, pilot test, and evaluate the field performance of monitoring tools and indicators for capturing market systems change.

- The **AAER framework** has been widely implemented under the DCED standard with information available on a variety of experiences, including these examples:
  - Katalyst activity in Bangladesh
  - Samarth activity in Nepal
  - PEPE activity in Ethiopia
  - Market Development Facility, a private sector development program funded by Australian Aid with operations in Fiji, Timor-Leste, Pakistan, Sri Lanka, and Papua New Guinea
- A joint LEO-Building Effective and Accessible Markets (BEAM) activity worked with the practitioner community to identify eight promising tools for monitoring systemic change, subsequently collaborating with implementers to conduct field tests for four tools: **SenseMaker, Outcome Harvesting, social network analysis, and sentinel indicators** supported by standard measurement approaches (LEO Tool Trial Report, 2016).
- An extensive inventory and description of systems methods, tools and approaches for design, monitoring, and evaluation of systems is provided in the SPACES MERL White Paper. With an emphasis on complex systems, these tools extend beyond market systems applications and also beyond systems tools and approaches currently being used within USAID. The systems tools and approaches are organized into these categories:
  - **Visualization methods for mapping** (examples: Social Network Analysis, Participatory Systemic Inquiry<sup>2</sup>)
  - **Visualization methods for modeling** (example: causal loop diagrams)
  - **Narrative-based approaches** (examples: most significant change, SenseMaker)
  - **Indicator-based approaches** (examples: outcome mapping, sentinel indicators)
- Prior to the LEO and SPACES MERL projects, USAID’s Bureau for Policy, Planning, and Learning undertook a process of identifying and field testing monitoring tools for use under situations of complexity. Some of these “complexity-aware” tools and approaches are useful for identifying unintended results that are outside a project’s theory of change.

## 2.5 SUMMARY

In the past several years, USAID and its partners — along with other donors and practitioners working with value chain/Making Markets Work for the Poor (M4P)/market systems approaches — have made significant progress in developing a better contextual and conceptual understanding of the complex and dynamic nature of market systems. While there has also been progress in understanding systemic change (systems change), there remains a lack of agreement about how to understand and measure it. At the same time, this diversity of views has led to a variety of measurement approaches and tools that researchers and implementers have recently used to measure systemic change. While some of these approaches focus on the performance of the market system in terms of the desired outcomes related to agricultural productivity, farm incomes, employment, and nutrition, other approaches suggest looking more closely at indicators of the structure and conduct of the market system and the actors in the system.

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<sup>2</sup> Participator Systematic Inquiry is an approach for mapping partners and relationships by engaging multiple groups of stakeholders within the system. Results from different subsystems are triangulated to verify with stakeholders how the system is operating. To learn more, see USAID LEO’s Selected Methods and Tools for Measuring Systemic Change (February 2015).

## 3. MAXIMIZING INDIRECT IMPACTS

### 3.1 HOW DOES MARKET SYSTEMS DEVELOPMENT MAXIMIZE INDIRECT IMPACTS?

- A market systems (value chain, M4P) intervention is designed to maximize indirect impacts through the introduction of new technologies and/or business practices that first elicit behavior changes in key market actors. As these market actors begin to invest in pro-poor innovations, they strengthen their business linkages to previously marginalized populations. As inclusive new practices demonstrate their benefits, other market actors are motivated to adopt the new behaviors, thus extending the scale of outreach beyond the market actors in direct contact with the intervention.

### 3.2 HOW DOES FEED THE FUTURE DEFINE DIRECT AND INDIRECT BENEFICIARIES?

According to “Facilitation Contact Groups” (Dunn, 2014),<sup>3</sup> Feed the Future indicator guidelines define direct and indirect beneficiary categories as follows:

- **Direct beneficiaries:** When target beneficiaries are reached as secondary contacts through a deliberate value chain facilitation strategy, both primary and secondary contacts can be identified as “direct beneficiaries.”
  - **Primary contacts** are firms that interact or come into contact with the set of interventions (goods and services) provided by the activity. There are many ways this contact may occur, such as through project-funded training, business development services, technical advice/extension, demonstration and training materials, contracting models, solutions that reduce transaction/information costs (e.g., ICT), soft credit, or cost- and risk-sharing.
  - **Secondary contacts** are firms that are connected to primary contact firms through value chain linkages. Secondary contacts can be the target beneficiaries of the intervention, such as smallholders reached through their commercial relationships with the primary contacts of the intervention, which might include input suppliers, anchor (hub) farmers, breeders, veterinarians, lenders, testing labs, wholesalers, processors, exporters, retailers, and so on.
- **Indirect beneficiaries** are firms that adopt, adapt, or respond to the practices introduced by the intervention but do not have direct contact with the intervention (as described above). Indirect beneficiaries can include an expanding number of people in several categories.
  - **Imitation** spreads the new practices among firms at the same functional levels as the interventions’ direct beneficiaries (e.g., input supplier and producer levels). There are two types of imitation: crowding-in or copying.
    - **Crowding in:** Firms can “crowd in” by imitating the new, more inclusive business models that have been demonstrated by primary contacts. For example, “crowding-in” firms are other agricultural input suppliers that imitate new types of commercial relationships with smallholder farmers.
    - **Copying:** Firms that copy the new products and production technologies of secondary contacts at the target beneficiary level are “copying.” For example,

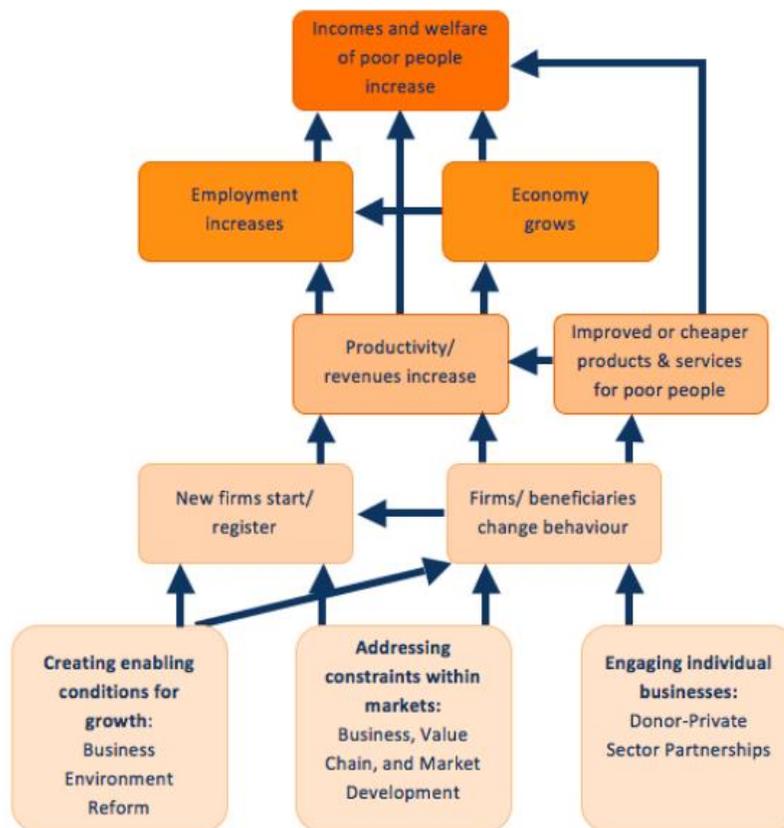
<sup>3</sup> For more information see [Facilitation Contact Groups](#).

smallholder farmers in the **imitation space** copy the new agricultural production technologies that have been demonstrated by smallholder farmers in the **intervention space**.

- **Adaption** occurs when other types of firms enter the market or expand their operations in response to the emergence of new business opportunities. Examples of these other types of firms include supporting services such as transportation, ICT services, packaging, financial services, etc.
- **Multiplier** effects are generated by the circulation of additional profits or income in the local economy. The “new” money originates in the additional profits and income spent by all of the previous groups. While the previous contact groups were all actors related to the agricultural value chain(s), the beneficiaries of multiplier effects include firms and individuals unrelated to the value chain(s), such as restaurants, hair salons, mobile phone dealers, clothing stores, grocery markets, repair shops, and so on.
- **Employment** effects are generated by the expansion of firms in any of the above groups.

### 3.3 WHAT EVIDENCE DO WE HAVE ABOUT THE NUMBER OF PEOPLE REACHED BY INTERVENTIONS IN AGRICULTURAL MARKET SYSTEMS?

- There are a number of recent reviews and databases that have collected evidence on the results of market system approaches in agriculture and food market systems, including the number of people reached, types of people reached (inclusion), and results for key performance indicators, including agricultural productivity, incomes, and employment.
- An essential departure point for learning about evidence directly related to the Feed the Future Learning Agenda is provided by an inventory and synthesis of nearly 200 Feed the Future evaluations conducted between 2010 and 2015. This valuable source of evidence is organized according to the following six themes in the Feed the Future Learning Agenda: agricultural productivity; improved research and development; expanded markets, value chains, and increased investment; improved nutrition and dietary quality; improved gender integration and women’s empowerment; and improved resilience of vulnerable populations (USAID Feed the Future Knowledge-Driven Agricultural Development project [KDAD], 2016).
- The DCED Evidence Framework provides a searchable database of robust empirical studies linking private sector development interventions to results including productivity increases, employment growth, poverty reduction, behavior change, and improvements in enabling environments. The database is organized according to each of the components of the causal links shown in the results chain in Figure I below.



**Figure 1:** Results Chain Showing Causal Links Represented in DCED Evidence Framework.  
(Source: [DCED Evidence Framework](#))

- In addition to individual studies linked to private sector development in the DCED Evidence Framework, there is a comprehensive review of evidence on successful approaches for promoting technology adoption in agriculture, increasing agricultural productivity, and reducing poverty (Hazell, 2014).
- The BEAM Exchange offers several important resources, including:
  - An online Evidence Map provides a searchable database of 98 empirical studies organized by seven types of market system interventions (e.g., improved access to inputs, finance, information) and four levels of results, including systemic change and poverty reduction.
  - A report reviewing and synthesizing the evidence that links market systems interventions to impacts on systemic change and on key outcome variables.
  - Detailed summaries of rigorous evaluations for five market systems programs, including GhanaMADE, Kenya Markets Trust, INOVAGRO II, PSIG, and Propcom Mai Karfi.
- As part of its efforts to improve evaluation practice and assemble the evidence base for the social impacts of impact investing, the Global Impact Investing Network (GIIN) has created several useful online resources, including:
  - Evidence maps for each impact investing strategy, including agriculture and market investments, which cite rigorous evidence linking each strategy to outcomes and impacts. Existing measurement methodologies, frameworks, and systems for monitoring and adaptation are listed for each strategy.

- Navigating Impact (a beta project) provides a searchable database with extensive evidence related to promoting smallholder agriculture. Studies provide results on farm productivity, farmer income/assets, and food security from interventions to improve agricultural inputs, information and training, food security, finance and savings, risk mitigation, etc.
- Under LEO, there are numerous studies presenting and synthesizing the evidence on different categories of both direct and indirect impacts from agricultural market system interventions. Highlights include:
  - A report on **rural wage labor**, agricultural transformation, and employment as a pathway out of poverty (Mueller and Chan, 2015). This report is complemented by a recent study on employment trends in sub-Saharan Africa (Yeboah and Jayne, 2018) and an International Labour Organization report (2017) on employment and wage labor effects from expansion of Cambodia’s rice markets.
  - A report on **multiplier effects** from growth in agricultural productivity and incomes (Snodgrass, 2014). Multiplier effects are also discussed in Jayne et al. (2018) and in a BEAM case study from Kosovo (Posthumus, 2016).
- There are a number of LEO reports on topics related to scaling up, including a synthesis of literature, descriptions of scaling models, and evidence on reaching scale by linking farmers to input markets, output markets, and service markets.

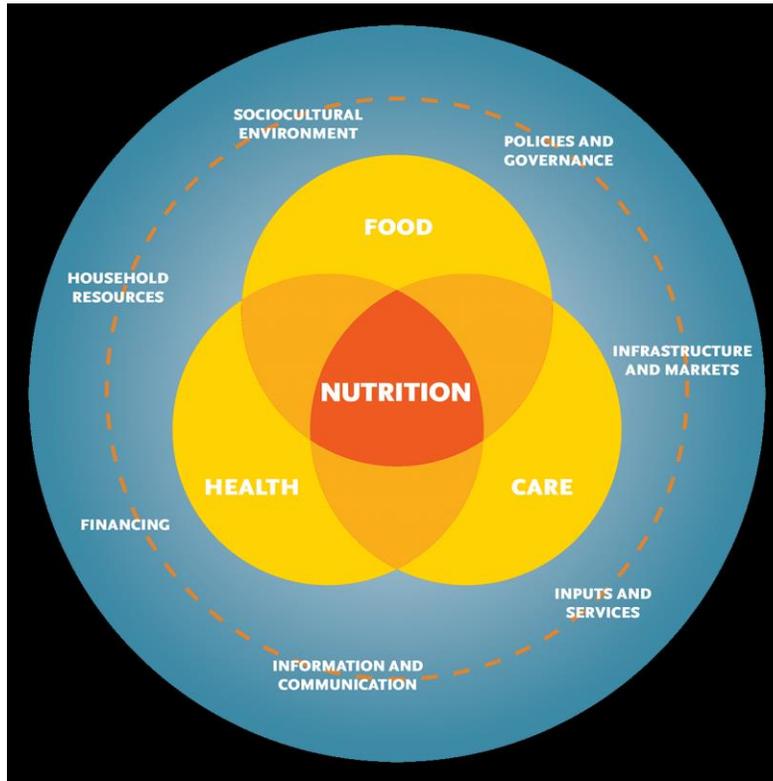
### 3.4 WHICH MARKET SYSTEMS DEVELOPMENT APPROACHES HAVE THE LARGEST POSITIVE IMPACT ON WOMEN, YOUTH, THE POOREST HOUSEHOLDS, AND TRADITIONALLY MARGINALIZED GROUPS?

- Using the same themes identified in the Feed the Future Synthesis of Evaluations (USAID Feed the Future KDAD, 2016), LEO reported on a set of case studies that illustrate the impacts of Feed the Future interventions on women.
- A review of evidence from 11 agricultural market system projects reporting 30 indicators of outreach to smallholder farmers, with some differentiation between farmers reached as primary and secondary contacts and between farmers reached as direct and indirect beneficiaries (Dunn and McGuinness, 2015).

### 3.5 DOES INCREASED NUTRITIOUS FOOD TRADE LEAD TO A WELL-NOURISHED POPULATION, ESPECIALLY WOMEN AND CHILDREN?

- The recently completed Strengthening Partnerships, Results, and Innovations in Nutrition Globally project (SPRING) project provides a number of knowledge products examining the linkages between agricultural and food market systems. These resources include numerous training materials.
- SPRING’s conceptual framework for understanding the relationship between improved agricultural productivity and improved nutritional outcomes for women and children is based on pathways of change initiated in three areas: food production, agricultural income, and women’s empowerment.
  - Improving Nutrition through Agriculture, a series of technical briefs, describes each of the pathways in the conceptual framework along with reports on empirical studies testing the linkages in the framework.

- SPRING takes a systems approach to nutrition, having identified several interdependent systems that influence, interact, and impact one another and nutrition outcomes. See Figure 2 below.



**Figure 2:** Interdependent Systems that Shape Nutrition. (Source: [SPRING](#))

### 3.6 SUMMARY

Evidence is beginning to accumulate on the outreach, impacts, and inclusiveness of agricultural market systems approaches. Online databases from DCED, BEAM, and GIIN along with Feed the Future's extensive review of evaluations, provide a rich repository of empirical results. However, the variety of program contexts, types of interventions, and measurement approaches make the aggregation and comparison of results challenging. While there are some results that demonstrate specific links in the causal chain, there are relatively few examples, and no generally accepted practice, for measuring indirect impacts.

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*For additional resources consulted, please see the separate Market Systems Tracker Appendix.*

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