Facilitating Systemic Change: Insights from Feed the Future Programs in Rwanda, Senegal, Ghana, and Zambia

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Kristin O'Planick: Hello and welcome. I'm Kristin O'Planick, USAID Bureau for Economic Growth, Education, and Environment. Today's webinar is Facilitating Systemic Change: insights from the Feed the Future programs in Rwanda, Senegal, Ghana, and Zambia. Highlight new work from the Leveraging Economic Opportunities activity.

The concept of systemic change has become increasingly important to our work. Yet our understanding of what it is and how we can catalyze this change is still emerging. Our presenters will be sharing their insights coming out of four recent case studies on the topic. So let me briefly introduce them.

Olaf Kula is Senior Vice President for Private Sector Engagement at ACDI/VOCA. He has over 30 years of experience in 45 countries, and provides technical support to ACDI/VOCA's worldwide activities in enterprise development, trade, agricultural competitiveness, rural financial services, and microfinance. He also provides intellectual leadership and practical solutions for ACDI/VOCA's research in value chain approaches to accelerate growth and poverty reduction.

Ben Fowler is a Principal Consultant for MarketShare Associates. He works to facilitate the development of inclusive market systems in Africa and Latin America, and specializes in the setup and implementation of learning systems that support program improvement.

Dr. Elizabeth Dunn, of Impact LLC, is a research economist specializing in market-based solutions to poverty, with emphasis on inclusive market systems, value chains, smallholder agriculture, and micro and small enterprises. As principal investigator for the Leveraging Economic Opportunities Project, her work supports improved monitoring, evaluation and learning for inclusive market systems development.

Daniel White is the Technical Director for Agriculture at ACDI/VOCA, where he contributes to the scaling research stream under the Leveraging Economic Opportunities task order. With more than ten years of experience in private sector horticulture and donor-funded agricultural development projects, White has managed and designed projects on agricultural productivity, training and behavior change, and research and learning.

I'd also like to mention Alex Diouf of MarketShare Associates and Charles Ado, both who conducted the field work for three of the case studies we will be discussing today.

Please feel free to type your questions in the chat pod throughout the presentation, and we will attempt to get to them all during the Q&A period. And over to you, Olaf.

Olaf Kula: Thank you, Kristin. And thank you also – I wanna extend thanks to Ashley and Adam, who are going to keep this running technically smoothly. To all of the participants, again, I want to emphasize, as Kristin said, that these webinars are real learning activities, both for you, the participants, and for us. Your questions and your comments, which we will get to towards the end of this webinar, will help shape the way that we look at systemic change in the future.

USAID's Feed the Future program has made significant progress in introducing technologies, market opportunities, nutritional approaches to large numbers of the rural poor and its focused countries. By contrast, and in spite of Feed the Future's people focus in success stories and results reporting, Feed the Future has had a greater ambition than developing good service delivery models. A major part of USAID mission interventions is designed to facilitate the creation of new opportunities, farmer-market linkages, or channels for the delivery of seed, fertilizer, and crop protection inputs that, if successful, will become self-replicating with no additional implied financial burden on either donors or host governments.

These self-replicating changes occur largely by identifying and facilitating opportunities in which for-profit actors, whether traditional traders, seed suppliers, or nucleus farm owners, are facilitated to take advantage of market opportunities that increase their own profits, while opening up new opportunities for the rural poor.

Many of these opportunities have occurred within Feed the Future programs through its value chain projects or its market systems projects in its Feed the Future missions. The motivation for these case studies that we will be discussing today is to dig deeper than the simple project results reporting to analyze strong cases of the Feed the Future market systems programming that significantly contributes to systemic change. In addition to today's webinar, there will be a longer version of these cases written up in an upcoming presentation.

Elizabeth, Ben, the two of you have been deeply involved in USAID's work on systemic change and market systems projects. Can you give us a little overview, and can you tell us: why should we even care about systemic change?

Elizabeth Dunn: Sure. Good morning. Thank you, Olaf. And good morning to everybody, my co-presenters. And also it's wonderful to see we have about 100 participants, and some of my long-time colleagues: thank you for joining us this morning.

I just have a few words of introduction about how LEO conceptualizes the market system and systemic change. This graphic here shows you the conceptualization that's used in the LEO framework. And it picks a market system as a set of interconnected systems. But you can see at the root of this set of connected systems is one or more value chains. And these then provide the connections outward, including to other markets, other value chains, local and global economies, and physical and agro-ecological environment, and connections inward to households and associations and other forms of social interaction.

One way that we can think about a system is as a set of actors or agents and the networks or connections between them. This is helpful when we start to look at system change: to think about the system as being composed of actors and relationships. The actors or agents are the firms, the households, and other decision-makers in the system, while the relationships are the ways that those actors are connected. So the network includes both the structure of who is connected to whom, but also the nature and characteristic of the relationships. And I'll say a little bit more about that in a minute.

But first I'd like to share that, from the beginning of LEO three years ago, we've been looking at this topic of systemic change. In the first year, Ben and I pushed a paper on evaluating systems and systemic change. And we discovered pretty early that it's helpful to recognize that systemic change is one of several dimensions that're important for evaluating market systems interventions.

So as this graphic tries to illustrate – it's got some flaws, I know, because it doesn't mean to represent that they're all equal or they're all the same. But it does show that other dimensions of evaluating market systems include outreach, outcomes, inclusion, and sustainability. And again, I'd like to say: these five dimensions are not equal. And this kind of gets to your question, Olaf, about: why should we care about systemic change?

Let's look at these for just a moment. Outcomes, at the bottom, also known as "development outcomes," represent the purpose or the bottom line for funding development programs. Outcomes relate to the final goals, such as increasing income, reducing poverty, or reducing childhood stunting.

Inclusion relates to who benefits from these outcomes. Inclusion goals might target women, minorities, or the very poor.

Outreach is associated with measures of scale. And I know many of you've heard about – seen writings about scale. How many people received the benefits? As I argued in a blog post that was on Microlinks almost two years ago – I think there's a link to that blog post in the lower left of your screen – systemic change is not an end in itself, but rather it's a means toward achieving these other ends. In fact – and this gets to your question, Olaf – system change is thought to contribute to achieving these other dimensions, especially outreach and sustainability.

So while systemic change is highly desirable, we should keep in mind that not all projects will achieve systemic change, and they could still achieve these other results, although probably to a lesser degree. So since we believe that systemic change contributes to achieving more sustainable outcomes at a larger scale, that's part of the motivation why LEO has been working so hard to understand systemic change.

I mentioned the report on evaluating systems and systemic change. Again, there's a link to that on the bottom left side of your screen. Later this month we have three products coming out that are related to systemic change, including framing, evaluating, and learning within market systems, which includes an important component on systemic change. In addition, we have a synthesis report coming out describing a series of field trials for tools for measuring systemic change. And the third product is a LEO brief that looks closely at the nature of systemic change with a focus on indicators of systemic change.

And in doing this work, we've come to understand a few things about systemic change which are on this slide here. Starting at the bottom: it can have both positive and negative effects; it can occur – and it does occur – even in the absence of a project or intervention. Also we think of systemic change as a dynamic process that occurs on top of a dynamic background. So achieving systemic change is not about creating movement where there once was no movement, but it's about influencing the direction and the speed at which things change.

And going back to the concept of a market systems as a set of actors and the connections between them, then we can think about systemic change as changes in the structure and dynamics of that network or those connections: changes in behavior and norms, the norms underlying behavior; changes in flows and feedback looks, again, in networks and connections. And going back then to the case studies, some of our earlier work under LEO focused on individual-level behaviors such as imitation and buy-in, and I know those'll be mentioned today. Those certainly can be indicators of systemic change. But at this time, we're especially interested in observing changes at the network level, such as changes in the flows of money, material, information, or changes in the nature of relationships, the trust ____ ____ ____ relationships and the repeat transactions and that sort of thing.

With that, I'll turn it back over to you, Olaf.

Olaf Kula: Thank you, Elizabeth. This has been a fascinating process for me, getting involved in these studies. And, as those of us here around this table – in real and virtual space – know, we've been going back and forth on discussion of: "What is a functioning and working definition of systemic change?" And it seems that there's convergence, but we haven't reached that point. And it strikes me a little bit like the story of sort of the blind Brahman and the elephant, and they're each grasping a piece of it, and as they come through the other side, they each have a very different impression of what systemic change is.

What has struck me is that we're doing a lot of work in systemic change already without having a consensus on the definition because we have a sense of what key elements are enough to determine whether or not we're moving in that direction. But can we really do that effectively if we don't have a definition to start with? And I'm gonna pass that to Ben next. And if Elizabeth wants to follow up, please do.

Ben Fowler: Thank you, Olaf. Yeah. I'll just quickly run through a couple of the things. I agree with you fully that there is both divergences and convergences in terms of our understanding. But the last two and a half years under LEO has been focusing a lot on two main issues. One is: "What would you measure with respect to systemic change?" And the other is: "How would you actually measure it?" So, under "what we would measure," something that we're very excited about being able to release shortly is a framework outlining what we see as key aspects of systemic change, and some of the domains which would highlight indications that systemic change might be happening.

And paired with that, we're also going to be releasing something on how you might actually measure systemic change. And we're looking specifically at a set of practical tools, both via our own tool trials that we've been conducting, and synthesizing the lessons of others. So those two products are gonna be out shortly, and we hope that they'll help to provide a contribution to this very interesting discussion.

Olaf Kula: Thank you, Ben. So, from your and Elizabeth's work, there seems to be a growing interesting – or not just from your work, but certainly as a part of your work, a growing interest within the USAID community in looking at systemic change in Feed the Future market systems projects. And in fact, that moves us into these case studies.

This webinar – we're going to look at four projects. One is the Senegal Nataal Mbay project. The second will be Ghana's ADVANCE II. I'll be speaking to that one. Then we'll be speaking to the Senegal Nataal Mbay project. Then the third will be Zambia's PROFIT PLUS project, which Dan White will speak to. And then, finally, the Rwanda Dairy Competitiveness program, which Ben will speak to again.

Though the initial focus of these cases was only to on how to determine whether systemic change is occurring, there are a number of questions that we would like to find answers to before jumping on the systemic change bandwagon. Or at least before designing a systemic change program. The four cases, in addition to illustrating some of the measures of progress towards systemic change that Elizabeth was speaking to, will also shed some light on these questions.

And I think these are critical from the perspective of looking at designing for systemic change in a market systems program: who are we gonna work with? What is that process like in systemic change? How do we move from the initiation of a change, articulation of a change, to adoption of a change? What are the kinds of things that affect the rate at which that change occurs?

As Elizabeth and Ben have already spoken to a little bit, but we'll discuss further, is: how do we measure progress towards that systemic change? And finally, and importantly for donors and anyone who is investing in systemic change within a market systems project, when is enough enough? How do we know that we've reached a point in a systemic change project that the change has acquired its own momentum and it will continue to grow on its own?

At the most basic level, these questions concern: who should we work with? How do we introduce change? How does it spread? What affects the rate of adoption? How do we measure it? And of course: when have we reached there?

So, without further ado, I'm going to pass the mic back to Ben and ask Ben to tell us a little bit about the Nataal Mbay project in Senegal.

Ben Fowler: Thank you very much, Olaf. And I think that this case study is interesting because it does speak to a number of the questions that you just presented. Nataal Mbay's focus as a Feed the Future project, is improving farmers' income and productivity. It works across a number of different value chains. But for the purposes of this presentation, we're gonna focus only on its work in the rice sector, and more specifically, on its work with the contract farming model, which was an area where it had seen particularly strong traction, and therefore presented a particularly interesting opportunity to look at potential signs of systemic change.

To briefly give an overview of the project's approach, it worked at reforming or improving a preexisting contract farming model that was in place, but seeking to add several features to it. One was to encourage all actors – banks, the rice millers, and the farmers themselves – to begin using data to make their decisions, projecting how much they're going to produce, estimating how much inputs are gonna be required, estimated what is an appropriate loan size, etcetera, and then using that in negotiating with the other actors within the same value chain.

A second focus that it had was on reforming the way in which prices were determined. So rather than having either ad-hoc, informal negotiations with each transaction, or contract-by-contract prices, the focus was instead on creating a reference price that would be negotiated and tied to specific quality standards so that actors would actually know what they were getting when they were purchasing rice.

The third key feature was to encourage the acceptance of in-kind payments so that farmers could repay their loans and pay for other services with rice rather than only with cash, as a way of speeding up transactions and encouraging investment.

A final feature which Nataal Mbay encouraged was to increase the financial services being used within the model; so increasing access to credit by all actors to support investment, and incorporating insurance into the contracts.

So what we wanted to do was look at the extent to which this new model had actually embedded within the system. But it was important in doing so that we recognized some of the conditions and historical factors that shaped the ability of the system to change at all.

Three I want to highlight were: the filial system – so the existence, already, within Senegal, of contract farming models, which meant that the actors within the system were already familiar with the general model, even if not with these specifics. Another one was the existence of large networks of farmers joined together through farmer cooperatives and even apex organizations which would represent large numbers of these farmer associations, and offer something that could be worked with. And the final key point is that the government, after a long period of inactivity within the sector, had decided to play a more active role and to actually work more actively to support the sector's development.

So with those key features explained, I'll go quickly into describing a few of our key findings. One was that we found strong signs of buy-in relating to this price discovery process. We found that actors were quite satisfied with how it was working. They were continuing to use it. The government had started to actually play an active role in it, suggesting some institutionalization. And other millers who were not initially among the original project partners had also started adopting it.

And it's important to note that, at the stage we were conducting this case study, the project was still ongoing. So it wasn't possible to definitively understand what things were going to last beyond the project. We had to look at signs and signals of that.

Similarly, we found strong buy-in around in-kind repayment systems. So for example, we saw not only the buy-in from the actors like the millers and the banks, which were key project partners, but also from some service providers such as combine harvesters who also saw increased certainty, with the reference price, at their ability to resell the rice in future.

There were aspects in financing as well. We saw large increases in financing, new actors entering into the system and offering financing that weren't there before, and innovations in the types of financing models that were being provided, such as offering financing for two crops upfront rather than just one.

There were aspects of the system that we found it more difficult to sense indications of systemic change. And primarily those were in areas where there was still a strong subsidy element, either by the project or by the government. So two examples of that: the insurance product that was being used was partially subsidized by the government. And that meant it that it was pretty unrealistic that any other private players were gonna come in and try and provide similar or competing products against that. And similarly, the data management function, the DA collection, particularly at the level of the farmer associations, was something that seemed like, in its current iteration, was unlikely to continue, given the costs of supporting that database manager.

We also saw that there were insipid signs of potential replication of elements of this model in other crops, particularly in ground nuts, which, if it was to occur, would significantly shape the trajectory of the agricultural system in Senegal more generally, as some of these other crops are even larger in importance than rice are.

So a couple of key takeaways from the case study. One was the role of purposeful redundancy. We found that one of the interesting and biggest shifts was actually a shift by all actors in the system towards accepting quality as being important. And this norm change we found was strongly supported by the project's role in working not just with a single actor such as perhaps the rice millers on introducing quality standards, in which case it might've seen as something that was imposed by a single actor within the system, but rather working on quality, educating on quality – how to negotiate and understand quality – at various levels meant that there was much more widespread buy-in to that norm.

The second point is that fractional selling, as in: allowing farmers to only sell enough rice to repay their loan through the contract, rather than being forced to sell everything that they grew, really helped initially on making farmers willing to adopt the risk, accept the risk of engaging in this new system.

So that's just a few of the key takeaways from this study. And with this, I'm going to turn it over to Olaf to talk about the next case study.

Olaf Kula: Yes, Ben. But before we do that, I wanted to come back to you with a couple questions. One is: I'm curious about the traders buying into this price discover process. Often traders are trying to squeeze profits out of competitive small margins. And certainly in a number of countries where I've worked, and that would draw a recent case to Nigeria and struggles with getting their commodity exchange up and running, there's a lot of resistance from traders to negotiate price in a transparent manner. And I'm sort of curious what you and Alex found in Senegal when you were looking at that. Was there initial resistance from traders? I understand why bankers or financial institution, service providers like the idea of having pre-negotiated prices. But I'm wondering whether there was resistance by traders.

Ben Fowler: It's a good question, Olaf. I think one of the key incentives that helped to push millers to be interested – and of course I'll let Alex jump in as well – was the fact that they were really backed by quality standards. And that was a key difference. That previously trying to purchase rice, it was quite unclear what you were getting. And so that required a lot of everyone's time to try and verify what was there. And really you were kind of quite unsure about what was happening. It also was quite a lengthy process; the process of negotiating added a lot of transaction costs. So by being able to streamline that, having a product that you were sure of, and being able to quickly transact for it, were both representing benefits that, for the millers, ended up being quite attractive.

That's not to say it wasn't – it was not initially adopted by everyone. And that was actually important. The project initially worked with just a couple of millers – three, to be precise. And as they kind of adopted this and it started to gain some traction, that's where you started to see other millers adopt it and take it up as well. So it wasn't that everyone all at the same time accepted it.

Olaf Kula: Great. Thanks. If I could just get two more quick questions from some of the participants. And I would also like to remind all of the participants to please put your questions up there now. Don't wait till the end of the presentation for those. You might forget them. We also – might be easier to respond to some of these questions at the end of the presentations.

The first is – we have a question from Dick Tinsley, which is: do you have a sense of how much of that farmer produce was sold as loan repayment and how much is sold to the side? I'm assuming that there's two questions there. One is: what percentage of total harvest was actually dedicated towards loan repayment? And the second is: how much of what farmers produced in addition to that was sold to that direct buyer, or how much was sold through other means into the marketplace?

Ben Fowler: I can probably better answer the second question. Alex might be able to help on the first. So the project worked in some areas that were quite food-insecure; and some areas, the irrigated areas where farmers were able to produce larger surpluses. So it's important to understand the system within those two areas and understand that the surpluses available at each of them were quire substantially different.

In terms of how much being sold, as say a percentage or a proportion, I'm not sure. I do know though that among the amount that were sold, often farmers ended up selling even the amount not required to pay their loans via the same system. For some of the reasons that I mentioned: it's faster; you're not requiring to potentially come home without having sold; it's just a clear price. And often that price was actually higher than what you could get on the open market because it was backed up with quality standards. So you weren't having to discount the price, expecting that you were receiving an inferior product or there was sand or rocks mixed in, that type of thing.

Olaf Kula: Great. Thanks. The last question before I finish buying time before I start the ADVANCE and Ghana presentation is the issue of government participation. As we know, in a lot of market systems, government can have a very large footprint. And I'm curious: how was the role of government perceived as a re-entrant into this market place? Was it distortionary? And if it wasn't, what did the government do to minimize its price-distortive and market signal distortion effects?

Ben Fowler: Yes. Again, a good question. After a period long in the past when the government indeed was playing in a role that was quite distortionary and essentially very directive in terms of how the system was being managed, the purchase system, etcetera, its new role since it's entered has been a little bit different.

One of the key things that it has done is tried to encourage reduced purchases by importers during the local production season. So that's helped the model in the sense that otherwise those rice importers could've undercut the system, maybe by importing particularly cheap varieties, etcetera. Instead, those importers have shifted how they're engaging during that rice season. So the government has played a role there. And also in facilitating these price discovery meetings, the negotiations happening prior to harvest. So they're increasingly playing the convener role to those meetings, not directing what happens at them, but playing a role in ensuring that everyone comes together, which is important as that's something that obviously the project would no longer be able to do once it exits.

Olaf Kula: Thank you, Ben.

What I'd like to do now is move on to the ADVANCE II case in Ghana.

ADVANCE II, as its creative implies, is the second generation of the ADVANCE project. The first ADVANCE project began in 2009. And ADVANCE II began in the 2013/2014 season. ADVANCE I was a project that went through several different models, looking at service delivery through farmer organizations, looked at trying to link farmer organizations directly to some of the largest buyers. Guinness Ghana was a buyer in the sorghum sector. So there was an effort to do the direct farmer-to-buyer linkage. Ultimately, ADVANCE and then ADVANCE II settled on a model that was working primarily with initially what we were calling nucleus farmers, and then later out grower businesses.

So, the goal of ADVANCE II in the project documents was to increase the competitiveness of select value chains – that was maze, rice, and soybeans; although I'll be talking primarily about maze – to improve value chain actors' access to markets and finance, and to reach over 113,000 small-holder famers through indirect service delivery by the end of 2018.

As I just indicated, we started working with nucleus farmers, and then moved to out grower businesses. In actual fact, it was the nucleus farmers that did the moving.

Where ADVANCE II was using the term “out grower businesses” because of the increased functions that these businesses are taking on as service providers to cooperatives. I don’t know if I can move the arrow. No, I can’t. But there is a graphic too on the right side which basically shows the out grower business in the center. And this is the sort of key delivery model – key service provider between financial institutions, between input companies, and between the farmers and the market.

Generally, this out grower business has started as a small-holder farmer within communities and, through one reason or another, has been better able to access equipment, allowing that person to produce more on more land. Generally this out grower business purchases a tractor. Immediately upon purchasing that tractor, that business has an underemployed resource, so they begin providing plowing services to their neighbors. Plowing services to neighbors helps a bit and provides some income to that out grower business, generally paid for in kind.

But quickly that out grower business realizes that if their increase in yields through access to improve seed, crop protection, better practices, were shared with those out grower businesses, they would actually have a larger supply that they could then market. And in that process, this out grower business begins to transition from primarily a farmer to an integrated operator facilitating the delivery of input services, either on a cash basis or an in-kind payment at the end of the harvest season, depending on the level of trust between the out grower business and the farmers.

And then ultimately on the output side, selling either into an open market through a warehouse receiving system, the Ghana Grains Council, GGC – on the right side of the arrow – facilitating the bundling of financial services by banks. The first in the market was Shenopi Aba, but other banks have subsequently come in.

And then ensuring the delivery of a quality product to processors or end-market buyers. Ghana’s one of the only countries in West Africa that has actual standards for maze. And a number of the processors and buyers are looking for maze that meets those standards.

Again, as Ben had indicated, there are a number of environmental factors that should be taken into consideration in trying to understand this model. One is that in Ghana, farmer organizations, unlike in Senegal, tend to be very weak. Where they exist, they have mostly existed because the government has called upon farmers to organize themselves in order to be able to benefit from the distribution of what I would call patronage goods, whether it be seed or fertilizer, cutlasses, etcetera, to facilitate some transaction cost savings for government. And when those distribution programs finish, the farmer organization tends to disappear.

The other element – and perhaps somewhat related to the weak farmer organizations – is: Ghana has a very dynamic – especially in the North – and competitive import and financial sectors. While there’s still not very much competition in the financial institution space for farmer credit, there are lots of input companies. There are small agro dealers at the village level that go and buy inputs, either from a large input company in the regional capitals or all the way down in Accra, and the sheller inventory. They buy more inventory. There are larger input companies. There are multinational input companies, national input companies, as well as local input companies. And because of that competitive space, there is also pressure to innovate.

So, what did we find? As Ben was talking about, in terms of tools to measure movement towards systemic change, we're looking at imitation, client or customer satisfaction, continued use, adaptation, further investments, and replication. As you can see from that table, just about all of the boxes are checked. The X means that that function isn't happening. What our consultant, Charles Ado, did when he was in Ghana was visited a selection of value chain actors at all of the functions of the value chain. 'Cause we wanted to see how different actors were responding to this changing and developing and evolving model.

The other thing I would like to say about the model is: unlike the Senegal case, the out grower businesses were not and are not bound by a set of rules or procedures or a single set of norms in terms of what services to offer to which farmers. This is really kind of an organic and evolutionary process. There is some – in places where there's competition between out grower businesses for out grower s or small-holder farmers, there tends to be more innovation or an adding on of additional services. In areas where that's not the case, we see a slightly slower evolution of services.

Not surprisingly, the out grower businesses, especially in the beginning, tended to favor working with women farmers, small-holder farmers, because they were more reliable in paying back the in-kind, delivering the value of product necessary to liquidate their debt. That has expanded. And, on average, these out grower businesses work with 300 to 400 clients. And the goal is to take them to an average of 800 clients.

So what we found, and what makes I think Ghana particularly exciting, is: widespread and very rapid adaptation by the project clients. That's very good for projects, as we all know, when it comes time to report into our donor. But also very widespread copying by non-project-clients. So a village group or a group of small holders or a community of small holders recognizes that next door or down the road, there's a project, ADVANCE, or another donor-funder project that is working with either nucleus farmers or out grower businesses, and they're introducing good agricultural practices.

We saw actually quite a bit of copying by farmers of some of the good agricultural practices that they were learning about from people down the road. Also a lot of copying from other value chain actors like input companies moving towards sale – rather than direct sale to small-holder famers, trying to identify some of these out grower businesses through whom they can bundle a number of input delivery transactions. We saw quite a number of out grower businesses competing with each other, as I indicated a little earlier.

What do we take away from that? One is that the more competitive the marketplace for services, the faster we're seeing change happen. Of course, these are untested hypotheses, and sort of I welcome participants to question that. But that does seem to be the case.

The other thing is that the out grower business becomes a mechanism through which farmers access information that they would not otherwise have. Ghana does have an extension service system. But, like in many other countries, extension service providers, extension workers with the ministry of agriculture, with regional governments, often lack the means, the fuel, to be able to get out and visit farmers frequently. In some cases, out grower businesses are paying the fuel and paying some of these extension workers to provide extension services and training. And in some cases, they're securing those services on their own.

So, in the context of also what Ben was saying, I've been asking myself: so why is it – I would almost say sort of turbulent, or turbulence in this ag space or this agricultural service space – why is there so much competition? Why are there so many actors coming in? And couple hypotheses which I will bring up again later is: are there differences in the governance or policy environment? This is an environment in which the government is not playing a very active role. Does that sort of force or create a window of opportunity for actors to be more active? The other question I would have is these strong cooperatives. Is it possible that the cooperatives and farmer organizations actually inhibit innovation by encouraging all of their members to follow like practices, a phenomena that doesn't occur in Ghana?

I will invite anybody to ask questions, and I'll try to deal with some of these questions. But what I would like to do is pass the mic on to Dan White to talk about Zambia. I will go through those questions and make sure that we cover those towards the end of the presentation.

Thank you very much, and to Dan. Do we have Dan White?

Adam: Hey, Dan. This is Adam. If you muted your phone, you might wanna un-mute it. We are not hearing you right now.

Olaf Kula: While we're waiting for Dan to come back, let me try to address some of the questions that have come up was asking a question about the role of MOFA – that's the Ministry of Food and Agriculture – participation in the program, and what is the lesson learned for Ghana?

Yes, both the ADVANCE I and II programs worked closely but not through the ministry of agriculture. And the principal means of that collaboration is, one, at the grassroots level, encouraging some of these out grower businesses to compensate extension workers for services that they're providing to their network of farmers. The second level it advances working on is on the seed sector. Ghana is in the process of harmonizing its seed policy with the ECOWAS policy on seed. And the ADVANCE project has done a number of test trials and funded test trials for seed varieties introduced by Pioneer and Penar.

Dan White: Hello?

Olaf Kula: Dan is back. I can hear you, Dan. And let me pass it on to you, and we'll get back to some of these questions afterwards. Thanks, everyone.

Dan White: All right. Sorry, everyone, for the technical difficulties. But I hope everyone can hear me now.

I looked at the third of the four cases under this research stream, which was a new firm structure called a producer company that was established under the PROFIT PLUS project, focusing on input supply and commodity off taking in Eastern Province and Peri-urban Musaka in Zambia.

And before I get into the content, I did wanna ____ the disclaimer that I do wear two hats on this project. So prior to going out in June to implement this research, I had worked for the previous several years on developing the underlying micro-entrepreneur model and implementing aspects of the producer company model as part of the project in itself. So, that said, I went into it really hoping to use this as an opportunity to step back a bit from just trying to make this thing work, which is what I had been doing during the previous few years, and see: where are the holes in the model? How can we adapt it, moving forward, to try to increase the likelihood that it will be successful as a systemic change, and more sustainable?

So, a little bit about the program. The PROFIT PLUS project, amongst other objectives, is focusing on trying to increase access to input goods and extensions to realize higher yields, productivity, and incomes for small holders in those geographic areas. The project is operating within a generally very favorable period within the agricultural sector. And market demand for the key crops including maze, soy, and ground nuts has been steadily growing for several years. And there is still a lot of appetite among large input suppliers, commodity off takers, to capture small-holder customers and suppliers. But at the same time, you still have a lot of the same really basic cost drivers that make it really difficult to service small holders. You still have fairly weak roads, infrastructure, and a really high level of population dispersion across pretty sparsely populated parts of the province.

So in this context, PROFIT PLUS has adapted the agent model deployed by the previous profit program that some of you might remember I talked about a few months ago at the breakfast series with Richard Cole. That project was focused in Southern Province. PROFIT PLUS has shifted focus into Eastern Province. And PROFIT PLUS has established a network of about 350 community-based agro dealers, which are effectively just village-level retail outlets for inputs that're linked with input suppliers to be managed as networks of agents or as standalone retailer customers that're also providing extension to the neighboring farmers.

And the CAD network has proven to be a pretty critical node in input supply in terms of solving hat last-mile challenge. But we have also found over the past few years that for all of its general success, it still has limitations that we think are probably going to work against it becoming self-replicating on its own. So that we see as really critical barriers to CADs on their own becoming a self-replicating systemic change.

So most of the 350 CADs are making money and are continuing to invest in their operations. And a few outliers are doing very well and have actually graduated to establish their own network ____ at multiple retail points. But the project did find that there were still three limitations to CADs becoming a self-sustaining business model in their own right.

First, individual CADs still had relatively limited managerial and financial capacity to manage larger or more diverse business lines. Second, at the smaller scale, these CADs also have very little capacity to leverage the kinds of wholesale pricing that enable town-based agro dealers to compete with them at lower price points. So even though they're close to farmers, they're still buying in small enough volume that the price that they're able to offer is sometimes significantly higher than what those farmers could get in town.

And third, a large part of these CADs' competitive advantage builds on their tacit knowledge and social capital that they have at the village level. So the fact that they know farmers and understand which of the neighbors they can trust with extending input credit to – and vice versa: those farmers feel like they can trust the CAD for extension advice, and that the quality of goods will be reliable – is a large part of why they've been able to succeed at the village level while other input suppliers have failed. As these CADs grow and expand beyond their neighbors in their immediate village, this knowledge and set of ties diminishes and they start competing with all of the same levels of opaqueness in the market and levels of distrust that larger companies run into when they move into the more rural areas.

So, to solve this – tried to develop a model that would solve some of these constraints, the PROFIT PLUS project encouraged several CADs to develop a new link in the value chain to overcome these limitations. So these producer companies have been formed by anywhere from 3 to 12 individual CADs. The producer companies are separate firms. So, to clarify, this is not just an association of CADs, but these are actually separate business entities, and each of the CADs acts as a shareholder with an equity stake. The producer companies have enabled the CADs to split up managerial tasks, pool finances to enable them to invest in big-ticket assets like trucks and warehouses at wholesale pricing and preferential inventory credit terms from suppliers, and leverage their individual catchments into larger and more enticing customer or supplier pools for input suppliers and off takers.

So I went out in June to talk to and interview some of these producer companies and some of their famer customers and build on some conversations that I had with several of the input suppliers that had been working with them as well, to try to see to what extent these models show promise to become systemic change.

So, upfront, unfortunately, the models are still very new. So the oldest producer company to this point are only a little beyond a year old. So it's not possible at this point to evaluate any kind of empirical imitation by other groups of CADs. So several other sets of CADs have declared their intention to establish producer companies of their own. But it will be several years before we'll know if that imitation is occurring. But even at this early phase, it does seem that buy-in is strong amongst the existing producer companies. They've all invested their own funds to establish the firms. One of the three producer companies I spoke with has now rented a warehouse and a truck and has laid out and recovered an initial season of an out grower scheme in ground nuts and sunflower and soy, all on credit that they fronted themselves.

So there does seem to be, at least amongst the existing cadre of producer companies, a strong commitment to try to make this model work. But I would say in terms of signals for the future potential of this to become a systemic change, the most promising part of the model is its adaptability. Each of the producer companies interviewed was focusing on very different business areas. One was looking at expanding out grower schemes in commodity trading. Another was looking at investing in processing equipment to produce high-nutrient protein supplements for a government nutrition program with a guaranteed procurement price. And another was looking at tomato processing.

So this adaptability of the model really enables firms to adapt to changing market conditions as certain commodities or crops become more or less profitable. And also I think will increase the chances that this could be imitated and replicated not just within the narrow confines of the existing value chains or related goods and services that we've looked at, but could very easily work for almost any retail goods market that works at trying to expand at the village level. So this could move into dry goods if you get a substantial number of retailers in the room.

But I would say that the biggest challenge that the model still does not seem to have answered is that while it is highly adaptable, the underlying mechanism that will need to be there for this to become truly self-replicating is: somehow this market system, on its own, needs to develop a mechanism for nascent micro-entrepreneurs to either self-identify or be identified by someone else within the input supply chain, within the commodity trade or offtaking chain, and to initially start working at the retail level before they'll even be able to come together and form a producer company.

And this is a much more profound question that I think ____ ____ ____ that I think gets at the potential for micro-entrepreneur-based models to become systemically embedded – is: I have not seen a mechanism yet – either in Zambia or anywhere else – that has really figured out: how do you create those mechanisms for self-sustaining and self-perpetuating creation of CADs or nucleus farmers in terms of self-identification, self-training, self-capacity-building, to a level where they would be able to become something like a producer company? But there are several input suppliers working on this in Zambia, trying to figure out some low-cost ways to identify these networks without the intervention of a program.

So, on average, I think there's some positive prospects for this model. But there's also still some core challenges that we haven't been able to answer yet.

And with that, I'll hand it back over to Olaf? Or do you want to go to Ben?

Olaf Kula: Thanks, Dan. Just two quick questions. One is clarification. CADs and ADs: that's agro dealers, and the CADs are community agro dealers?

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Dan White: Yes. In this context, the CADs and the ADs are the same. So they're referencing the same thing. So yeah: community-based agro dealer is just the rural agro dealer outside of the town that has established a sort of greenfield retail point for the market somewhere that previously didn't have access.

Olaf Kula: Great. Thanks. And one more. My understanding is that East Africa, and particularly Zambia, have been effected by now two years of two draught seasons. What has been the impact that – have you observed an impact on how farmers are making decisions in the context of a couple years of draught?

Dan White: Yes. And when the paper comes out, we go into a lot more detail on that side of things. But very briefly, an interesting finding that came out of the farmer-level interviews was that these past couple of years of draught have really seemed to have shifted some of the farmer incentives and priorities in their own decision-making around production. So, unsurprisingly, farmers that previously were much more interested in intensification of production through increasing purchasing of higher-quality seed, fertilizer, are now increasingly skeptical or wary, not of the potential benefits of those goods, but of the fact that increasing weather-based volatility makes those riskier bets. Even if the payoff could be higher in a good year, it means that they're having to invest a lot more upfront.

And so we found a real self-reported shift in their priorities in terms of what they want to get out of – what their strategy is for a production season, away from intensification for higher incomes towards either diversification of crops or production practices that they perceive as increasing their potential for resilience in the face of risk.

And I think particularly for Feed the Future programs that have such a heavy emphasis on increasing incomes, understanding that, particularly as climate change begins to increase volatility across most of the areas that we're working, farmer incentives or their own desires to prioritize risk resilience – which are already there and already very strong – need to probably given a bit more weight in terms of understanding what technologies are going to have the greatest likelihood for adoption, and what the actual downside risk is for some of the technologies that otherwise might make sense in an Excel spreadsheet.

Olaf Kula: I think that's a really interesting point, Dan. And it also kind of illustrates that the systemic change process is not just a process of an external actor introducing technology or innovation, but it's a process of the actors within a system taking decisions based on a variety of environmental factors.

I'm going to now ask Ben to tell us a little bit about the Rwanda Dairy Competitiveness program. So moving on to Ben. And thank you very much, Dan.

Ben Fowler: Thank you, Olaf. Great. Well, I'll close out the fourth of these case studies by talking about CP, or the Rwanda Dairy Competitiveness program. The goal of this program specifically was to work in the diary sector, improving its competitiveness and performance to benefit small-holder farmers. And while the project worked on a lot of things as always, the specific thing that we focused on in our case study was around their work on quality standards and the enforcement of those standards.

The project worked with the government on developing a five-year strategy for the milk sector. And out of that came a recognition that poor quality was really a significant barrier to Rwandan milk being able to be sold elsewhere and to the quality for consumers.

So the project took several key strategies. One was to pilot, with one of the large milk processors, a franchise model by which milk retailers would become branded as milk zones, and sell high-quality pasteurized milk to consumers. And the idea of this was that it would be a very obviously signal that you could come to this particular retailer, you'd be able to buy very high-quality milk, and that that would create a response by consumers to increase their demand for it.

Simultaneously with this, the project worked at other levels of the value chain to upgrade their quality of milk production. So, particularly with the milk collection centers in rural areas on their testing equipment and their actual chilling equipment, with transporters and with retailers. It also introduced a new system for milk transportation that ended up being a lot more efficient than the existing system. Made the milk arrive at the milk collection centers more quickly, and therefore reduced bacteria counts.

And then finally, they also worked with the government on the enforcement of quality standards. Such standards already existed at the regional level but had never been translated into actionable items that local governments could enforce with the existing dairy industry.

As in the other cases, there were a number of historical conditions that helped shape the options available to the sector in changing. And a very important one among those was that the government was seen as quite credible when it came to enforcing standards. It had actually already enforced standards in other sectors. So there was a precedent already set and an expectation that it could do so. And a recognition that the Rwandan government had a relatively high level of capacity, and therefore would be able to follow through on the enforcement of such quality standards.

So in terms of our key findings, we found a number of interesting things. One was that this retail model had become quite effective, quite successful. So the initial retailer or processor that the project worked with had expanded to a very high number of these retailers selling the milk. In fact, the name that they branded for these retailers of milk zone became essentially the generic term for a milk retailer, a quality milk retailer. So it spread beyond just that company.

And that company has continued to increase the number of retailers that it is working with. New retailers who are adopting and joining the system are adhering to the same standards as the initial ones that were set up when the project was supporting it. And the company has continued to do its own enforcement process to test the quality of the milk that's coming in and being sold at those stores.

Interestingly, within a relatively short time, there was an imitation of this retail franchise system by another processor in Rwanda, which purchased all of their own equipment and set it up and choose their own name for their stores, and which has now approximately more or less half the number of retailers as the first mover, that first processor that the project worked with. And the project's role in supporting that second one was quite a bit less intensive than the first. So you saw evidence there of imitation of the business model. And that has driven the demand for quality milk throughout the rest of the system. So increased demand for milk collection centers that're producing adequate milk.

In addition to that, recently – so very recently, there's evidence that some financial institutions which previously had been reluctant to lend into the sector, given poor performance in past, are beginning to develop financial products to support the expansion of those retail stores, and are developing loan products for that. So that's currently in process. It hasn't been issued yet, but seems that it is going to be.

And I think you're seeing a norm shift among consumers and others within the industry towards increased valuing of quality and recognition that quality is actually something that can drive improvements in business performance, rather than just representing additional cost.

So a couple of the takeaways that really stood out. One of them was that often with things like norms and standards, we think about there being a requirement to first enforce the standards, and that unless they're being enforced eternally, then there's no incentive for the system to change.

But this actually showed that there was, instead, an opportunity to work first via the private sector and then, after that, start to use the enforcement mechanism more as a way to institutionalize and support the ongoing functioning of the system. Because, in the order that the project worked on this, actually while they were working with the government on enforcement for a while, the actual ministerial order which was sent to the local governments only came out in February of this year.

So actually it was interesting because it was by initially demonstrating the potential and the ability of the system to work with higher standards, and that there was this sufficient body of entities within the system that had already adopted this norm of valuing quality and quality orientation, that then it was possible to start enforcing those rules and to have the buy-in to do so.

And another key takeaway was that it, of course, is always important to recognize how the supportive conditions can vary. And in this case, Kigali, given its higher-income consumers who are also more sensitive to time and therefore willing to spend more to not have to boil milk themselves, are the ones where there's really been the market for these kind of retailers to take off. And, to date, that rec model has not yet been replicated in rural areas. So although the improvements and upgrading by the MCCs, the milk collection centers, in the rural areas has improved the quality of the milk even in the rural areas, rural consumers are not able to access the pasteurized milk that the milk retailers sell in Kigali.

So, with that, I'll pass it on to Olaf who will probably want to facilitate a few questions before we wrap up.

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