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Measuring systemic change in Feed the Future Uganda: Network Analysis



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All blogs

Read how network analysis has helped the USAID project see how the system changes.

The second webinar in the [series on using systemic M&E](#) in Feed the Future (FTF) Uganda focused on one of the methods used by the team to measure systemic change: Transactional Network Analysis (TNA). Compared to broader social network analysis (SNA), TNA specifically looks at transactional relationships between actors in a market. Uganda FTF focuses on transactions between input suppliers, wholesalers and retailers of agricultural inputs.

The TNA tool allows the team to capture both the structure of the transactional network and how this changes over time. The team can compare the data from market actors that have directly been supported by the project and actors that have not been involved. They also look at differences between various geographic locations, covering most commercial centres in Uganda. In addition to the transactional structure of the network, the team also capture data on the quality of the relationship between buyer and seller. This includes, for example, whether the relationship is highly rated by the stakeholder or if relationships are consistent over the seasons. Interestingly, the differences between the functions of selling, wholesaling and retailing are also structural characteristics of the network. Currently, most sellers and wholesalers also engage in retailing.

FTF Uganda like TNA because it lets them quantify changes in behavioural patterns. To do this, the team link the structure of the network to patterns of behaviour they have identified in the market diagnosis. In particular, they look at changes in business practices that they can measure through changes in the network structure.

For example, they look for signs of a reducing number of actors in the market with a higher degree of specialisation – more wholesalers focusing exclusively on wholesaling, importers on importing, etc.

The underlying assumption is that there is an optimal level of interconnectivity and diversity in a system that will make it work effectively and sustainably. Systems with too little diversity and interconnectivity can be very efficient, but they lose resilience and become brittle. On the other hand, systems with high levels of interconnectivity and diversity are highly resilient but get increasingly stagnant. The project team assessment of the agricultural input market in Uganda showed it to be in a state of too high interconnectivity and diversity. For example, data from the network analysis tool showed that there are large numbers of new entrants in the market on all levels. This implies that it is very easy to enter the market and the entrants don't require many skills. One effect is that the quality of services and products remain low.

The project team appreciated the versatility of network analysis. Once the relationship data is collected, it can be analysed from various angles without having to go out and collect more data. Consequently, the team could test a number of different metrics and, over time, choose the core metrics to use. They can always go back and assess the earlier collected data against new metrics.

At the same time, data collection has been challenging. The team had to adjust the data collection strategy to make both the collection process and the amount of data more manageable. For example, in the first collection cycle they asked about additional relationships that go beyond transactional ones. But this data became messy and difficult to manage so the team decided to focus on the transactional network instead of a wider social network. This still gave them lots of data to help answer questions relevant to the project's M&E scheme. The lesson that can be learned from this is that while the method can be extremely wide and versatile, how it is applied must fit the project's ability to collect and manage data.

I like the way the FTF Uganda team use data from TNA not only to report against indicators but also to try to make sense of what is really going on. They proactively review data from different sources and also commission specific studies if the data does not give conclusive answers. Leanne shared a helpful example during the webinar: the network analysis data showed an increase in highly rated relationships among wholesalers and suppliers of inputs in the target firm sample but not in the sample of wholesalers that were directly unaffected by the project. At the same time, only a limited number of relationships were found in both seasons for which data was available. The team carried out follow-up interviews with selected wholesalers and found that relationships were mainly about buying cheap and easy, and selling quickly – which led to the high 'churn rate' of relationships. At the same time, a lack of formal records meant that wholesalers did not monitor relationships

well. This confirmed the original assumption that most actors do not follow sophisticated business practices and showed that the project was moving in the right direction.

All in all, the use of network analysis is seen as very beneficial for project monitoring. It allows the team to put numbers to the changes they observe and show the pace and direction of these changes. The data from two collection cycles has already generated data that significantly influenced decisions on the focus of the project during the current strategic review.

Marcus Jenal leads BEAM's M&E activities. As an independent consultant and Mesopartner Associate, Marcus has contributed to SEEP's Systemic M&E initiative and co-authored two papers on the topic.

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- [BEAM Programme Index: Agricultural Inputs Activity, Uganda](#)