*photo by Tim Russell*

# SUMMARY OF TECHNICAL REPORT

## Agricultural Input Subsystem Study
## Feed the Future Uganda Market System Monitoring

## BACKGROUND & GOAL

The USAID Uganda Feed the Future Value Chain (FTF-VC) project uses a market facilitation approach to impact the value chains that serve smallholder farmers in Uganda. This study focuses on the "inputs subsystem": the part of the value chain that enables farmers to access inputs such as fertilizer and seeds. We aimed to understand whether and to what extent expected changes were occurring in the last four years of FTF-VC work by asking "**How has the inputs "subsystem" been changing over time?**" We focus on changes in key behaviors and relationships targeted by the FTF-VC project, and how they have manifested in three types of actors (see Figure 1): wholesalers and input dealers (or "agrodealers"), farmers, and output value chain actors (such as collectors / village agents or traders) who are involved in the inputs value chain.

**Key Recommendations:**

**Feed the Future Uganda should**

- **Investigate barriers to adoption by input wholesalers/dealers of a mindset focusing on delivering greater value to customers**
- **Examine how output actors selling inputs affects the inputs value chain**

**Market facilitation projects should**

- **Design monitoring strategies that address both the need for longitudinal data and the need for widespread, adaptive measurement**
- **Understand and account for delays in reaping benefits of changes**

## APPROACH

The data used for these analyses comes from two FTF-VC activities: the Commodity Production and Marketing Activity and the Agricultural Inputs Activity. Our goals were **to examine existing data for evidence of systemic change, identify potential indicators, and identify data and knowledge gaps that need to be filled**. We utilized methods such as descriptive statistics, regression, and social network analysis. We extend prior analysis by focusing on change over time, across actors, and throughout geographic space; by investigating whether changes have been linked to outcome measures (such as profitability); and by linking data across multiple activities.

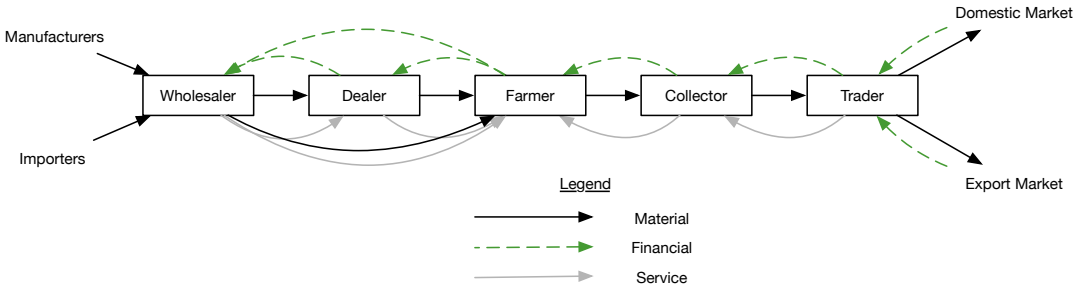


*Figure 1: Simplified Value Chain Role Map*

## FINDINGS: CHANGES IN THE INPUTS SUBSYSTEM

Our analysis of existing data identified some expected changes in the inputs subsystem and highlighted areas that are not changing as expected.

- Provision of product knowledge and extension services by input wholesalers/dealers has been increasing and appears relatively widespread; furthermore, it appears linked to profitability.
- Input wholesaler/dealer sources of finance have changed very little over time, with the exception of increased usage of supplier credit; personal resources remain the largest source of finance.
- Input wholesaler/dealer business practices were expected to change as dealers' mindsets transitioned to a focus on delivering greater value to customers. However, change in customer, financial/accounting, outreach, and supplier practices is not widespread and has only increased slightly in the last season; the only widespread change is a high rate of joining associations. It is unclear whether changes in business practices enable increased profits: only outreach to farmers and selling mechanized equipment are clearly linked to increased profits. On the whole, most input dealers have not adopted a customer-oriented mindset, although some have done so and are reaping some advantages.

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- Relationships along the inputs value chain were expected to increase in length, strength, and utility (where utility refers to the provision of product knowledge through a relationship). However, these characteristics have been decreasing until the most recent season; on the other hand, relationship strength and utility are highly correlated, as we would expect, and the latest season indicates an increase in both. A network analysis suggests that wholesalers are becoming less influential in their networks, suggesting that suppliers and dealers have more choices or a lack of strong relationships throughout the value chain.
- Farmers' use of inputs is increasing, except in the north. The impact appears to be positive: there is a potential link between the availability of extension services and farmer success (measured by crop yield).
- Output value chain actors, such as collectors / village agents and traders, are beginning to sell inputs, but the extent and impact of this change is unclear based on the available data.

**Overall, the results suggest that while change has been slow, it may be gathering momentum now**. If provision of extension services is an enabler of other desired changes, then its relatively widespread presence suggests further systemic change is on its way.

## FINDINGS: DATA GAPS AND MEASUREMENT

This study represents a first attempt to analyze systemic change by examining data from multiple activities. We identified several data gaps and measurement challenges that are general and likely to apply to other parts of the system:

- Longitudinal data on some key indicators was unavailable due to inconsistencies in collection over time.
- Measurements of actor success (e.g. dealer profitability, farmer yields) were limited.
- Better consistency across activities in terminology, time frame, and geographical location would enable more holistic analysis.
- Data on the reasons for change propagation (or barriers to it) were not typically available.

A number of data gaps for specific aspects of the subsystem (such as rural input dealers and farmer cooperatives) are also identified in the report.

## RECOMMENDATIONS

We recommend further investigation of the inputs subsystem in the following key areas:

- Findings should be verified by collecting similar data in the next season, particularly because so many changes showed evidence of speeding up in the most recent season after several seasons of stagnation (relationship strength, length, and utility; link between crop yield and extension services; product knowledge provision; etc.).
- The impact of output actors selling inputs to farmers on the inputs value chain should be investigated. This is a relatively new trend, and we do not have enough data to understand its impact on the system.
- Barriers to the adoption by input wholesalers/dealers of a mindset focusing on delivering greater value to customers should be investigated, and future efforts should be designed to overcome these barriers. While product knowledge provision is relatively widespread, limited changes in other business practices suggests little widespread change in the underlying business mindset. An understanding of the barriers to such change should inform future interventions in the inputs value chain.

We recommend that the following issues be investigated to support market systems facilitation interventions in general:

- Delays in reaping benefits of changes should be understood. Delays may impact both our ability to measure systemic change and the value chain actors' receptiveness to maintaining changes. For example, if profitability does not increase until four seasons after the start of new knowledge provision services, dealers may not see a fast enough return to continue the new services. We recommend examining delays and developing strategies to account for them in measuring systemic change.
- Monitoring and evaluation strategies should address both the need for longitudinal data on large, representative samples and the need for data about many different parts of the system. Possible strategies include: identifying and measuring early changes that precede or enable wider systemic change; a two-pronged collection effort that measures a few key indicators consistently and adapts the remaining indicators as the system changes.
- Successful monitoring requires a set of easily collected data that collectively provide insight into systemic change; these indicators must be carefully selected before and adapted during the intervention.

**Further information is available in the main report, which can be found at Inputs Subsystem Study.**

**ABOUT MSM**

The Feed the Future Uganda Market System Monitoring (MSM) Activity is developing new approaches that assess the impact of market facilitation activities on systemic change in the Uganda agriculture sector. It is a joint implementation by the Massachusetts Institute of Technology and The George Washington University. Contact us at msm.uganda@mit.edu.