

# STRENGTHENING PRIVATE SECTOR EXTENSION AND ADVISORY SERVICES

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## PRESENTATION AUDIO TRANSCRIPT

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### PRESENTERS

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### MODERATOR

Julie MacCartee, USAID Bureau for Food Security

Julie MacCartee: Hello, everyone. On behalf of Agrilinks, See The Future and the USAID Bureau for Food Security. I would like to welcome you to our webinar today, on strengthening private sector extension and advisory services in an international development context. My name is Julie MacCartee and I am your Agrilinks webinar host with the USAID Bureau for Food Security. I'll be your webinar facilitator today so you'll hear my voice periodically, especially during our question and answer session. But before we dive into the content, I would like to go over a few items to orient you to the webinar.

Julie MacCartee: First, please do use the chat box to introduce yourself, to ask questions at any point and to share any resources you may have that are relevant to the topic today. And thank you to everyone who's introduced yourselves already, we always love to see that we have a global audience for these webinars. We'll be collecting your questions throughout the webinar. And we'll pause after each speaker for a couple of questions. And the speakers will also answer some of the questions in the chat box along the way. And then we'll probably wind up saving the bulk of the questions until after the three presentations today.

Julie MacCartee: Lastly, we are recording this webinar and we will email you the recordings, the transcripts and any additional recommended resources once they're ready, perhaps in about a week and a half time or so. And they'll also be posted on the Agrolinks.org website. Onwards to our presentations and our discussions on extension. In today's webinar, the Seeds of Future Developing Local Extension Capacity Project, also known as DLEC will present results of a portfolio review exploring recent experience and potential for expanding private sector expansion and advisory services for the Ag sector. In addition to the initial presentation on this DLEC study, our webinar today will also cover two case studies of private sector extension which I'm really excited about one in Senegal and one in Uganda.

Julie MacCartee: The webinar speakers will give recommendations for expanding private sector Ag extension services, through future USAID projects and through other investments. I think we're pretty much ready to dive in, I'm going to introduce our first speaker, who will then introduce our subsequent speakers and then we can get started. Kristin Davis is a senior research fellow with the International Food Policy Research Institute, or IFPRI where she has been since 2004. And her work involves research and capacity strengthening on agricultural extension education, and agricultural innovation systems. And she is currently the project co-director for the DLEC project funded by USAID, which she will be talking about now during our webinar. I'll pass the microphone over to Kristin and we can get started.

Kristin Davis: Thanks very much, Julie. Good day to everyone. From my side, I'll be presenting the study that Julie has mentioned on private sector extension. And then we'll be hearing from two case studies from Uganda and Senegal as Julie mentioned, they'll be questions in between, you can use the chat box for questions too. After I present the study, which you can download in the link box on the left, there's an overview and the pool study. After my presentation, we'll hear from Robert Anyang from Chemonics International. Robert is an agricultural value chain improvement and marketing expert. He's got 23 years of experience, applying the facilitator of approach to market systems and value chain development. You'll be hearing about that when he presents the village agent model from Uganda.

Kristin Davis: He's currently the Agriculture and Food Security Advisor for Eastern and Southern Africa region for Chemonics. And Robert has worked in extension programs in 19 countries in Sub Saharan Africa, working to strengthen public private extension capacity and also with digital technologies. And then we'll hear also from Jean-Michel Voisard from RTI. He's based in Dakar in Senegal and is a senior market systems advisor at RTI International. And Jean-Michel has worked 20 years in the West African region linking private sector banks, grassroots rural organizations to build sustainable market systems that benefit small farmers. And Jean-Michel has been chief of party and technical advisor to Feed the Future, Naatal Mbay project. He'll be presenting that. But let me give a little bit of introduction to DLEC, Developing Local Extension Capacity.

Kristin Davis: This is a Feed the Future project implemented by Digital Green together with IFPRI, Care International, the Global Forum for Rural Advisory Services. And we do work closely with the CGIAR research program on policies, institutions and market. DLEC strengthens extension in Feed the Future and aligns countries through three interrelated sets of activities. These are diagnostics studies, such as we're presenting today on the private sector extension, we've also done 10 or 11 studies on assessments of extension in Feed the Future countries. We also get involved in pilot engagements on the ground in different countries implementing best practices that we found through the diagnostic. And then we bring all the learning from the diagnostics and engagement to the extension community, in countries and globally through communities of practice, such as we're doing today.

Kristin Davis: Let me dive right in. I think Julie mentioned that we want to summarize lessons learned and also options to expand private sector extension and advisory services. We call it EAS at times, through future USAID projects, but also other investments. And the study inputs are including a global literature review, I'll touch on that briefly. And also a rapid desk review of USAID investments in 28

Feed the Future and aligned countries. As I'm sure you're aware, extension is recognized as essential for programs who are trying to transform Ag systems, governments and other investors who want to address global social and economic development objects such as reducing food insecurity, poverty, et cetera. And both public and private organizations are active in extension and advisory services in most countries.

Kristin Davis: Just to define for you who are we talking about with private sector actors, and you'll hear excellent examples from Robert and Jean-Michel. We're talking about basically all the non governmental actors so we're talking about both nonprofit and for profit entities. These include civil society and NGOs, who are trying to advance their organizational mandate. It includes input suppliers and other for profit entities, they want to sell products, they want to please their customers. It includes people like product buyers who are trying to get adequate supplies of good quality commodity. We also have consultants and consulting firms who are selling their services. The media are also often for profit, marketing information services. And then we have producer organizations who wants to service or represent their groups interest.

Kristin Davis: We'll be hearing about them in more detail from my presentation and the case studies. The private sector has always complimented public sector extension and advisory services. And you might notice in the report, and in the presentation that we talk a lot about the public sector still. And that comes because of the portfolio review that we did, we saw a strong role still of the public sector, important to complement the private sector and essential really to meet objectives of different development partners. And so that's why you hear about the public sector in this private sector webinar. But I'd like to jump also into the literature review, why the private sector, why private sector extension and advisory services?

Kristin Davis: Well, there's a lot of potential for private sector in terms of providing sustainability of extension services of meeting needs of farmers. And I'll mention a few of these here, they do increase profits to both the service provider and to the clientele of the farmers. There's shared value there. It's also used to strengthen long term business relationships. Private sector is good for promoting innovation and service delivery, including use of ICTs. And the private sector helps to ensure adequate quantities and quality of market products. And they do participate as financers, as service providers, as users of extension and advisory services. And we saw that most USAID extension and advisory service projects implement by using private contractors or grantees.

Kristin Davis:

In addition to the potential of private sector, there's of course limitations as well. And of course, one of these is that they need cost recovery, they're trying to get their costs back and even make some money in providing these services. And as a result, the coverage isn't always perfect. It's sometimes limited to people who can afford to pay for services to people with the higher value crops and other products. Sometimes there's a perceived or an actual conflict of interest for people like maybe some input providers who people think are just trying to flog their product, without necessarily, caring about the bigger picture of what the producers need. There's also the case that many extension providers from the private sector actually lack experience, they lack capacity, and interest in extension and advisory service provision. There's also the issue of the nature of innovations, there's the public versus the private good. And so, certain innovations are better for the private sector, because commercialization is possible.

Kristin Davis:

And then there's other goods, such as public goods, natural resource management, and so forth, that is less interesting for the private sector. That's quickly a review of the literature, we want to make time for the case studies. But now I want to walk into the portfolio review, we looked at 28 Feed the Future and aligned countries, they're listed here. And we've been in touch with many of you. We looked at 133 projects from the year 2010 to 2019. And these projects that we looked at, these programs were actually quite complex, they had on average 3.6 different components or objective, then some had more than 10. It's quite a lot that they were taking on. Only five of the projects were solely extension and advisory services. And these two of these were actually implemented by USDA, the United States Department of Agriculture. And about five to 10% of the funding of these projects were for the extension and advisory services component.

Kristin Davis:

That's an overview of what we looked at for the portfolio review. What we found, we looked at first of all, some design considerations when we looked at these 28 countries, and 133 projects. Design of programs is important because it establishes the base for investment success or failure. It determines the nature and extent of the impact. And what we've found is there appear to be some significant design issues for extension and advisory services and for effective private sector participation in the system. The first of these is that there appeared to be a weak analytical base to design a lot of the planning seem to have been maybe ad hoc done by contractors and grantees during planning or as they started implementation. And it didn't seem like the strategy and approach was necessarily linked to some evidence space.

Kristin Davis: Relatedly we didn't find much of an evidence base for the content that was being promoted. We weren't sure why these innovations were being promoted and how they were linked back to the needs from the clientele. Thirdly, as I mentioned, the projects are quite complex. There's a lot of activities in many of these projects, there's extension services, financial services, input supply, producer organizations, irrigation, mechanization, market development, all of these are needed to enable change at the farm level. But of course, with so much complexity, so much going on, it's hard to give due attention to the extension component, specifically. And then we found very ambitious targets. Many of these were actually met or even exceeded, but one wonders when you're trying to reach such large targets and clientele does it compromise the quality and the intensity of the services?

Kristin Davis: Those are some design considerations. We also looked at some of the implementation considerations too and as I mentioned, we found this surprisingly strong reliance on public extension and advisory services. This was true in almost all the projects, even those with weak extension services. And of course, it's necessary to gain access to communities, validate legitimacy, and of course, to provide content backup, and so forth. But that was found across the board, in terms of methodologies, very traditional we found farmer training, demonstration field days, and a sprinkling of others like mass media fairs, and so forth, which is fine. Traditional methodologies are great where they work. And as you see, in point three, radio was very common and very effective. But we found limited applications of other information and communication technologies, or ICPs.

Kristin Davis: And effective communication is really at the heart of extension and advisory services so we might want to consider other applications of ICP. Fourthly, subsidies for inputs were very common, they're often used to encourage adoption, which is great, but they are well known to distort market decisions and to be unsustainable. Of course, most EAS programs are essentially subsidies themselves. Then the issue becomes, what do we subsidize how much and for how long? And then lastly, decentralization was a common issue 15 countries had decentralized their public system, while carrying potential benefits, they can be really chaotic, disruptive. They give new responsibilities that requires, different financial arrangements, different budgeting and so forth. It's quite a long process and takes a lot of thinking. We then looked at the different project roles that we found across the board.

Kristin Davis: And we found that producer organizations were ubiquitous, they were used in all of the projects in all the countries. Most projects or evaluation reports that we looked at identified them as needed strengthening, but very little was

actually provided. And now you'll hear more from Jean-Michel about the use of producer organizations in the projects he's presenting, contact, lead farmers, farmer volunteers, as many different names. These were also ubiquitous. And they were important because they link the providers and the communities they expand the reach. But of course, there's issues with them, which we can discuss if we have time at the end as well. And then you'll be hearing more from Robert about the input dealers, but they were very common as well across the board.

Kristin Davis: There's a strong common interest for promoting the use of inputs from both, the projects and the input providers themselves. But we did find that the capacity, the range of services of input to providers was often limited. I want to move now to just talking about how can we invest? What do we want to promote, so that we can expand and strengthen private sector extension and advisory services? What interventions can we bring in. And I realized this is a very long list, but I'm going to talk about each of these points one by one. Excuse me. Firstly, I think this is a big system area, we need to develop national extension policies and strategies, or if they are already developed, they need to be strengthened and implemented. The coherent public sector policies on extension are key. They provide an enabling environment, they either enable or disable private sector to come in, and so they're very important.

Kristin Davis: And one intervention here for funders, whether they be programs or projects or funders of any type, including government, you can support formulation of national extension and advisory service policies. A second intervention is to strengthen the public sector. This, as I said before, is a bit counterintuitive. But the public sector really serves as a backbone of the full extension and advisory service system. It's important to have a strong public sector so that we can have a strong private sector as well. Thirdly, we need to improve support services for extension. These include things like training research, subject matter specialist, backstopping, communications, monitoring and evaluation and so forth. This is important for the private sector. Seriously, we want to strengthen producer organizations, they are private sector entities, their key players for effective and sustainable extension systems.

Kristin Davis: And I think more intentional effort is needed to bring more innovative approaches, and to develop further these organizations. And I think we'll hear more about that from Jean-Michel. The sixth point is to strengthen the input suppliers, they were also an important element for private sector extension. And here we want to focus on improving professionalism, management, quality consciousness and things like that. There's other private sector providers, also that needs strengthening. Number seven, we need to strengthen potential private sector providers who might be weak, it might be more efficient, it might

be more preferable to strengthen their capacity, give them business plans and business models before expecting them to engage effectively in provision of EIF themselves.

Kristin Davis: Number eight, we want to strengthen quality certification system. When we're talking about the private sector, we want to pay attention to the quality, the objectivity, the qualifications of these different providers and their accountability. And a possibility here might be to fund technical assistance, training, or development costs for a system to establish standards to register certified extension providers. I think Robert is going to touch on that in his presentation from Uganda. And then number nine there's a need to strengthen and to establish stakeholder consultation programs, things like innovation platforms where you bring together the public sector, the private sector, researchers, agribusiness farmers to address specific problems or opportunities. And then there's the issue of subsidies, you might want to subsidize so that you're promoting adoption or uptake of innovations early in a project. You might want to think about strategically subsidizing and give things maybe for free or subsidize initially or to get things going. But be aware and have sort of an exit strategy for how you're going to phase that out in the end.

Kristin Davis: And then finally, the last investment intervention, I think, is to actually directly fund extension delivery. And this is especially the case where it might be appropriate for post-crisis countries, fragile states, where you're serving disadvantaged populations or in natural resource conservation programs. These kinds of programs have an advantage that there's a direct link between the funding and the clientele and their impact. The disadvantage, on the other hand, is that they're generally time limited, not sustainable. And they're limited in terms of scale, as well. One more slide, and then I'll talk about how DLEC can come in and help some of the missions and so forth on this, but we sort of bucket these four recommendations, according to four different scenarios from a very weak public and weak private extension system to a very public and strong private systems.

Kristin Davis: And if you look in the report on the left that you can download, you'll find preliminary recommendations for each of the 28 countries, the 28 portfolios that we reviewed. Of course, these recommendations are highly tentative, because this was a rapid review for detailed analysis is needed. But we can offer that I'll tell you in a minute how. Starting in the top box, if you have a weak public and a weak private system, like in post crisis countries, those with limited economic development, you might want to have direct delivery. You want to address these immediate needs and you want to focus probably on capacity development as a high priority, especially that of producer organizations.

Moving down to the second row, if you do have a weak public, but a strong private system, this is probably rare, if it exists at all but you can think about pockets of strong private sector extension, maybe in countries that have plantation crops or something like that.

Kristin Davis: Here, you want to establish the necessary foundation, you want provide capacity for the public sector, as a priority. And then the third scenario where you have a strong public, but a weak private sector extensions, here's where you want to target support to strengthen the private sector and have support services strength and technical specialist support, and communications as well. And then lastly, if you're in a fortuitous situation that has a strong public and a strong private sector, you have the basis for a strong and effective national systems and activities, here from donors and other funders should strengthen capacities but also focus on coordination and maybe gaps in serving underserved clientele as well. The takeaway here that we really want to give you from the report is that this is a call to investment in national extension and advisory service systems development. Looking at the whole picture, all the different providers from a pluralistic environment, I think the system development is key for sustainability, efficiency, effectiveness of the private sector, and it's been neglected in the past, with inadequate attention to local capacity development, and to analytical work and extension and advisory services.

Kristin Davis: There's a lot more recommendations in the overview that you can download and in the full file as well, that I hope you'll take a look at and give us comments on. I just want to close here. Before I turn it back to Julie was mentioning that DLEC, the Developing Local Extension Capacity Project can assist USAID missions with analysis, further analysis like a deep dive into why the private sector is not working or how it can be strengthened. We can help with project design, review scope of work, or help with workshop per project design and implementation, suggest consultants and even do evaluation of extension and advisory services was activities. With that, I'm going to pause let Julie see if there's some key questions we want to answer before turning over to Robert, to present the case study on Uganda.

Julie MacCartee: Great, thank you so much Kristin, for that excellent presentation. We've had a few questions come in. And I'll pose to you before we move on. Let's see, Judy Payne, former USAID member asked, "Do you have any sense of the number of farmers reached by various approaches in the study? Radio is of course common and effective. Do you have any numbers on other digital tools or services?"

Kristin Davis: Thanks. Hi Judy. I knew we'd hear from you on the digital side. We don't have specific, we didn't aggregate as to the number reached by different tools and approaches. In all from the portfolio review, it was really reported that 89 million farmers are. It was a huge reach, but I think it was through all the different methods. And of course radio reaches probably by far the most of them. But we don't have specific information at the at this report level of how many were reached by the different digital tools.

Julie MacCartee: Great, thank you. And a question from Gordon Otieno Wanjali, "How do you assess the strength or weakness of an extension advisory service, public or private? Is there a specific tool that you use for assessing this?"

Kristin Davis: Thanks, Gordon, we don't have a specific tool. I think there's people working on these types of issues. We can sort of use the elements that I've outlined here in the presentation and the report. And if you go to download the huge report, the big full report, we have a decision tree at the end, which can help you to see which direction you should go in, in order to intervene. But I can talk to you maybe, I can use the chat box after and talk about some other initiatives that are going on to assess extension in general, not just private sector.

Julie MacCartee: Great, thank you. I think we'll throw in one or two more short questions. And then Kristin, if you will also wouldn't mind helping to answer some in the chat box once Robert gets underway. Let's see. Liz Ogutu asked, "Do you have any scenario timescales for how long it would take to implement some of these best fit recommendations, assuming some originality or shared environments, et cetera?"

Kristin Davis: Scenario timeline, everything takes longer than you expect. For instance, I'm based in South Africa and I have been assisting or I had assisted with the development of a national extension policy, and it took years. I know, Uganda has gone been going through something similar and Malawi has in the process of sort of revising their national policy, it takes a long time, and you have to be ready, for sort of the long haul in some of these systems' development areas. In terms of regionality, I'm assuming you're talking about learning across the region. But I think we only need to plan for longer, longer than we expect.

Julie MacCartee: Great. And perhaps one more question. Let me check on what we've got here. Do you have any plans perhaps, a question from Anna Aberdeen? Are there any plans for how to link this USAID funded program to any nonprofit NGOs outside of USAID, or two other entities outside of USAID or outside of IFPRI?

Kristin Davis: Yeah, thanks. The Developing Local Extension Capacity is a Feed the Future project that focused on Feed the Future countries, those are listed, I'll share the link or somebody can share the link in the chat box in a moment what the Feed the Future countries are. But we do work with other partners, depending on what the needs are in that country. For instance, in Nigeria, we worked with a private sector company that wasn't, part of Feed the Future necessarily, and other countries we've been working with NGOs in Bangladesh, for instance. We can link up with other nonprofit entities, depending on the joint interests that is shared objectives in the country where we're working.

Julie MacCartee: Great. Thank you, Kristin. In the interest of time, I think we can move along, but we will continue to address questions in the chat box and at the end of the presentation. Next, we'll move along to Robert Anyang for his portion of the presentation. There we go, Robert you can take it away.

Robert Anyang: Thank you, Julie and thank you, Kristin. Thank you, Julie. And thanks a lot, Kristin for that wonderful presentation. Hey, I'm also very, super excited to talk about extension after spending 19 years trying to find ways to make it cheaper and affordable to small scale farmers. The late Nambola used to tell us, I actually worked for [Sesekala 00:30:46] Africa Association before I joined Chemonics. This is a tech technology closer to the farmers in terms of innovations and information, at least the employers by means of doing that so that it can be sustainable. Over the years, we've tried so many models of [inaudible 00:31:02] approach, I call it community based by sitting. But at end of the day, as soon as we stopped funding it, it all stops. We start thinking, how do we do it better.

Robert Anyang: And that's what I want to share with you today. We all know, in extension, the biggest cost is not wages or salary. The biggest cost is logistics and training. Actually logistic takes 58% of all extension delivery, both public and private sector extension systems. Now, let's talk about the public extension delivery system in Uganda. I'm sure it's not different from in other countries, we do have a ratio of extension worker to farmer at one extension workers to 1800 farmers, maybe in countries like Ethiopia you can find one to 500. Meaning we are not reaching to the farmers in a proper way. And if we take a look at both the private sector, the private sector has about four models they promote, the farmer lead model, which is mostly to improve my situation and offer them better opportunities, which I did for 14 years. And to empower farmers, and we don't keep on funding it, as soon as we pull out, it goes back to the same way we met it.

Robert Anyang: The global sourcing model is a well known models across the commodities mostly to secure life supplies, and have like impact on farmers, but they also

have their drawbacks. Mostly you find there's a high risk of side selling by the same producers. And it sometimes don't offer the systems of commercial service to these farmers. And we have the local traders models, they're very efficient in sourcing. They reach the farmer home, they're these guys you will find on bicycle, going to farmers' zone to pick up one bag of maize. But there's always issue of mistrust among each of them. And definitely always causing problems between farmers and traders. Then we have especially models like Kristin mentioned about consultants. These are the ones trying to improve and innovate equitable value chains.

Robert Anyang: Use of ICT, use of means of [inaudible 00:33:20] farmers, but making profits, but it also has own drawbacks. It has high initial cost of investment. We keep on thinking how do we do it in an effective and affordable way? I was the chief of party of a project called the commodity product and market activity in Uganda that ended in March 2018. And then we decided to combine all of this models together, the farmer-led models, the specialized models, the local traders and the global sourcing. And we find a commonality among all this. We try to find out who's the last person that reach out the farmer. In all these models, they all have what we call an agents. And why do you decide to work with such people?

Robert Anyang: You believe the biggest problem in supply chain is side selling, and reaching out to farmers in terms of quality and quantity. But working with the same guys that does the most havoc which are the traders, maybe we're able to improve the system by coaching and mentoring them. On other program, we can what we call the village agent model and is a market driven approach. Before engaging market tool, the market pool means the end buyers, the person that signals what in terms of quantity and quality is either an exporter or end-buyer or rice processing companies. Then he identifies traders, traders can be cooperatives of some organizations, or producer organizations, or merely traders, individual traders. And this and contrast and say okay, "This is what we want to do. This is the amount of maize or coffee or beans I like to buy. Can you please make up, how you're going to do the operational contracts?"

Robert Anyang: You should just sign the contract with the exporter, and the trader says identifies village agent who are loyal to him. Remember, the village agent is a one lives in the village with a farmer, he's the one who should call the shark, the coyote, the loan sharks are give loans to farmers and high rates but he knows every farmer in the village because he stays in there. And he is the point of entry because he moves from home to home, to pick a bag of maize or two bags of maize. If you train those ones, to provide extension in terms of production and marketing services, maybe you will be able to improve the life of the farmer. Because, remember I said the biggest cost in extension is logistics. This

agents go from home to home, to pick bag of maize without being paid, but get a commission for doing it.

Robert Anyang: They are being motivated by based on the volume they collect on which they get paid by their traders in terms of commission. What do we do as CPM? We call it a committed person market activity, we mentor and coach them in different services on the pre production, production, post harvest, marketing services. And part of them we train them to be crop insurance agent, because there's a demand for crop insurance. We train them to be able to supply services, because they can actually forecast demand between the needs of the farmer and seed companies. They provide financial services, they were trained in weeding services, we actually train them in 14 services. But an agent takes only four to five of the services to get his self occupy the whole year. Let me tell you what makes it interesting for them to do it. The agent makes an average of \$4,000 a season profit from doing this. Trailer services and that's the motivation that drives them to reach out to the farmers.

Robert Anyang: Knowing fully well the more farmers we improve their production, the more commission I get from my trailer. And how do they deliver services to farmers? Because they are used to these farmers at their home. Individual site visits was easy for him to understand to do. But we incorporate things like animation videos on their tablets, I think Kristin was in talk about the different means of reaching farmers would develop animation videos to help them pass the message in a very eloquent way to farmers. Because most of these are not well trained as extension workers. We have to make sure the message is clear and it would deliver it. They also promote, do extension delivery by doing what we call demand created demonstrations. These are the typical demonstrations, they are signed contracts with input companies. But this is to create demand, so they can make money from it. And they often provide direct services to farmers by going get to spray, take care of the coffee, and weed for their maize.

Robert Anyang: Other methods we use was used of IEC because definitely they're very versatile in communicating in the local languages. We translated that with the Ministry of Agricultural, all the essential materials into local languages for them, which is diverse farmers. And it's often to use and organize group training and home visit. Among all these extension delivery methods they use, the individual visits, and home visits was the most common among which was effective to reach out to members of... How do they make money and sustain the model? And the back of one bag of fertilizer they sell, an agents makes with five to \$6 profits. Meaning if I have to 200 farmers open for me, I sell 200 bags of fertilizer, that means I can be able to get \$1200.

Robert Anyang: And how are we sure they get this money. Remember, every seed company or fertilizer company needs to reach out to the farmer, the cost of the reaching out to the farmer is almost around 35%. This money is not, half of it not given to the agent, because they will find out where the farmers are. And they will deliver the fertilizer to the farmer at his doorstep. And also provide what we call embedded services. And this has worked well. And in terms of soil testing, they provide such testing they make \$5 working with this soil testing companies. They are like Macquarie, when they spray, they make about 0.5 dollars in every liter. They make money along the chain every service they provides. For all, I would like to measure impact and say, "Okay, I'll just make any changes."

Robert Anyang: In a period of five years from 2013 to 2018. We found a lot of changes, I'll go through this quick to the slide that talks about the list extension. Our target was to reach out to numbers of farmers, who have applied new technologies. Our baseline was to be 2000. But because essentially village agents model work effectively, were able to reach 596,000. The average numbers of farmers to a agent was around 200 per agents, meaning closer and easy to manage. The investment by the private sector because they found that they could get more supplies and a better quality. They invested in things like press facilities, they invested in things like provide loans to traders to buy more, and obviously the inputs' delivery.

Robert Anyang: Over a period of five years, this agent were able to sell \$5 million worth of inputs and reach out to farmer. And we did a survey trying to find out how many of these farmers actually, unlike the cost-benefit of these inputs, we find out that 17% of these people appreciate them, village agent delivery service to them in a better way. Now, in every model, there's things that can make it still I'm going to talk about this more. During our inception period, we found out most people tend to say the traders are the bad to work with. And most donors and NGOs don't want to associate with them. But if you look at the value chain, if trader has been there all these days and meaning we can work with the traders, which are the farmers because they are the closest in that model to the farmer.

Robert Anyang: If a donor refuse to work with the middle actors, the VA will not work because every farmer sees the donors and NGOs as the next ATM machine, meaning they do for free services. They're looking for dependence on a socialization. If there's no access to finance, it will not work. And if there's no lack of instruments to enforce production parties and behaviors among actors, the model will not work so all this must be considered when you are trying to do this. What have we learnt? There must be a link to a buyer. You cannot increase production without selling it out, these agents need to be trained by the service

to offer. The jobs they create must be perceived as formal. Farmers must be willing to pay for service in cash or in kind at the same time of delivery.

Robert Anyang: ICT is key to this cost of transaction. And there must be in strategy for all actors to work together. Over the years the government of Uganda adopted the model and then it's forced on what they call the National Agriculture Policy where we have all extension services both public and private sector firms work together. And the government's college right now, they are providing support to certify these agents. They provide salaries for their staff to reach out to these agent, and also provide the extension materials for his agent to work on. The private sector has supported this, the extension worker with stipends to enable them to organize training. I also support that traders, VAs to disseminate knowledge and conduct demonstrations. I think this is a perfect way where you will find highly constructable public and private sector.

Robert Anyang: We know the public sector doesn't have sufficient money of funds to reach out to farmers. But the private sector is going to provide stipends to support the organization of that to change village agents who in turn train the farmers and it's easy to manage. What is unique about the agent? Agent model is market driven, services are brought direct to farmers because the agent lives in the same village with the farmer. Inputs, genuine inputs, because the agent is closer to the farmer, there's no way he's going to sell fake inputs compared to the stockist who is in town. There's real time guidance, they farmer can reach to the agent who lives next door to him. Is self sustaining because the agent makes money within the work chain and he creates employment. I just talked about the top takeaways here.

Robert Anyang: Remember all key four actors should be involved. Exporters, traders, agent and farmer. Technology is key and innovations to deliver better services, you must you be willing to pay for service in kind or cash. You must use motivation and incentives around service delivery. Nation building is based on trust and loyalty, give enhanced agents knowledge in relevant fields and assets to finance by all the four main actors is key. Thank you very much.

Julie MacCartee: Wonderful, thank you so much Robert, will pause here for a few questions for you as we've had some great questions for you come in. The first one that I'll ask you is from Mark Blackett, who asks, "What do you think of the strategy for the Ministry of Ag in Uganda to lead on the village agent model? Do you think this should be a joint initiative with the Ministry of Trades, Industry and Cooperatives?"

Robert Anyang: Thank you, Mark. Yes, I believe this should be a joint effort between the Ministry of Trade should take the lead of trying to promote the village agent model in this aspects. Because this trade falls under the Ministry of Trade and definitely walk into the DC commercial offices while the Minister of Agriculture can provide a TA to improve the production part of it. Remember this model is both production and marketing. The production size is where the Ministry of Agriculture trying to measure improved the yields by training the VAs to provide the right services. The marketing part is where the Ministry of Trade phase off the trading company a bit. But overall, it was a joint initiative. Right now, we definitely had a joint initiative between the Minister of Trade and Industries and the Ministry of Agricultural and the Ministry of Local Governments. These are three key partners who are initiative in this.

Julie MacCartee: Great, thank you, Robert. Let's see, an interesting question. Let's see from Jonathan Hudson, "How do you ensure that the village agent model promote improved cultural practices and not just input?"

Robert Anyang: I believe, at times, Jonathan, as we said, the village agent is based on a two way working with the farmer because input is part of it. But remember, input alone cannot deliver the yield you want. He must train the farmers to adopt better practices. And in doing so, he's ensure that value is there. The training they get from things like donors like what I kind of program and also by the Ministry of Agriculture is for them to train farmers better how to use the inputs. Input is not only the admins will have a lot to do within it. Most of these agents are also involved in output marketing. But they do both with input and output marketing. They have to make sure that yield is subsistence for them, for the farmers to get more yields so, they can buy more from the farmers. Definitely beyond inputs, they have to train farmers on how to improve their cultural practices. And let me be honest with you, they do it because of the motivation of getting more yields from the farmers by training these people.

Julie MacCartee: Thanks so much, Robert. Another couple of questions I'll combine a couple of from Gordon Wanjali and from Henry Piri. What are some of the risks associated with the village agents, for example, monopoly in a village, bias towards some farming families trust or mistrust? And how did the project handle these risks? And kind of in a similar vein, what is one way to eliminate people's mistrust of agents in this model?

Robert Anyang: Thank you very much. As I said, one of the key things you need to do is you have to have a behavioral change strategy in place. Because the mistress has been a long way you cannot change in one night. During the program, we try to create a relationship between traders and farmers bring them together to understand

what are the key problems affecting their relationships. We spend over two years doing that, others is five years. And when the farmer sees that he needs the agent more and the agent needs a farmer then they have what we call a loyal and trust. And we developed some materials that assist them to able to understand. The biggest problem in mistrust between an agent and a farmer is cheating. Most farmers will say, "Traders cheat us by tampering with the scales."

Robert Anyang: And most traders will say, "Farmers cheat us by adding stones in the bags so we decided to tamper with the scales." But when you build a very good bigger chain strategy to everybody the reason why you're trying to cheat each other is because your production is not efficient. And the VA here is going to train you how to produce better. Those of you getting eight bags of maize in an acre, you can definitely get 20 bags an acre so why do you decide to cheat by adding stones to yields? And this in turn returns back to the agent, he doesn't tamper with the scale anymore. Now how do you reduce monopoly? Now, let me tell you farmers knows what to do. There's no issue of monopoly. a farmer live in a village will definitely choose who to work with. They know good agents and they know bad agents.

Robert Anyang: They know who has been assisting them in time of their need. If the choice is made up to the farmer and the farmer will then decide who to work with. In a village you may find about four agents working for different traders. Or you may find four traders, four village agents working for one trader but the farmer is wise enough to decide who he wants to work with, this is a relationship he built a long time ago.

Julie MacCartee: Great, thank you so much, Robert. Let me toss out one or two more questions to you before we move on. All right, so from Emily Romero, just a quick question. "Robert, who sustains the cost of the ICTs and data storage in your model?"

Robert Anyang: The farmers sustain these with the trader. For instance right now, farmers are paying up \$2 to get the lands profile, the land size, their data collection them, it costs about \$2. And I believe \$2 is like a five kilos of maize. All right, but now often traders pay for this on behalf of the farmer and deduct it from the maize when they're delivering it. And that data is kept by a company called [Napoleon 00:50:40] and other ones in cycle, and this is how you sustain yourself. But in Uganda, the actual cost for collecting the data is only \$2, which is sometimes five kilos of maize or two kilos of beans. And the trader can go ahead and pay on behalf of the farmer and deduct his when the farmer is delivering the goods to him.

Julie MacCartee: Great. Thank you, Robert. In the interest of time, I think we'll move on to our next case study and next presenter. But, Robert, please do take a look at the additional questions that have come in for you in case you can answer some in the chat box. And of course, we can also answer some more at the end of the presentation. I'd like to pass the microphone over to Jean-Michel Voisard who has another case study for us, Jean-Michel.

Jean-Michel Voisard: Okay. Hello, Julie. Thank you. Can you hear me?

Julie MacCartee: Yes, you sound clear.

Jean-Michel Voisard: Okay, great. Well, hello, everyone from Senegal. This is about the Senegal and Naatal Mbay project which actually was closed out last June. Senegal Naatal Mbay was a Feed the Future value chain activity that targeted Senegals girls three main cereals rice, maize and millet. It came after a predecessor project called [inaudible 00:51:58]. That had successfully tested bottom up approach that relied on local farmer organizations for the delivery of extension and value chain services. Naatal Mbay's goal was to scale the adoption of technologies and practices that were identified as promising. And that network model was expected to be scaled up. Now, Naatal Mbay as a project had a very ambitious coverage target. The idea was to cover 40% on average of the household, the rural households of its zone of influence, which is quite large.

Jean-Michel Voisard: It also had ambitious technical goals, for example, achieving widespread geographic and population coverage, making sure that adoption of technologies was lasting across the board, and that all of this results in systemic transformations in the delivery of production, post harvest and financial services so we were really looking at something transformational. However, apart from direct technical assistance and facilitation, the project was only able to rely on the subcontracting fund with a focus on local service contracts. And we did not have any grant facility. Wait, wait, wait, here we go. Sorry, I went through that first intro slide. But the most important one is the next one. Strategically to be able to achieve that scaling and also having in depth technology adoption.

Jean-Michel Voisard: The project established it's total footprint during the first year. I mean, right from the start. This gave it four seasonal cycles, over which targeted communities could progressively adopt technologies and practices while expanding their membership through what is today called the scaling in process. The project therefore selected a base of 120 pre-established producer networks made up mainly of cooperatives, but also some very local NGOs, and a handful of SME aggregators that relied exclusively on smallholder sourcing in a structured way. Now, these networks were contracted on a year to year basis to

be the ones that deliver productivity training and develop new value chain services in an independent way.

Jean-Michel Voisard: Now, under these contracts, that were typically needed to set up a homegrown extension team composed of a database manager, field agents and lead farmers who acted as village contact points. The database managers and the field agent roles required advanced literacy and the ability to adopt IT technologies. And so we're generally recruited locally by the network amongst the zones' young educated youth, there are some even in the most remote area, but the minimum schooling level was set at 10th grade level, and that was sufficient to ensure competent database managers. As we said, the project picks up on the technological portfolio that was inherited from this area, but that eventually evolved. But the idea here was to have the networks progressively become trusted market agents at their community level.

Jean-Michel Voisard: The result that had been partially a thing under the predecessor project. This market driven extension, went beyond strict agronomic messaging and sought to strengthen the agency of the farmer based organizations within the value chain. Really made them full fledged market actors. Several of these packages were adapted from national extension, technical documents, seed regulations, research methods, technical recommendations, but also inspired by private sector practices and requirements so that output could conform to norm. By the end of the project, this footprint, and the networks had developed a zone of influence footprint of 5000 field-based agents who provide services to more than 150,000 farmers.

Jean-Michel Voisard: And generally, the ratio for the contact points is 1:30 and [inaudible 00:56:41] 1:50, which is an efficient way of ensuring constant outreach. The representation of women within the extension system, this private extension system is still far from [inaudible 00:56:56].

Julie MacCartee: Hi, everyone. We have also lost Jean-Michel, temporarily. He's joining us from Senegal, and so there may be an issue with his phone if you wouldn't mind hang in tight for just a moment while we try to get him back. That would be excellent. Got to roll with the punches on these webinars, [crosstalk 00:57:14] been so great so far. We're preparing to get him back.

Jean-Michel Voisard: Okay, I'm back, just a moment.

Julie MacCartee: There you are.

Jean-Michel Voisard: Sorry, about that.

Julie MacCartee: No problem.

Jean-Michel Voisard: Where are we at? Did you pick up?

Julie MacCartee: Oh, we only lost maybe 30 seconds of your time.

Jean-Michel Voisard: I was talking about gender disparity. Did you hear about that?

Julie MacCartee: I'm sure that's a good place to pick up.

Jean-Michel Voisard: The representation of women in the system is not at parity. 20% of database managers are women, and 23% of field agents and 18% of lead farmers now by comparison 40% of the total farmers' population reached by the project were women. That comes from various factors. First, well, corn, millet and irrigated rice are traditionally male dominated commodities. Rain fed rice itself is a woman's crop with 64% of women practicing it. But the key element was the differing literacy levels amongst genders. And that played a role and as did the requirement for mobility between communities, which favors men for the field agent roles. However, the improving rule literacy with young women is gradually changing that profile. Now, just a moment.

Jean-Michel Voisard: Now, the approach here, since we were establishing a footprint for continuity, the idea was to provide continuous facilitation and gradually have networks progress in terms of competencies and autonomy. The initial objective was to have farmers work with their membership to achieve productivity levels that produce consistent surpluses, gradually progressing to developing sound input financing plans and marketing plans, finding intensification solutions in terms of mechanization practices, and gradually, being able to manage a web of various contractual arrangements with banks, insurance companies, input providers, et cetera. And even developing linkages with the National Extension Service to do information exchange. Now, this required learning elements, so the project facilitated learning loops from year to year, various networks would meet at the regional and crop level to exchange best practices.

Jean-Michel Voisard: And would discuss issues such as seed variety performance, would discuss quality standards, pricing thresholds, climate response strategies, and in the end would adopt their internal functioning to take account of the various recommendations that they made themselves. Now, an innovative element of the program was to download completely the data processing work at the farmer level, using very basic data services, off the shelf or open source and having the farmers manage it themselves. That really had a big impact in building trust and building competency. It turns the farmer-led intention into a

data driven process. People were talking in numbers, establishing sowing thresholds, in terms of duration at a certain number of millimeters and assessing yields with high precision and even doing cross year comparisons.

Jean-Michel Voisard: I mean, I've been told that someone assisted at a cross meeting and said that he was surprised to have regular farmers talking about their three year yield profiles and seeing how they were progressing. Now, getting data processing services at the farmer level was also a stage program. It was a learning activity that had networks to start with a profiling phase, learning how to profile their membership to working with static databases, but that were descriptive, and enabled them to really monitor who was who and who had what, in terms of products and capacity, then it was followed by a more analytical learning phase where the focus was put on how to mind those statistics and assess their own performance. And finally, the more advanced teams graduated to real time data to support more transactional and tracking activities such as loan and insurance, application, input, procurement, and distribution, real time local weather data collection, and just managing overall crop aggregation.

Jean-Michel Voisard: Now, these systems did not work in a vacuum, or let's say, in just within the network, I mean, throughout the program, these farmers use this data to enter interact it with their partners interact with government authorities, interact with the environment at large, and the effect has been to build a climate of trust, and really an evidence based climate of discussion, both with trading partners, farmers and the government. And that was a very critical element in terms of reinforcement. And elements, and I'll be quick on that one, because that's a subject in itself. But I just want to mention that the level of reinforcement attained by these farmer organization has really made them like independent agents in negotiating with the outside world. And so we call that a shift from the classic vertical structure, where you have the central organizing firm, or entity that groups all that and does a lot of work on the farmers' behalf to a system where the farmers are empowered to transact with a variety of banks, of clients, of service providers, inputs providers, and are able to get the best possible price.

Jean-Michel Voisard: And so that actually was very conducive, and building value, and wasn't essentially very data driven process. Just to say that, these farmer organizations on their own, managed to successfully more than \$150 million in short term loans. 34,000 of them managed to access agricultural insurance. It's simulated the emergence of the mechanized service providers, in terms of land preparation, and harvesting, et cetera, et cetera. I mean, that the indicators are interesting but what's more interesting is the agency that the networks had in developing those linkages and those activities. Now, the project closed out last

June, because that's pretty much the hard stuff. I mean, Senegal sales, eventually will be getting Feed the Future support but this season, the farmers have been left fending for themselves. What happens? Did everything go crashing? Now you see on the slide, the IT president [inaudible 01:05:05].

Jean-Michel Voisard: Well, I met with her along with a few networks across the country went to visit just to see what was going on, I mean, for the current rain season. Are they carrying on? And what's interesting is that a majority of them, I mean, all the ones I visited, I know that a few smaller organizations don't yet have their full autonomy, but most of them have been able to maintain and grow their service level to farmers. They maintain those who were working with loan applications, managing insurance, all these elements, were maintaining their activity, and some even had begun diversifying their portfolio of activities by monitoring horticulture and livestock activities. Each group we surveyed had developed its own cost recovery approach through a mix of rationalization of the extension team, adaptation of the databases to simplify them. Introduction or increase in membership dues and developing service charges or specific services such as real time rainfall tracking and GPS field surveying.

Jean-Michel Voisard: Some of them had deals within the insurance company to have commission on the management of the insurance process and selling insurance. And also some of them negotiated deals with input suppliers and allocated a portion of the volume rebates to the actual extension work. In some cases, brokerage fees were allowed and margins on sale for volumes allocated to loan reimbursements were allocated to the funding system. And in some cases, agreements with buyers actually to fund the part of the extension service were negotiated. But there's this plurality of formula that was interesting. And that was permitted by the agency that the network had and the knowledge level, they had to develop something that fit their own circumstances.

Jean-Michel Voisard: And well, I'm pretty encouraged by that. I'm pretty happy with that. They're doing well. Now, where are they going to go? So, what's the future challenges? Well, they demonstrated a capacity to play a very positive role in the delivery of extension. And more than that value to farmers. I mean, that is what keeps them in business, the fact that they're getting value, value in terms of productivity, value in terms of market access, but also value in terms of risk reduction, which is one of the critical value points for the very small rain fed challenged farmers that are challenged every year, by a whole series of risks. There's an express need by them to further develop the model to adapt to new crops and new services that would effectively leverage the power of digital technology. There's a demand for new technologies, adaptive technologies that accelerate the system, what we're seeing is that the inclusion of women

farmers, has fully empowered agents, remains a challenge because of the size of the farm. But there are solutions that are there, but they really need to be expanded and diversified.

Jean-Michel Voisard: But they do have a market justification. All networks see the inclusion of their communities youth as an opportunity, especially as far as the downstream organization of the activities such as like data collection, and the various tracking and management activities where the youth really excel. However, it should be said that these networks cannot replace the foundational need for probably good knowledge services, that's provided by agronomic research, or the regulation of the seed quality and inputs or the production of meteo data and forecasts. These networks cannot either self finance roads or improvements in rural IT nor can they yet fully finance large scale storage infrastructure. Government has to interact with these groups and actually, they've begun doing that in Senegal, that's what's interesting. I mean, there are clear platforms that have been developed between these farmer organizations and the various decentralized governance services and that's very promising.

Jean-Michel Voisard: USAID is also using these networks to do as far as their nutrition program, which gives them a more resilience role, just by their skills and permanence in terms of organizing local capital city. Finally, what I want to say is that the level of self organization these networks have achieved can be leveraged by governments to maximize the impact of public investment, and they can become effective relays of extension messaging, but beyond that, they are fully empowered value chain actors and have a role to play in that domain from now on. I'm looking forward to your questions. And thank you for your attention.

Julie MacCartee: Great, thank you so much Jean-Michel. Let's see we've got a couple of questions come in for you. And then we'll open it up to some further questions for all three of our presenters. And we have about 15 minutes left for questions. Jean-Michel, Mark Blackett asked, "Is the farmer owned database system available for others to us and ongoing our new projects to help prevent reinventing the wheel in this case?"

Jean-Michel Voisard: Yes, well, what I want to say is that there is no software for that market farmer own database system, it's actually hack of the various Excel, Dropbox and other software's, the more advanced will work with the open source Comcare platform, which was re engineered into an agricultural extension activity system. And that also is available on open source on the web. It's more skills here that's required, it's not the software itself, various applications have been developed and plugged into the systems, but they are independent and free standing as we speak. They are available, there will be documentation on what

they represented, that will be available. But the approaches are really open source, and based on making sure that you have people who can manage the data at the local level. And this is where having farmers that are able to handle Excel, having, locally based people that can even do pivot tables, and doing pretty sophisticated analysis really makes it a very, very resilient system.

Jean-Michel Voisard: One of the most popular apps now that was a byproduct of the digital expansion we did is actually WhatsApp. I think there's a lot of work to be done in how to hack together interesting application using either social media or generic software.

Julie MacCartee: Great, thank you. An interesting question just came in from Sarah Huber. "How are these farmer organizations in your example so high functioning, where they selected carefully? Or was there some sort of thing significant training provided? And also a separate question? How were the bank loans facilitated? And what did they cover?"

Jean-Michel Voisard: Yeah, so, that the question is always asked, some people often talk about as Senegalese exception in terms of organizational development, I want to say that an organization like Fitcommerce, for example, where we had Dina there talking about her thing, is actually made up of 12, highly dysfunctional, small farmer groups, but that at one point decided to join forces, and asked us to be empowered and manage their own thing. Really, it's not like we invented that it was a reaction to a very dysfunctional, top down extension system, where the lead firm was actually taking advantage of its position. And the farmers told us, rather than dropping the program, what if we got together and provided our own extension? The key word is motivation, and then testing them, you want to have a basic legal structure, you want to have had a certain level of self organization, but then you want to give them a motive, their initial motive will be productivity, then it follows on as they see that the risk is reduced they'll want to find markets, they'll want to find financing.

Jean-Michel Voisard: And this is where, you have different little facilitation components that come in, but you really want to select the farmer organizations that have a will to succeed. And we did capitalize on the initial group of 10 or 20 farmer organization, but where locally it generated a series of applications and buying and then the idea here is to provide continuity and really build them up over a period of time, but not in theoretical capacity building, but capacity building that is oriented towards very clear value proposition by farmers. And that really, really creates a momentum. For the bank loans, well, the bank loans essentially for the farmer organizations cover inputs, there's been other series of bank loan which facilitated for their clients. What's interesting with the bank loans is to

make it happen was to develop... How can I say it? Collateral strategies and risk management strategy.

Jean-Michel Voisard: And so this is where inventory collateral system, not necessarily warehouse receipts, but collateral systems that are oriented towards quick trading, warehouse receipt is about waiting. Collateral loans are more about securing the reimbursement by stocks that are then transferred onto a buyer. And there you have interlocking credits mechanisms. That has been documented on the project, there will be further documentation on how we did that, but this system that secures the product by quality products, really is a very powerful way of growing loans, of growing finance in a secure way. Ag insurance is also very important. I mean, especially for rain fed zones, having a system that protects the farmer and the bank, as to the loan reimbursement against the climate event, was also a very, very powerful to boost volumes in those areas. And that's actually very popular with women's organizations to protect the meager amount as they will put to adopt inputs. These kinds of index insurance based on rainfall have gone a long way with it. It's actually very popular.

Julie MacCartee: Thanks so much, Jean-Michel. We have about 10 minutes left for questions. But before we ask a few more, I wanted to open up our ending polls for all of you to answer, we'd appreciate if you would just take a moment to chime in on these polls and to let us know how we can continue to improve our Agrilinks webinars going forward. And as a reminder, for any of you who do need to leave early, we will be sending you the recording the transcript and some additional resources from this presentation by email and encourage you to share it with your colleagues if you think that they would be interested as well. Right, let's see. Jean-Michel, we have a question from Stafford Francis Mwambola about sustainability. "What are the incentive for the network leaders to continue to maintain their networks after close out? Are they paid? Or and if so, who pays them?"

Jean-Michel Voisard: Well, the farmer, what's interesting with this is that the leaders are all farmers themselves. They have an interest in developing this pooling and this grouping. They're not huge farmers, but there'll be farmers who have graduated from, let's say, two hectares to, let's say, 15 hectares. Some of them will, own a tractor, and they're actually, very community based people. And so, for them, the organization is not just a simple business venture, it does have a social aspect to it. And the leadership is not just one person, it's usually a group of people, and who together manage this. They make their money with their product. Some of them are, let's say, certified seed producers, so the group also provides them with a ready market. And they will get involved in sales and all that also.

Jean-Michel Voisard: But it's really a very grassroots vision on things. And then these organizations, then negotiate with the outside world, but in terms of needs they have income expectations, that are very reasonable for people who are present in those communities, and in those environments, and that's what makes it so powerful.

Jean-Michel Voisard: It's the same thing for the field agents, people who know IT, understand it, but are used to living in those conditions who do not want to migrate back to city.

Julie MacCartee: Thank you, Jean-Michel, and I think I'll talk just one final, quick question to you, from Judy Payne, "Wondering if you capitalized on enabling farmers being able to compare their own data, which, of course, would open up some questions, why is that other farmer more productive than me? Comparing numbers could be an interesting way of promoting learning." And she was wondering if you did any of that?

Jean-Michel Voisard: Yes, that was the big thing. That was it, when the data is shared amongst the farmers within the community, not in the project, and then a guy's wife sees on the flip chart, that she's actually making more than her husband in terms of maize production well, that raises interesting discussions. And when you see that the neighboring network has higher yields, that creates also interesting discussion. That's why they stage discussions based on data was so important, and really starting at community level. And we found that farmers actually can understand histograms, I mean, they understand distribution curves and things like that. They really do after a while, and they start talking into very precise terms. And so that's what's so powerful with it, is that the data processing loop is very short. And the information remains within the community, but gradually, also is consolidated and transmitted to the government extension system also who actually prizes that data because it's actually very accurate.

Julie MacCartee: Wonderful, thank you. We have still about five minutes to squeeze in some questions. I wish that we can keep going forever, that we were all networking in person, because it's been so great to see the engagement that's been going on in the chat box. Some people challenging each other comments, asking each other questions. It's really wonderful. So thank you to our audience, you are the most important part of any Agrilinks club and we really appreciate your engagement. Before we officially wrap up, I think I'll ask a question or two that came in closer to the beginning of our presentation, that I think it's still pretty relevant. A question from Elan Gilbert, perhaps first directed to Kristin, "In some countries development projects, seriously blur the lines between public and private extension, with HR moving back and forth, which complicates the institutional strengthening and sustainability across the board. Are there any lessons from DLEC on this problem?"

Jean-Michel Voisard: Hi, yes, thanks for that question. I was just about to write the answer. And I was hoping you understand but yes, we have seen this as a big problem in many countries where, there's the so called poaching or so called brain drain, all people moving from the public sector to work for NGOs, or projects or the private sector and so forth. And I guess I would say, two major lessons here. One is the need to strengthen both simultaneously. We talked a lot about strengthening public and private sector, the producer organizations, the input suppliers, the public, people, and so forth. Secondly, this is an issue of incentives. And it goes back to the overall professionalization of extension and advisory services. And I think that's something many public services in particular need to pay attention to and we have some examples from Uganda, and South Africa on that related to regulation, certification and all the these things, but incentives are so poor for rural extension agents, who work for government, district or federal systems, or whatever this is needs to be looked at and improved.

Julie MacCartee: Great. Thank you, Kristin. And let's see. We have so many great questions. And we've been, I think, answering as many of them as we could. And we will certainly be sharing the chat box transcripts with the presenters after the fact in case there's any opportunity to include a few more questions in our post event resources. And I also have a few more that I will copy and paste some written answers as soon as we wrap up. Perhaps maybe the last question, I know that Jean-Michel, that you touched on gender integration, but it's question that comes up in nearly every Agrilinks webinar, people are wanting to more information about how to integrate gender concerns into programming, and Leila Nikingla at the beginning asked, "How do extension advisory services ensure gender integration into their programs." And there was someone who wanted to just elaborate more on what you said. Perhaps you could touch on a couple of important gender issues before we wrap up.

Jean-Michel Voisard: Yes. One thing I wanted to say that was interesting is we check the age of the database and the field agents who work with data. And what's interesting is that men were 30 years old, on average, and women were actually younger, they were 28. And also, what we saw is that even though in Kasama women's literacy was very low. When you look at the younger generation, there's like a literacy search for the 10 to 18 year olds, who eventually become candidates for being future field agents and hold these kinds of management capacity. What I want to say is that, even if, I mean, in the poor countries, that's the case. And so I really encourage projects to be poised for that, for that wave of literate and trained women. Like I said, 10th grade is accessible, I mean, for pretty sophisticated data processing, you can for field agent level, it can be less than that. And you really want to integrate them in there, one of the elements I was

saying is that for women's organization, women have generally smaller plus sizes, and are concentrated in various pools of areas.

Jean-Michel Voisard: And that requires having a strategy that's adapted to that so that because they have less mobility, so you can have more responsible field agents per basin. And rather than having a multi basin approach, so that's also another element. But I also want to say that the strongest network leaders are generally women. It's in the top management posts, that's been our experience. And that's why you really want to promote that. That integration and all that. I think another domain that can be very strong in bringing women into those extension systems, is that those networks want to co-opt young people. And very often, women's group will co-opt young women, I mean, you want to make sure that that happens. What's important is really to promote that integration throughout the program. And that's where projects have a role to play. But once they've been in the system for a few cycles, the women then develop entrepreneurial programs and a bit like what Robert was describing, some of them migrate and can become village agents connected with banks, with insurance companies, with input distributors, a bit like that.

Jean-Michel Voisard: I mean, the networks are a school but they're also a ready market for those entrepreneurial businesses for youth. And women are very good in that. I just want to say that the young woman you saw in the slide I presented has graduated from being a database manager for a rights company and has now created her own company as a rights aggregator, and she actually owns a car now.

Julie MacCartee: Wonderful. Thank you. Jean-Michel. Alright, we are two minutes past the hour. We're going to go ahead and officially wrap up this webinar. I would like to extend a sincere thank you to our presenters, to our participants and to the Agrilinks team who always supports these webinars with enthusiasm, and excellent support. Thank you all for attending and keep your eye on the Agrilinks newsletter for announcements for upcoming webinars. Thank you all and have a great rest of your day.