

# MARKET-LED INTERVENTIONS FOR SEED SECURITY RESPONSE

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## PRESENTATION AUDIO TRANSCRIPT

**JULY 1, 2020**

### PRESENTERS

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*Jean Claude Rubyogo, Pan Africa Bean Research Alliance (PABRA)*

*Jules Keane, Independent Consultant*

*Kate Longley, Catholic Relief Services*

### MODERATOR

*Julie MacCartee, USAID Bureau for Resilience and Food Security*

Julie MacCartee:

Hi everyone. I'm going to do a quick audio check and then we can go ahead and get started. I see that our captioner is capturing my audio, so that is a good sign that I'm coming through clearly. All right. Hello everyone. On behalf of Agrilinks, Feed the Future and the USAID's Bureau for Resilience and Food Security, I would like to welcome you to our webinar today on market-led interventions for seed security response.

Julie MacCartee:

Today our panelists will be presenting lessons from two reviews of market-led emergency and seed interventions, analyzing both the supply side and the demand side. My name is Julie MacCartee and I'm a knowledge management and learning specialist with the USAID's Bureau for Resilience and Food Security. And I'll be your webinar facilitator today. So you'll hear my voice periodically, especially during our question and answer session. Before we dive into the content, I'd like to go over just a few items to orient you to the webinar. First, please do use the chat box to introduce yourself, ask questions and share any resources you have that are relevant to the content today.

Julie MacCartee:

We love for our webinars to be interactive. So please don't hold back on sharing whatever you'd like to share in the chat box. We'll be collecting your questions throughout the webinar and we will pause a couple of times along the way to answer some of them. But we'll also have a longer Q&A session at the end after the presentations are complete. Lastly, we are recording this webinar and we will email you the recording, the transcript and any additional resources once they are ready, which is usually in about a week's time, no more than two weeks. And they'll also be posted on the Agrilinks event page for this webinar.

Julie MacCartee:

Okay. I'm going to introduce our speakers and then we can go ahead and get started. We're excited to have a wonderful panel at seeds system and food security experts on the line to discuss several examples of market-led seed system interventions. So first up will be Julie March, who is division chief for production systems with the USAID Bureau for Resilience and Food security. And she recently came over to RFS from her previous roles as the office of U.S. Foreign Disaster Assistance or OFDA and the Office of Food for Peace. And she will be providing some welcoming remarks and context for today's talk.

Julie MacCartee:

Next will be Jean Claude Rubyogo, who is the leader of the Bean Program and director of PABRA at the Alliance of Bioversity International and the International Center for Tropical Agriculture, ABC. Jean Claude, will pass it over to Stephen Walsh, who is an agriculture advisor with the USAID Bureau for Humanitarian Affairs, which was formerly the Office of Foreign Disaster Assistance. And next up will be

Jules Keane, an independent consultant with over 20 years experience in international development in both Africa and Asia.

Julie MacCartee:

And lastly, we will have Kate Longley, who currently leads the Humanitarian Aid and Resilience portfolio within the Supporting Seed Systems for Development Activity, S34D. And S34D is a five-year leader with Associates Award, funded by the Feed the Future initiative. So I will pass the microphone over to Julie March to get us underway. Julie.

Julie March:

Thank you. Good morning. I'm absolutely thrilled to see Agrilinks supporting seed system month. There aren't a lot of holidays that celebrate seed systems. So I feel like this is finally my holiday. It's very exciting. In many parts of the world, we know that small holder farming and seed access availability and quality is really at the heart of household food security. It can mean the difference between a population that goes hungry or one that's food secure. And a critical piece of seed system support is how both emergency and development actors approach design and implementation of programs.

Julie March:

I'm so happy to see the topic of market-led intervention in the ag sector, pre-emergency and beyond getting the attention that it deserves. Globally, we know that the number of large scale disasters are increasing and are coming more frequently in greater magnitude with greater impacts on vulnerable populations. We know that the number of people in need has increased and at the same time that need spans many sectors. So not just agriculture and food security. In the humanitarian sphere, we have to think about shelter, water, sanitation, protection, all of those in addition to other sectors that support people in need. To give you a broad idea of former ASTA programming and agriculture. For FY 2018, about 10% of the total budget of 1.8 billion was for agriculture and food security activities.

Julie March:

So what does that actually mean for assistance? If you asked me, I would say that it means that we need to get it right the first time, both to ensure that we do no harm and to ensure that we use stretched resources for maximum impact. There's been considerable thought given to the effects of programming, repeated short-term emergency programs and a recognition that we need to look up and think about things from a longer term perspective. Even if the funding cycle for emergencies is a short one. That technical framing has stretched to a broader consideration of systems, thinking about a response that does no harm should also be based in a thinking about the systems that vulnerable populations are a part of.

Julie March:

So when we think about farming systems and market systems and seed systems, we can begin to target the real bottlenecks and ensure that assistance alleviates those or strengthens overall system strengthen functioning. Over the last decade or so, a strong movement has emerged to employ market-based options when possible. When we use the markets to supply needed goods and emergency

response, I think that we put farmers at the center. We enable them to make their own decisions in a more timely fashion in response to information that they have on the growing season and local conditions.

Julie March:

Farmer-centered seed support is critical to building resilience for vulnerable populations. Market-based assistance can create lasting commercial linkages between sources of seed and farmers, a critical element for longterm system health. A major challenge for populations at the last mile is sustained access to quality seed of preferred variety. And I think that market-based interventions also begin to nudge development and emergency response closer together. The S34D program that you heard about earlier embodies this interest in following a system and looking at it from both the humanitarian and the development lens. And by supporting all seed channels, we promote better food and seed security outcomes.

Julie March:

Most importantly, we begin to serve farmers and give them choice. At this point, I'm going to hand it over to our first speaker, Jean Claude, who will talk more about market-based interventions. Thank you.

Jean Claude:

Thanks Julie. All right. This project [inaudible 00:08:13], Julie indicated. All right. Thank you. So it's supported by USAID through Bureau for Resilience and Food security and also Office of Humanitarian Aid. It has a life span from 2018, almost 12 now, for more than two years up to 2023. Is the leader with associates [inaudible 00:08:47] as I said supported by USAID, Feed the Future. [inaudible 00:08:56] as Julie indicated [inaudible 00:08:58] from different angles of seed system, there's a formal, informal and integrated, there's also humanitarian aspect. All of that together has a bigger consortium led by [inaudible 00:09:15].

Jean Claude:

With also other partners being Alliance of Bioversity and CIAT through the Pan Africa Bean Research Alliance, [inaudible 00:09:33], which brings in the formal aspects, also aid, PABRA looks on the formal but also integrated seed systems. We also have opportunities international, which deals with... All these requires some finance, so we are looking at how the bank can help the different seed [inaudible 00:09:51] actors, [inaudible 00:09:51] University, which brings in the post-harvest storage, which goes to the quality. And [inaudible 00:10:00] experience also looking on formal. We also have other service providers like [inaudible 00:10:06], New Market Lab, supporting the policy and the necessary. So it has a global mandate as well, not only in Africa but also across the world. So these are the different members of the consortium [inaudible 00:10:15] ABC, CIAT, FDC, opportunity international, PABRA, [inaudible 00:10:30] led by [inaudible 00:10:31], supported by USAID.

Jean Claude:

So maybe to give a background on Alliance of Bioversity and CIAT and PABRA, where the two studies we'll see later were part of the work supported by PABRA. So the Alliance of Bioversity International and

CIAT is a member of the CGIAR consortium and the focus on six areas of research delivers, food environment and consumer behavior. But functional landscape, climate action, diversity for food and agriculture, digital inclusion, crop for nutrition and health. That's where the beans which PABRA is part of it. That's where they're hosted by [inaudible 00:11:24] for nutrition and health. So what does PABRA stand for and what does PABRA do? It's the consortium of three major networks, as you can see from the right side, three colors, east and central Africa region, we have one networks [inaudible 00:11:42]. Southern Africa, we have [inaudible 00:11:44]. Southern Africa being such a network in yellow and then also the West Africa being such network in red color. So it's around 31 countries bringing together researchers from national program and CIAT [inaudible 00:12:00] the private sector, dealing with the seed input and the grain as well.

Jean Claude:

So we're aiming at improving productivity of beans, beans utilization, commercialization for the benefit of urban and rural poor, including small as well. So we have lots of components also dealing with the seeds. That's why these two cases will be talked about as well. So if you look at our forecast PABRA for what we do in beans, in seed, it's the from the informal to formal, from the community basis to private sector-led. So we have a developed partnership for scaling up this technology, this seed technology, the varieties, speeding up the access to the community. Reducing the time between the [inaudible 00:12:53] used to be like 10 hours around two to three years. We have also [inaudible 00:13:01] more than 30 million, some small holder were able to access, improve the variety of beans in Africa. So we always on constant dynamism to look for best bet to do a better efficiency in production and delivery. That's why we've been able to get private sector interested in beans than before. They are now using farmer in production of [inaudible 00:13:24] the smallpox [inaudible 00:13:24] been also part of what do we initiated at the beginning.

Jean Claude:

So then now it has scaled up other crops. We also look at [inaudible 00:13:38] building for the private sector for other [inaudible 00:13:40], support NGO's, we have resource manuals, which you can get from our website. We also deal with the policy at the national level, at the regional level, because this networks there's change of materials, which goes with the private sector trading, as well work with the sub-regional organizations, either COMESA or East Africa community [inaudible 00:14:03] to shape the seed policy.

Jean Claude:

But in addition to that, we also have worked on seed system under stress, which again with two cases that Julie talked about, will be detailed in the next discussion. So, that's the background of the seed systems we have. If you look at the seed aid in perspective as seed is always a very exciting topic and particularly seed aid also has brought a lot of studies in the past, those who have been working [inaudible 00:14:43] the seed shares and vouchers, direct seed distribution. So seed is very important in terms of agricultural inputs and development and recovery, committed to more than a hundred million U.S. dollars spend on emergency per year for seed.

Jean Claude:

The widespread is across many countries but also sometimes they are repetitive. But sometimes they can do harm. I think again Julie said we should avoid this harm to the small holders, because they're already in stress, if you stress them more that's dangerous. But sometimes that happens, how do we go about it? I think that's what you're about to hear from other colleagues. They're repetitive, also they can create aid dependence, which is also sometimes not good. So it may undermine sustainable development of local market. Local market is the key that's where majority of farmers get seeds [inaudible 00:15:32]. So we could avoid disappointing small holders like you can see on that photo. So that's the reality that happens, how do you reduce?

Jean Claude:

So the two studies we're going to hear their findings, they will be working on the two side of the coin, supply side and demand side. So the supply side, they will be able to review the practice and the possibility of market-led interventions. We'll have the several cases where the supplies of various varieties improved, how did it go? So again, that's what Steve and Louise. But on behalf of the two, Steve's going to give us some incite. And then we also the demand side where Jules and Dina and Louise worked on. So Jules is going to present that as well. She'll be looking on how [inaudible 00:16:27] different also either direct seed distribution or seed fairs but this time we're going to focus on for cash transfer for seed security in humanitarian setting. So that's the two studies, again, they'll be able to... So I can hand over to Steve to continue from here.

Stephen Walsh:

Thank you, John Claude. And good morning, everyone. First of all, I want to give a special thanks to Dr. Louise Sperling, who is coauthor with me on this review and it was instrumental in setting the context in framing this review. And I'd also like to make note that everything that I say today is my own opinion. It does not reflect the views or opinions or policies of my current employer. This review was undertaken before I came to work for USAID. And so I just wanted to make it clear that what I say this morning is based on work that was done before I took my current role.

Stephen Walsh:

So, first I just want to make a quick reference to the purpose of the study. And this was principally to look at a review in an attempt to categorize past experiences. And then secondly, to identify and move best practices forward. Recognizing enablers and also being cognizant of some of the barriers. The methodology for this, the first step was to develop a conceptual framework. This was the framework that we use to analyze a set of case studies and through using that framework, it is the means by which we came up with some findings. So I'll make a quick reference to the conceptual framework.

Stephen Walsh:

I'll then discuss very briefly the case studies. This morning, we won't go into the details about the individual case studies. The importance of the case studies is that they enabled us to what we think is to identify some important trends across the cases. And then last week, based on reviewing the cases, we were able to map the cases using the conceptual framework. And from that, we were able to draw what we think are some valuable lessons moving forward.

Stephen Walsh:

So before I get started, I do want to contextualize this talk in the review. First of all, just reminding us that seed aid as is known today has increased exponentially over the last 20 years. And what was under a \$50 million a year industry, if you will, back in the mid to late 90's, as of 2011 and again, these are FAO numbers, we're thankful to FAO for providing these numbers. By 2011, this was at least a \$750 million a year from the year 2011. Another point to note here is that seed is often the first entry point in agriculture for populations and stress. And the seed aid that's being provided is done so with a specific focus on the most vulnerable populations.

Stephen Walsh:

The other contextual point that I'd like to make is that it's really critical to remind ourselves where the farmers get their seed. Now, we often want to help farmers where we think they shouldn't be. It's very important to start with where farmers are. And this is work that's been very well documented by Louise Sperling with the support of others. This is based on a one to 10,000 observations. The detailed reports backing up this data can be found on [seedsystem.org](http://seedsystem.org). The important takeaway here, if you look at the orange on the right, is that farmers rely on markets.

Stephen Walsh:

They rely on markets for seed and this is even more so for small and vulnerable farmers. And so, it is really important for us to recognize the primary importance of markets as a seed source for farmers. And then another point to make here is that while agro dealers are an important source, they represent a very small source. And based on this work, they represent approximately 2% in terms of important source for farmers in accessing their seed. So when we talk about seed markets, I think it's important to consider that, on our left, we have the open markets often called the informal market. And this is typically where farmers will access their cereals [inaudible 00:22:19]. And on the right, we have the more formal markets which tend to have a focus on maize, particularly maize hybrids but also vegetable seeds.

Stephen Walsh:

So a quick slide on the conceptual framework. I keep our focus on the left, the details on the conceptual framework on the right but the point I'd like to draw our attention to is that, we adapted the seed security conceptual framework using the parameters of seed availability, seed access and quality. In addition to these parameters, we added an additional parameter to look at two-way information systems. So these were the parameters that we used to look at the cases. And then we also added formal and informal. So we attempted to categorize the cases to the extent to which they were actively engaged with the informal or the formal sector. And a point to make here is that if we look at the right hand side of this slide, we'll see that there's actually many points of intervention to support markets. And these opportunities to support markets are not just with the formal but also on the informal.

Stephen Walsh:

So the case studies, in total there were total of 10 case studies. They included both serial vegetatively propagated crops. And the focus here was on seed availability. So while we... Some of these

interventions did involve some activities oriented to addressing seed access and addressing seed quality, the primary emphasis of the interventions were on the availability side. And so that was a target for us in identifying the cases. The cases came both from... Were led by both international NGO's, in some cases, local NGO's. We had cases where the drivers on the implementation [inaudible 00:24:45] cooperatives. We also had cases where the driver in implementation for seed companies.

Stephen Walsh:

I think, what we tried to do with the case studies is to get a breadth of case studies covering different types of crops. And through this, we're aiming to come up with a broad series of trends. We'd like to come up with more cases. To be frank, we had a very hard time identifying these cases. Again, we were looking for cases that were having effort to support the seed availability side in a humanitarian crisis stroke chronic stress context.

Stephen Walsh:

So what were some of the points to note when we mapped the case studies. Details, we can find in the report but a few things that I'd like to highlight here. One is the near exclusive use of modern varieties for all crops. It does warrant a point of reflection as to whether an exclusive use of modern varieties is the most appropriate way to go in helping to address the needs of farmers that are recovering or trying to respond to chronic stress or responding in an emergency context. The other points here are that, we were not able to identify a single case where there is an active engagement would be informal seed sector.

Stephen Walsh:

If we go back to the earlier slide I presented, showing the extent to which informal sector is a critical seed source for farmers, this warrants a tremendous, I think, reflection and a moment for us to step back and ask ourselves, what's happening? Why is it that we're not able to see a significant or we're not able to identify cases where there's been investment in supporting informal seed sector on the supply side? The third point, is that most of the cases promoted subsidized multiplication with free or deeply discounted seed. We did have a couple of, I think really interesting cases that [inaudible 00:27:04] packaging as the key design feature.

Stephen Walsh:

In last week, while we did have one case that had an interesting use of two-way information flows, it did not appear to be a pivotal design point in any of the cases. In the two-way information sharing, we think is a really critical point moving forward. So to wrap up with the last couple of slides, five key points to make on the findings, one is that most of the cases involve restricting market access and this was restricting market access through allowing market access only for approved suppliers or for certain types of seed.

Stephen Walsh:

The second takeaway or finding was that we saw no explicit and documented ex-ante seed system analysis. There was a lot of implicit analysis of systems but exquisite analysis, where it was documented,



where there was a reference to the methodology. We just didn't see that in these cases. The third point is that all the interventions were in the formal sector and they're... This is an important point again to make because the formal sector is actually a minor seed source for farmers. And the last point here is the feedback mechanisms between the farmer, the consumer and seed producers and seed vendors.

Stephen Walsh:

It's great for us to say that we want to put the farmer at the center but if we're putting the farmer at the center, it's critically important that we have simple feedback mechanisms, so that we get real time feedback from the farmer as to what they have to say about the material being provided to them. And then lastly, it was a bit of a challenge to come to get some documentation that was easy for us to be able to decipher what was working, what was not working so well. I do want to say that we're very appreciative to the different organizations that were able to support us with the case studies and with the documentation that was provided. It was a real tremendous effort on the part of these actors to support us with the information that we were able to get.

Stephen Walsh:

But this last point is that it was not so easy to decipher some of the best practices in looking at the cases. So identifying what we think are some enabling features for market-led interventions, none of these should be a particular surprise. The first is the importance to understand local market functioning, both the informal markets and the formal markets, very difficult to design an intervention that's going to be sustainable. At a starting point, we don't do that ex-ante, that starting point analysis of the existing seed system. There are tools that exist. These would be mentioned by my colleagues but there are certainly tools and processes that exist to do this level of analysis.

Stephen Walsh:

The second point is that a focus on seed market demand. We didn't see enough of this. And this is important to really have an understanding of distinguishing farmer demand for male and female farmers and doing a much stronger job before the intervention is executed, it's better to have a stronger understanding of the demand side. The third point is these clear and simple feedback mechanisms from the seed buyer. And then a fourth point is more market pluralism, just a fancy word to say, more traders, more seed vendors, more seed producers, more diversity in terms of crop and varieties. When we talk about market pluralism, that's what we're talking about.

Stephen Walsh:

And then lastly, a stronger effort towards linking relief to development and building on the mostly humanitarian interventions that we saw. I wish I could be more positive because we do see that there's been a significant effort going in terms of the market-led support on the supply side. There's just a lot more work to be done and there's particularly a lot more work to be done in acknowledging and supporting the informal sector. Thank you very much for your time this morning.

Julie MacCartee:

Thank you so much. Jean Claude and Stephen. We wanted to pause here and take a few clarifying questions before we moved on. And then we'll save some of the... perhaps more substantive questions until the end of the presentation. So Stephen, there was a slide that you shared about where do farmers get their seed and it contained a pie chart that included others as one of the major pieces of the pie. And [Ann Coons 00:32:55] was asking [inaudible 00:32:56] is aid support? Is something you can clarify? I believe it was slide 18. And Steve, I'm not hearing you, I'm not sure if you are on mute.

Stephen Walsh:

Yes. Thank you for the question. This other category is self-sourcing. It's from the farmers on stock but it's also for neighbors. It's also from friends. Thank you.

Julie MacCartee:

Okay. Great. And then Stephen, we also had a question about whether the debut shared is a global picture on where farmers get their seeds. Are there differences between Asia and Africa?

Stephen Walsh:

This is based on the [seedsystem.org](http://seedsystem.org), assessments that were done. If I'm not mistaken, most of these assessments were done in Africa but they also include assessments that were done in Haiti. And I believe there's at least a few assessments that were done in Asia.

Julie MacCartee:

Okay. Great. Thank you. And then one more clarifying question from [Ayemo Sunday Okaya 00:34:31]. What percent is seed aid accounting for in this data? Because in developing countries seed aid tends to take a bigger percentage. I'm not sure if you need more details or if you can clarify on that.

Stephen Walsh:

I would be re-missed to provide a number. I will say that based on my read and my understanding, seed aid actually represents a very small fraction, probably less than 5% of the seed that's sourced by farmers on any regular basis. But I would defer to reading other materials. This is basically an off the cuff response based on my experience in my read of the materials.

Julie MacCartee:

Great. Thank you. Let's see. I think I'll throw one out to Jean Claude before we move on as well. There are a lot of great questions to cover. And so Jean Claude, David [Resty 00:35:45] asks, can packaging be an effective training tool when introducing improved seed varieties?

Jean Claude:

Yeah. Thanks. Definitely. [inaudible 00:35:58] packing the seed or packaging the information? Julie?

Julie MacCartee:

Oh, yes. Are you asking for clarification?

Jean Claude:

Yeah. Packing the seed or packing the [inaudible 00:36:15]?

Julie MacCartee:

Good question. I assumed that he meant packaging of the seeds themselves. David says packaging on the seed as an alternative to formal trainings.

Jean Claude:

Okay. Right. Maybe if I can [inaudible 00:36:35] interpret the way he said, [inaudible 00:36:38] usually have been able to help private sector to pack small packs, which people can afford. And sometimes they are used for demonstrations. They are used for testing new varieties before they buy the bigger packs. So we introduced the small packs approach sometimes back, before even [inaudible 00:37:03], it was not commercial. Now we help the private sector to run it as a commercial. They during field days, they do during open day or demonstration and then farmers pick the small based on their pockets and then they use it to test and to train others. And then they graduate to the bigger ones. So, that's probably [inaudible 00:37:26] try to packaging of the seed he wanted to measure. So you can use a small as a testing ground, as the learning process before you are back to the larger because [inaudible 00:37:38] to be familiar with the variety as we move.

Julie MacCartee:

Great. Thank you. All right. We have a couple more presentations to get through, so I think we're going to move forward but then we're still collecting all of your questions. Thank you for posting them and please continue. And we'll pause after our next speaker for a couple more questions. So I will go ahead and pass the mic onto Jules.

Jules Keane:

Great. Thank you, Jules. And thanks to everyone for taking time to join in today's webinar. It's exciting to see the representation from many, many different entries. And to know that this is an important topic for many of us. And I look forward to our discussion at the end. I will be presenting the key findings on the study of cash transfers, receipts, security and humanitarian settings. The coauthors of this study are Dina Brick and Louise Sperling. And I thank them very much for all of their work together on bringing this to fruition.

Jules Keane:

If you haven't already, I encourage you to download the full report and read it at your leisure. You'll find a lot of the details that I won't cover during this short time. But before we get to that, I wanted to show this image is of graffiti in the United States, that I saw on a walk while I was thinking about this presentation. And for those of you that don't recognize this is Cookie Monster, a famous character in a children's show. So when I saw this picture, I thought of cookie question mark with the metaphor of

choice and quality, because ultimately that is what we're talking about in this study, the choice and the quality of seeds.

Jules Keane:

In summary, for the cash transfers study that we did, we explored the barriers and opportunities that exist through key informant interviews, literature reviews and a selection of case study. The study was guided by a multi-agency thinking group. And I'm happy that Julie March is able to join us today. She was one of the members of that thinking group and they provided excellent expertise and experience on this topic to really guide the direction of the study. The case examples that we reviewed included, Iraqi, Ethiopia, Nigeria, Uganda, Zambia, Zimbabwe, Zimbabwe, Malawi, Madagascar and Guatemala.

Jules Keane:

So a wide selection of geography. As you will see, it is more representative of Africa than some of the other regions. And that is purely because of where the documentation and the experience is taking place to date. These case examples reflected the range of approaches that are being used in cash transfers to proceed security intervention. So all of those cases weren't doing the same thing. Some were doing cash transfers specifically for seeds, some were providing direct seed distribution with additional cash that farmers could use to buy additional seeds that they thought were important to them.

Jules Keane:

As Stephen mentioned in his presentation as well, this is a dynamic and evolving evidence-based. There's not a lot of documentation that's readily available that provides enough detail to know what really happened and what really were the outcome. So I think that as we're seeing, there's more interest in cash transfers for sectorial outcomes. We see it in other sectors and we expect that in this time there will be more cases available and we'll have more experiences to learn from both the successes and the things that didn't work so well that we can all look to improve on.

Jules Keane:

The study advocates for a multi-stakeholder perspective on seed quality. And I'll get to that seed quality in a bit. And finally, we also advocate for expanding the range of options for farmers based on their own context and what their own needs are for their actual needs not based on someone else's decision of their perceived needs. So the key findings; I have about 10 key findings, that I'm going to quickly go through. But the most important one that we start with is the seed system security assessment. And Steve talks about this and Jean Claude talks about this and I believe Julie mentioned that as well.

Jules Keane:

It really starts with... There needs to be an assessment that is specific to seed that looks at where do farmers get their seeds and looking at both the informal and the formal seed market. A lot of times that aspect is missing from projects either because there aren't seed experts who are available or because it's not required by a donor or because there simply isn't the time. So there's the assumption that seed

is needed and that it needs to come from certain channels and not necessarily a full understanding of where farmers normally get their seeds.

Jules Keane:

And we saw that in the slide that Steve shared, showing where farmers and all of these different places, the majority getting the majority of their seeds from the markets, especially the informal seed market. Response analysis and effective program design together, combined with that assessment will lead to farmers spending cash on what we are looking for them to spend it for in this case, the seed system expectations. So I think that for cash transfers there's often this underlying fear that people aren't going to spend it on what we want them to spend it on. And then we won't meet the programming outcomes. But the evidence shows through the cases that if you have that solid response analysis and the effective program design, the farmers actually will spend the money on what you're giving it to them for, provided that they have enough to meet the needs of that identified need.

Jules Keane:

Thirdly, the program preferences on modalities, whether that's direct distribution or cash transfers or vouchers, is not consistently analyzed and it can be complex. And it takes time. You might have participants who only know about direct seed distribution. So that's what they say or people that may have had a bad experience with using vouchers in the past. So they say they don't want vouchers. So it's not as straight forward as just saying, what would be your preference on how to receive aid assistance for seeds.

Jules Keane:

Number four, mixed modalities. And by this I'm talking about cash and vouchers or cash and direct distribution, can help broaden the crop choices. A lot of the cases showed that even within one program, there were mixed modalities. So in some cases, the farmers were given vouchers to buy specific crops but then they could also use cash to buy other crops that they themselves thought were necessary. And then that was able to then expand the number of crops that they were able to buy.

Jules Keane:

For number five, seed quality. Seed quality is probably the most contentious issue that I came across while we were doing this study. And by quality, we're talking about both the seed health, as well as the varietals quality. But really when it comes down to it, all of the cases that we looked at and all the literature, everybody thinks that seed quality is important, the donors, partners, the farmers, the government stakeholders and all of the cases that we looked at where cash was used for seed, there was some screening taking place to ensure seeds quality. So while it's important, I don't think that it's as dire of an issue that people are worried about with all quality will, we'll go out the window if we give people cash.

Jules Keane:

For a number six, the cash for seed series security interventions are limited but they are increasing, as I mentioned and as Steve mentioned as well, it's difficult to find documentation of the projects that are

going on. But there has been movement in this area in cash transfers being used for sectoral outcomes. Just as an example on how limited it is to date, at least in the documentation of it, for fiscal year 2018 [inaudible 00:48:11], which as Julie March was mentioning is a main supporter of seed system out of 120 different awards in 29 countries, only three of those potentially included cash per seed. So it's still something that is not as common as some of the other methods, mostly the direct [inaudible 00:48:34] and vouchers.

Jules Keane:

Number seven, the cash plus complimentary support is one of the most promising means to meet sectorial outcomes. And by the concept sensory support, that can mean a whole range of things but primarily is providing information to farmers on varieties, providing training to the business skills to see what kinds of seeds they need to look at managing the new varieties, et cetera. So there's a lot that can be done. It doesn't have to be just cash and give people cash and say, good luck. There's a lot of wraparound programming that can go along with that.

Jules Keane:

And finally, the next is between relief and development, Steve talked about this as well. When we're looking at cash, it can lead to true market engagement after the emergency and helps for business development in subsequent seasons. Now, I shouldn't say there's not a lot of evidence right now on that but there are some cases we had some CRS learning review in three countries that went back several years after the program and found that that was the case, that there was business development and maintained relationships between farmers and vendors after the fact. And just a small point on financial inclusion, I think there's a lot of promise for financial inclusion, can be something that can happen with cash transfers but the evidence and the review so far have shown that unless it's a specific objective of the program, it is very unlikely that financial inclusion will happen just simply as a result of farmers having received cash.

Jules Keane:

Number nine, supporting the supply side to bring quality seeds closer to project participants. Again, Steve's study really focused on this a bit more that... It's a dynamic, the demand and the supply side, you can't really separate them. So even when we we're looking at this study and trying to focus on the demand side, all of the issues with supply side come up, if there aren't vendors in the markets where people want to buy the seeds, they want to buy, they're not going to be able to buy them there.

Jules Keane:

But in most cases, what we see is the markets are functioning and the informal markets where most farmers buy a majority of their seed, that is where I would say in the study advocates, we need to be looking on how we can support those markets and that support can come in many forms to facilitating those market connections, helping them better understand their customers that may be repeat customers long after the project is gone and how they can get closer to the project participants, in cases of vendors using motorbikes to bring seeds closer to the project participants, even after the project had ended.

Jules Keane:

And finally, the investment in preparedness for effective cash and seed security response. It's not just going to magically happen that it's going to be an effective response, especially if there hasn't been some forward preparation and that preparation takes many forms. It takes the organization knowing its own policies and procedures and being able to adapt them for a specific context. For example, using digital financial service providers, knowing who's out there and where are [inaudible 00:52:49] and do they exist and do they have that reach or is it only on paper? So there's lots of things that can be done beforehand, just as for emergencies, you would pre-position [inaudible 00:53:02] or something or cash for seed programs. There are many things you could do to get ready. And again, it's just how important it is to have the donor support for that.

Jules Keane:

In 2016, OSDA supported two organization to have an institutional capacity support grants to prepare for doing digital task transfers. And they had some great results from that to be able to adapt to the context. So that's really crucial and comes out that the programs will be more effective with some preparedness time for preparedness. So getting back to quality, again, this is probably the most contentious issue that has come up. It has been... For those of you in seed quality, you know it's been a debate for a long, long time. It's not going to end anytime soon. There's basically the two poles of harm, humanitarian imperative and wanting people to have the best by someone's standard. And there's also the choice and the dignity of farmers and the responsibility of that choice of what they're choosing to meet their own needs.

Jules Keane:

As I mentioned at the beginning in our study, we really advocate for having more of a voice for other stakeholders in what is the quality of seeds and who determines that. And can we have a more inclusive perspective of what quality seed means? There is support for that. I think I had seen a question about some donors don't support some of the non-certified seed. I think, for OFDA, they specify in their guidance that's not the case that you could show what measures you've taken to ensure the seed quality and that can be working with ag extension officers within the country and doing other visual inspections, a whole range of things that you could do to show that you were looking at quality and you're not just leaving it to chance whether or not this seed that farmers are purchasing with cash that you're giving them is up to par.

Jules Keane:

Again, that's not to say all donors have that perspective but it's just to say there's movement on this. There is more acceptance of the different perspectives on quality that exists.

Jules Keane:

And finally, the insights from other sectors. I would encourage all of you to read [inaudible 00:56:10] state of the world on cash report. There's a very in depth section on what other sectors are doing with cash transfers to meet sectorial outcomes. And a lot of the issues that can come up are very similar to the issues that come up within the seed sector, the limited evidence-based for the outcomes for

sectorial outcome, concerns about the quality that I just mentioned and concerns about will participants spend the money on something else. And then our project doesn't meet the sectorial specific outcomes. So again, these are common issues across sectors and there's a lot to be learned from other sectors as well as in seeds.

Jules Keane:

And a final point that the evidence-based for sectorial outcomes really needs attention. And I think that would do a long way towards showing other sectors that this can be done and here's what we have learned. But one of the issues with seed is... And I think this is something that Louise Sperling had said that it's a humanitarian orphan because it doesn't really belong in seed aid and it doesn't really belong in [inaudible 00:57:35]. But there's no specific discussions that are going on around seed at the higher level. And that really needs to happen in order to get some movements on moving cash for sectorial outcomes. So with that, I would, again, like to thank you all for your attention. Thanks to my coauthors, Dina Brick and Louise Sperling. And thanks to Marketlink for hosting this webinar. And I look forward to the discussion.

Julie MacCartee:

Thank you so much Jules. Before we move on, I just wanted to ask you a pair of clarifying questions that are related to one another. [Raci Henderson 00:58:18] asks, did the USAID statistic on cash proceed, include awards for seed fairs and [Orla Kilcullen 00:58:27] also asks, how is this different to the CRS seed fair approach or is this what we are talking about?

Jules Keane:

Sure. Thank you for the questions. For the first one, the activities for that [inaudible 00:58:46] funded, only three of those included cash for seeds. So it had to include the word cash to be included in that statistic. I would obviously defer to Julie March if she has any more information on that but no, it didn't include some of the features in that. And the second question, this is different from seed fairs, because we're specifically talking about cash and generally seed fairs that have been done in the past have been vouchers. Although, that is not always the case. And it has been shifting, as I mentioned, there are some that have used multiple modalities, so vouchers for part of what the recipient is getting and then a top up of cash that is either their own cash or cash that is also provided to meet other seed needs.

Jules Keane:

So there's a wide range of possibilities. And I think that that's really what we need, is every context is different and all the needs are different. So we don't need a one size fits all approach. We need to experiment with some of those mixed modalities and see what works in that specific context.

Julie MacCartee:

Thank you, Jules. And also just really quickly, I'm not 100% sure if you've already covered this exact angle but [Neil Miller 01:00:20] asks, do you have any perspective on vouchers as an alternative to cash? I was wondering if that's something you could clarify on.



Jules Keane:

Yeah. Sure. I mean, I think that vouchers have become very common. If you follow the timeline, in the beginning, there was a lot of direct seed distribution. There still is, then vouchers came along and then there was a lot of voucher distribution and there still is. And then cash came along. So now we've got hybrid models out there and experimentation going on. And I think that's good. Our study doesn't advocate for always use cash or always use direct seed distribution. It really comes back to that assessment and analysis and seeing what's happening in the place that you're in, rather than just copying and pasting what was in some other place that worked.

Julie MacCartee:

Great. Thank you. And thanks to all of our presenters who are sharing your experiences and helping answer each other's questions, we really appreciate that. And we will try to get through as many of your questions as we can once we open it up for a full Q&A after Kate's presentations. So I'd love to pass the microphone over to Kate and we'll keep going. So Kate.

Kate Longley:

Great. Thanks, Julie. And I just want to check that you can hear me okay?

Julie MacCartee:

I'm getting an echo from you. You may need to mute your computer speakers if that's open as well.

Kate Longley:

Okay. Hopefully that's a bit better now.

Julie MacCartee:

Yes.

Kate Longley:

Great. Okay. So thank you to Julie March and Jean Claude, Stephen and Jules for their presentations. And I'd also like to acknowledge Louise Sperling who really played a major role in commissioning and undertaking the two reviews. So the webinar has focused specifically on market-led or market-based programming in emergency seed interventions. But at a really more general level, what we're advocating for is more appropriate seed security responses in emergency contexts. And conventional approaches to seed aid have really tended to overlook the important role of seed markets and especially in formal seed markets. And in some cases, this has led to negative impacts either for farmers themselves or by undermining existing seed systems. And like Jules has said, in the humanitarian sector in general, market-led or market-based programming in crises is currently receiving much greater recognition than in the past.

Kate Longley:

And we really believe that a similar market sensitive approach also needs to be applied to seed security interventions. So I'm just going to really emphasize, there's just three key messages I really want to emphasize. So first, we need to better understand informal and formal seed markets. Second, we need to be much more explicit in conducting response analysis and I'll explain this in more detail in a minute. And third, we need to continue to learn from innovative market-based seed security interventions. So the first lesson or... Sorry, the first message in understanding informal and formal seed markets, we have existing tools to understand seed markets. So we've already mentioned the Seeds System Security Assessment tool or SSSA. It provides a really well established method for assessing the security seed systems.

Kate Longley:

And just responding to one of the questions. No, I don't think it does actually include land tenure. There's a lot of information that's packed into these SSSA's. They look at situations of acute and chronic stress. They help practitioners determine what kind of seed related assistance is needed in both the short term and the long term. There's a lot of information in here and I think land tenure, there just isn't the space for that in an SSSA. So they're looking at the ways in which farmers normally acquire seed, whether it's from their own seed saving practices, from friends and neighbors or from seed markets. And it assesses how these systems have been affected by disaster.

Kate Longley:

And then another tool is the Emergency Market Mapping Analysis Toolkit or EMMA. And it's designed for use in sudden onset emergencies to understand critical market systems and the system's ability itself to respond to the crisis and what are the gaps that need but that need to be addressed for the target population. So SSSA methodology and the EMMA toolkit are complimentary and can potentially be used together. But regardless of which tool is used, it's necessary to understand not only formal seed markets but also informal seed markets and the roles of informal traders. So the data said that Steve presented earlier, this is coming from the seeds SSSA across six different countries.

Kate Longley:

It shows that 50% of seed is planted by small holder farmers is coming from local markets. And less than 3% actually of what farmers normally plant in these kinds of crisis situations is coming from formal sector, agro-input dealers. So within these figures, of course there's important variations among crop types. But really the point that we want to emphasize is that informal seed markets are really important to farmers in both in normal times but also, especially in times of disaster. And these informal seed markets should not be overlooked when considering possible market-based interventions.

Kate Longley:

Okay. Response analysis. This is the crucial but commonly neglected link between understanding the context and designing an appropriate response intervention. So both the Seed System Security Assessment and the EMMA toolkits include steps for response analysis. And I realized the diagram here on the slide is largely legible but it's just to illustrate the need to consider the full range of response options that can be appropriate to a particular situation. So it's a decision tree from recent guidelines

developed by various partners within the global food security cluster. And I can put the link on the chat page in a minute. And similar decision tree are commonly used as policy security assessments.

Kate Longley:

In this case, the decision tree is used to determine whether seed access or seed availability is the problem. And it presents a range of options for various demand side interventions to address problems relating to access and it highlights supply side interventions to address availability constraints. And I know there've been some questions about, what kind of interventions constitute the supply side intervention? So we can address that in the Q&A. And then in considering the various response options, it's not necessarily an either or decision. So like Jules were saying, it's important to consider a combination of different modalities or to look at mixed modalities. So for example, combining cash with vouchers or cash with direct seed distribution. And these combined modalities can broaden crop and varieties choices available to farmers. And sorry, just one more point on that. As part of the response analysis, it's necessary to analyze the likely impacts of various intervention choices and especially that potential to do harm or to lead to unintended negative consequences.

Kate Longley:

Okay. And then the third key lesson is that we'd really like to encourage continued learning from market-based emergency seed interventions. And the types of interventions that forms the focus of this webinar and specifically the two publications, constitute a relatively new approach. And so the cases that are described in the published reports represent what we believe are the first approaches of that kind. And we'd really like to encourage donors, implementing partners and others to build on this and to support in design you alternative approaches where these seem to be appropriate. Because really there's a lot more that can be learned through seeking out and documenting innovative approaches.

Kate Longley:

So the Supporting Seed Systems for Development Activity, S34D, will continue to document and to document innovative approaches and share lessons and we urge others to do the same. And so the S34D initiative is really keen to hear about your experiences. And we'd like to hear from you. So please do get in touch. And thank you very much.

Julie MacCartee:

Thank you so much, Kate. And thank you to all of our presenters. Wow. We've had a lot of really great conversation in the chat box, thanks to everyone for sharing your perspectives. As some of you know, this was seed systems month on Agrilinks but I think this webinar proves that there is still so much more to discuss about seed systems. And so we'll be sharing all of your questions and comments with the heads of our food systems month, who are [inaudible 01:09:46] . And perhaps we can continue to have some good blog posts and discussions going forward on Agrilinks about seed systems.

Julie MacCartee:

And right now we will dive into our open Q&A period. We've been collecting all of your questions along the way. And we'll see how many we can get through in the next 15 to 20 minutes. All right. Let's see. So

many to choose from. Okay. So Kate, I figured I'd throw you a question from [Carl Wall 01:10:21], who asked, can you give some specifics for what you mean by supporting supply side, particularly for the informal or open market? So what does that mean to support the supply?

Kate Longley:

Okay. And thanks. And hi, to Carl. Just check, you can hear me?

Julie MacCartee:

Yes.

Kate Longley:

Okay. Great. There's been reference to the current COVID crisis and because of the restrictions imposed on markets and general movements for farmers to access markets and for traders themselves to undertake their market functions in moving stuff around from place to place. The COVID restrictions have really affected markets. And so some of the market type or market systems or market-based interventions that have been proposed specifically in response to COVID, would include things like working with local authorities and governments to ensure that traders are able to move around in a safe way within the restrictions or to loosen restrictions where possible to emphasize and just to make sure that the local authorities are aware of the importance of seed markets, particularly at planting time.

Kate Longley:

And to make sure that farmers can access markets. And in some cases, the type of supply side support might simply be advocating for local traders to be able to continue their trade in ways that are safe within COVID. It might be another example if they're lacking transport, for example, to provide transport vouchers, to help them to transport their seeds and grains into local markets, so that they are available to farmers. It might be something like providing cash loans or securing loans facilities for traders, so that they can continue that supply through the informal market system.

Julie MacCartee:

Great. Thank you, Kate. And another quick clarifying question for you from [Loretta Burns 01:12:37], is it still FAO that leads the way in determining the need for seed distribution?

Kate Longley:

Yeah. In many... Oh gosh, sorry about the echo. Okay. Have I got rid of the echo?

Julie MacCartee:

Yeah.

Kate Longley:

Yeah. Okay. Great. Yeah. In many contexts, in many countries, FAO does tend to take the leads. And it's often when FAO takes the lead they might be leading to do a multi-agency Seed System Security Assessment and they have their own tools, they do their... They have a very similar methodology for doing seed security assessments and quite often, FAO is able to secure the resources through UN emergency funding mechanisms. And then they subcontract, implementing partners, often NGO's to do seed responses. So, yeah, FAO does often play a leading role but it's not exclusively FAO, yeah.

Julie MacCartee:

Great. Thank you. I'm going to jump back to some questions that came in closer to the beginning of the presentations and I'll address them to specific presenters. But of course, if any presenter would like to chime in on any of these questions, please feel free to jump in and interrupt. So Daniel [inaudible 01:14:02]... This question is for Steve. Daniel [inaudible 01:14:05] asked, what is the role of the farmer saved seed in the humanitarian setting? What is the feasibility of using it for humanitarian assistance?

Stephen Walsh:

If I understand the question, it's, is there a role for farmer saved seed in the humanitarian setting? Yes. It is an important source of seed and unless there's some quality issue with the seed either there's pest and disease infestation or there's some systematic breakdown that means the variety is no longer any good. It is fine for seed. And what do we see happening in humanitarian contexts, farmers share their seed. And so, to the extent that farmers are facilitated to share their seed, they will share their seeds more. This is often the experience. I'm not suggesting that we must only focus on farmer's seed but it's just an acknowledgement that farmer saved seed continues to be an incredibly important source of seed.

Stephen Walsh:

And it's an important source of seed even during a humanitarian crisis. But I will say that it's context-specific, that in every context, it is very important to do that analysis. For me, it's applying the seed security conceptual framework and trying to understand, are there underlying quality issues? Which demographics of the society are suffering most in terms of their seeds security? Thank you.

Julie MacCartee:

Thank you, Steve. Another question from [Gary Alex 01:16:16], are there key constraints in the emergency nature for design of these seed activities? The problems seem to lie in inadequate understanding of the local systems. Analysis of the local seeds systems and social analysis of beneficiary preferences, linkages and capabilities would take time. And I think it was suggested that Steve, you kick this one off but if anyone else has something to add, please feel free.

Stephen Walsh:

Just a comment, yes. I agree wholeheartedly. In the paper that was presented in our paper with Louise Sperling, there's a wonderful example of a local seed system analysis that was done in Uganda. That was an analytical paper. They basically analyzed the functioning of the local seed system. This was work that was done by Richard Gibson and Paul. [inaudible 01:17:21], I can't remember Paul's last name. Paul was

the lead author. But they did a fantastic job of demonstrating how robust and resilient the local seed system for seed potato vines is. So there are a lot of examples out there of effective use of the local seed systems. And there's plenty of tools out there that are available. I won't make a note that the CGIAR [inaudible 01:17:52] banana program of the CGIAR has also developed a framework for analyzing seed systems. [inaudible 01:18:02] similar to Louise Sperling, they developed a set of tools in a framework that was also based on the use of the seed security conceptual framework. Thank you.

Jean Claude:

Maybe to add on that, Julie.

Julie MacCartee:

Sure. Please [crosstalk 01:18:21].

Jean Claude:

If you allow me. All right. Yes. I think the case that I can give an example beans that farmers do not buy certified seed every season but they probably source from the market or from the neighbor or they save. So one way to enhance their capacity to inject a critical amount of any variety and then it [inaudible 01:18:48] in the system in their own way. For that allows.. They will not change the seed regularly but if you inject that critical mass and then it goes from farmer to farmer or from market to farmer and then you find in the [inaudible 01:19:03], that variety has spread. So the local seed systems work very well either from neighbor or from the grand market, which is important. And some of those can keep the quality.

Jean Claude:

And the traders now have seen... We've just completed another study recently in Tanzania, which probably we'll share one day on this platform, is that you find that traders also, they know what farmers are looking for. They keep that for the time of planting and people can go in to buy specific variety they are interested in. For the local market it's very important, the only way to do is, how do you strengthen it? How do you inject a new variety which respond to the farmers need? That's what we developed.

Julie MacCartee:

Great. Thank you so much, Jean Claude. Let's see.

Jules Keane:

If I can just add quickly on that. [crosstalk 01:20:05] speaking. In a lot of the places that have emergencies, we actually, as an international development community, we have a lot of the knowledge on those seeds systems. And the seed systems assessments exist in places, thinking of Ethiopia and Haiti and places where there's consistency seed aid. As a community, took the time to look through some of those things and use that as a starting point, it doesn't have to be time consuming. There's a lot of knowledge and experience out there. Thanks.

Julie MacCartee:

Thank you, Jules. Let's see, I have another question. That Steve, I believe you can speak to. Which is from [Ann Kootz 01:21:02], who asked, can you comment on the donor restrictions in sourcing seed and lessons on how to support the informal sector on seed supply given donor requirements?

Stephen Walsh:

Thank you for the question. I think it's really important to go back to the individual countries in the existing seed laws in the individual countries. There has been an effort over the last decade to revisit seed laws in different countries but ultimately, all donors respect the sovereignty of countries where they work. And so, the starting point for determining what's acceptable and what's not acceptable is the underlying seed laws in different countries. I can't make an immediate reference to one country or another right now but some countries are much more amenable to the open sale of farmer varieties.

Stephen Walsh:

Some countries will allow for farmer varieties even to be... They allow for a special provision for farmer varieties to appear in a national catalog. In other countries, less so. And so I just think it's important to... And this is often not done. It's really important for organizations that are operating in the country to familiarize themselves with the seed law. And it's also really important and it was an oversight in my talk, not to make a reference to the critical importance of the national research programs. They played just such a critical role in helping organizations have an understanding not just the seed law but importantly have the existing crops in varieties that are important to farmers. I made a reference to that in the chat box. Thank you.

Julie March:

This is Julie March. I think it's also really critical to open the door as a donor to a wider range of seeds. And I think that what we at OFDA had found was that the state of practice was moving towards things like seed fairs and voucher programs but that if we were requiring certified seed, we really limited serving farmers in the way that they needed to be served. So we worked long and hard to come up with guidance that both ensured that farmers would still get a quality product, right. We have heard tons of horror stories about poor quality seed being distributed late.

Julie March:

And that does no good to the farmer and actually does harm. But I think, keeping in mind seed regulations and that element also looking at what crops, what varieties farmers want and where they normally sourced their seed, then allows the donor community to start to think about how to do that within their own guidance and regulations. So, it was a long process on the OFDA side. But I think at the end, giving implementing partners flexibility, ultimately leads to better farmer choice and options. Thank you.

Julie MacCartee:

All right. Thanks so much, Julie and Steve. I think I'll ask one more question for now and then we will head over to our polls and also give you all the opportunity if you'd like to download all of the resources that were mentioned today. So I'll throw one more question out to Kate before we wrap up. And that one is from [Blu Yama 01:24:59], even though seed aid can pose real risks to farmers, if not properly planned, what are the available options in the nonexistence of functioning seed systems, especially in a chronic emergency?

Kate Longley:

Yeah. Thanks for the question. I think, I mean, when you talk about the nonexistence of functioning seed systems, I think probably you're referring to the formal seed system. And certainly in a formal seed system, do get overstretched in emergency context, partly in some cases by the emergencies itself as in COVID. But also by a really massive increase in demand for seeds coming from these donor funded seed programs. But the informal seed systems by contrast are actually incredibly resilient. And as we've seen from the case studies here, it's these informal seed markets, which are often able to respond by providing seed to farmers in crises. So rather than being nonexistent, it's these informal seed systems that are really resilient and play a really important role.

Julie MacCartee:

Great. Thank you so much. I'm sorry that we weren't able to get to every question but we will certainly continue to share those with the presenters and see what we can do to continue discussions on all of your questions on the Agrilinks platform. And so please be on the lookout for the post event email, which will contain all of the resources from this webinar. I'd like to go ahead and pull up our closing polls and ask that you all take a moment to answer those, if you able. We'll see if we can pull those up. Here they are.

Julie MacCartee:

And you'll also see on the bottom left of the screen that you can download the webinar slide deck in the file downloads pod. And that we've also provided a range of links to the resources that were mentioned in the webinars today. So please let us know whether you can apply what you've learned to your work and always we'd love to have your suggestions for improving these webinars going forward. All right. So I would like to provide an official thank you to the Agrilinks team for running this excellent webinar and the full Agrilinks webinar series.

Julie MacCartee:

And thank you to our presenter for your [inaudible 01:27:42] management of the questions and the presentations. And most of all, thank you to our participants for your wonderful engagement and for continuing to return to the Agrilinks webinar series. So we will go ahead and wrap this up. I hope you all have a great rest of your day and we will see you at future webinars. Thank you all very much.