



INCREASING RESILIENCE THROUGH IMPROVED ON-FARM STORAGE

WEBINAR CHAT TRANSCRIPT

JANUARY 21, 2016

Madhav Subedi: hello every one. i am madhav subedi from Nepal. It's so nice to be a part of this webinar

Carol Adoum: Looking forward to hearing details of the pilots and evaluation activities.

Agrilinks2: Welcome to today's Agrilinks event. The speaker's will begin in about 20 minutes. In the meantime, please introduce yourself (name, organization, country) and share your interest in today's topic.

Agrilinks2: Thank you madhav and Carol!

Agrilinks2: Evaluation findings yield great lessons learned!

HENRY RWAMUGEMA: Hi everyone. Henry Rwamugema joining from INNOCONSULT LTD, Kigali, Rwanda. Looking forward getting valuable insights on the pilot program-on-farm storage in Kenya

Herman Sanchez: Herman A. Sanchez: International Agricultural Development Advisor

Dana James: Hi everyone! I'm Dana James and work as a KM Specialist for the Feed the Future Knowledge-Driven Agricultural Development project.**Dana James:** Looking forward to a really interesting presentation!

Alex Chigoverah: I am Alex Chigoverah from Zimbabwe looking forward to the Webinar

Agrilinks2: <http://agrilinks.org/events/good-money-bank-increasing-resilience-through-improved-farm-storage>

madhav subedi: As a student of agriculture this presentation interests me a lot

nevean nawar: Hello All, Nevean Nawar from (IFAD) International Fund of Agricultural Development (specialized UN agency) from the liaison office in Washington, DC.

KDAD A/V Tech: Hello Everyone! I am Erick, an AV Tech with KDAD. If anyone is having tech issues, feel free to private chat me but clicking my name and selecting 'Start Private Chat'

Agrilinks2: We are about ten minutes or so from start time. Please take a moment to take the polls to the left!

Julie MacCartee, USAID/BFS: Thank you, everyone, for joining! We'll be getting started in about ten minutes.

Richard tinsley: Dick Tinsley from sunny Colorado

Eduardo Viera: Eduardo Viera from ADRA International

Agrilinks2: Hi Neavean, thanks for being here! Are you working on post-harvest storage programs?

Richard tinsley: hoping you had a chance to review the blog I posted earlier

Bhubhinder Singh: Bhubhinder Singh from A to Z Group, Arusha, Tanzania

Agrilinks2: Thanks Richard! There was some great pre-event discussion. I invite folks in the room, for the next ten minutes to take a look! <http://agrilinks.org/events/good-money-bank-increasing-resilience-through-improved-farm-storage>

AMINA AHMED: Hello I am Amina from India

Adaoha Ndibe: Adaoha Ndibe: Hi everyone, my name is Adaoha, I am a research scientist at the food safety dpt @ the IFR in Norwich. I am also the founder of @Agrifoodaid

Richard tinsley: Hope you folks in DC can head home after the webinar and avoid the coming storm, we sent it south to pick up some good golf moisture before visiting you

Agrilinks2: Welcome Amina and Adoha.

Julie MacCartee, USAID/BFS: Excellent, thanks for joining. You are welcome to share links to your organization, twitter profile, etc. :)

Agrilinks2: We are glad you are all here for today's event. We will start in about 5 or so minutes. Please feel free to pose questions and conversation points to each other and for the presenters using this chat box. If you have any technical difficulties, please start a private chat with AV Tech (hover over their name and click "start private chat").

William Lanier: Never Idle (Ghana) replaces PHL with marketing for grower net. Moisture testing and mobile utility storage with Integrated Pest management is a logistical platform for production oriented packages. PHL is expensive, not metal storage that moves to where it is needed. Thanks for webinar.

Lisa Bauer: Hi everyone! I'm Lisa Bauer, from the Center for Strategic and International Studies (a thinktank) here in DC. I'm a research assistant on the Global Food Security team

HENRY RWAMUGEMA: Yes richard, I had a chance exploring the blog you sent earlier

Richard tinsley: all is quiet can we get a sound check

Agrilinks2: Welcome William and Lisa!

AMINA AHMED: Thank you

Andrew Gathecha: Hi everyone. Andrew Gathecha here, from the Kenya end of this exciting Pilot project. Glad to see the enthusiasm!

Bhubhinder Singh: That's a good music

Agrilinks2: Thanks Andrew! We are looking forward to hearing your experience throughout!

Rage Adam: Hello Every Body

Dana James: can hear!

madhav subedi: feels so good to connect with you all

nevean nawar: @agrilinks - I'm working more on development in rural areas (pretty broad spectrum).

claudia LaLumia: Claudia LaLumia joining from Tetra Tech AEG sector

Dana James: really excited to see the pilot results, such a great learning opportunity

Richard tinsley: i have all silence, please someone speak so I can check the sound

AgriLinks2: Richard, music is playing! Please contact Av/Tech if you are having issues.

AgriLinks2: Thank you everyone for joining. We see that a number of webinar participants are coming from all over the world. Any questions posed to the presenters will be asked during the Q&A session, so please keep them coming throughout. You can also start individual chats by hovering over someone's name and clicking "start private chat"). Please note, if you have any technical issues please start a private chat with the "AV Tech" so that those without technical difficulties may engage on content of the presentation using the main chat box.

Arlie Reeves: Greetings all! I am a USAID virtual intern and graduate student from Northeastern University, studying Agricultural Development. I also am a cattle producer and am interested in storage techniques for feeds/grains to help better my own storage system, and to learn more in general about this topic. Glad to be here.

Bhubhinder Singh: Welcome Arlie

Richard tinsley: thanks for the background music

HENRY RWAMUGEMA: the music is touching !

Marcus Winter: Marc Winter - CNFA

Diane Bolme: Diane Bolme here, USAID Knowledge Management for Food Security and Agriculture Programs eIntern and undergraduate at the University of Washington

Greg Jones: Greg Jones - Clinton Development Initiative (CDI), Clinton Foundation in New York

Elon Gilbert: Greetings from Montana

Reginald Toussaint: I am Reginald Toussaint from USAID/Haiti

Thomas Herlehy: Tom Herlehy, Practice Area Manager for Crops at Land O'Lakes

michael ketover: Hello. Michael Ketover from USAID/Ghana and RING.

Aisling O'Broin: Aisling O'Broin here, from Gorta Self Help Africa

James Theuri: Chicago, Illinois

Anne Maftei: Anne Maftei from The MasterCard Foundation, Toronto

AMINA AHMED: hello I am Amina from Tanzania, tutor at Mbeya University of Sci & Tech. currently I am in India at Punjab Agricultural University taking MSc. Food Technology

Carol Chan: Hello! Carol Chan from Tetra Tech ARD

Suz Neave: Suz Neave from CAB International, an international intergovernmental agricultural development organization.

Kodjo KONDO: Kodjo Kondo: PhD candidate in agricultural economics with focus on adoption, efficiency and impact studies at the University of New England in Armidale, Australia.

Andrew Bisson: Hi everyone, I'm Andrew Bisson, Ag and Livestock Adviser with Mercy Corps - looking forward to this morning's discussion

Vicki Morrone: Greetings from Michigan State University, East Lansing MI

Amoussouhoui Rico: Hi everyone I'm Rico Amoussouhoui Agricultural economist and M&E specialist

Margareta Lelea: Hello, I am Margareta Lelea from the German Institute for Tropical and Subtropical Agriculture where we are involved with a project on Reducing Losses and Adding Value in East Africa.

Gary Burniske: Good Morning from the Center for Global Food Security at Purdue University

Tulika Narayan: Hello all, this is Tulika Narayan, research director for the AgResults external evaluation. Happy to answer questions on chat as they come along. I am dialing in today from Vietnam, but based in DC otherwise.

Patrick Hanemann: Good morning. Patrick Hanemann from Farm2Market Agribusiness Consulting

Torsten Mandal: Torsten Mandal, freelance agronomist, Copenhagen, specialized in Africa, small-scale farms, crop, incl. low-cost tree establishment by farmers.

Kaylyn Fraser: Good afternoon from Cambridge Economic Policy Associates (an economic consultancy with an agricultural development practice) in London, UK

HENRY RWAMUGEMA: Hi Arlie, I am from Rwanda and part of my job I am managing a small scale dairy farm and interested to get more insights from you re: feeds and storage. Please send me your contacts and we can connect later. henry

Victoria Machakaire: Good morning everyone, from World Vision

Beau Ingle: Hello! Beau Ingle, International Programs in Agriculture, The Ohio State University

AgriLinks2: Welcome all! Thanks for introducing yourselves! We are getting started, so please know we will ask questions after the presentations. Please post your questions in the chat box and we will try to get to it!

Theresa McMenomy: Hi everyone, I am Theresa McMenomy from the SPRING Project team on agriculture to nutrition linkages

Judy Payne 2: I am Judy Payne, USAID's ICT Advisor for Agriculture in Bureau for Food Security

Agrilinks2: Henry, Arlie: Great to see these connections being made! You can also private chat to exchange emails. Just hover over a name in the attendees box and click "start private chat".

Ashley Aakesson: Hi, All, I'm an SBCC Advisor with the SPRING Project

Lynda Swenson: Greetings from San Diego! I have worked on a similar project with USAID Farmer to Farmer and a Spanish NGO Codespa in Angola.

Agrilinks2: Welcome Theresa, Judy, and Ashley. Thanks for joining!

Brent Wibberley: Brent Wibberley, TechnoServe

Kodjo KONDO: Great

David Gandhi: Hi, I am David Gandhi, working with CRS in Myanmar.

Agrilinks2: ICT and ag-nutrition linkage perspectives would be great to share throughout as well!

Jordan Dey: Hi All, Jordan Dey here from GrainPro. Look forward to the discussion/presentation...

Biruh Zegeye: Good morning everyone, my name is Biruh Zegeye. I'm a recent graduate from Emory university with a Master's in Development Practice with specialties in food security and nutrition and agricultural development.

Agrilinks2: Welcome David--- all the way in Myanmar! Are you working on post-harvest issues there?

Jennifer Bremer: Hi all, from Addis

Francis Kemeze: Hi I am Francis Kemeze, PhD Candidate in Applied Agricultural Economics and Policy, University of Ghana. I am working on agricultural risk management (Insurance, supplemental irrigation) in Northern Ghana.

Katie Hoerberling: Hello, this is Katie. I'm a graduate student at UC Davis in the International Agricultural Development grad group. I'm also a Borlaug Fellow in Phnom Penh Cambodia right now. Researching communication and participatory extension

David Gandhi: Yes - Maize and Rice storage

Agrilinks2: Welcome Brent! Curious to hear Technoserve experience with this topic.

Agrilinks2: Two graduate students; curious what you both see as the major issues in on-farm storage!

Brent Wibberley: Thank you, my focus is agro-processing but I'm seeing more and more need to link to post harvest

Steve Good: Steve Good, World Relief, Mozambique

Agrilinks2: Thanks David! Looking forward to your insights from those value chains in Myanmar!

Kodjo KONDO : I am really looking forward for this webinar the one coming on measuring resilience

Rage Adam: My Name Is Rage Adam from Somalia,

Bryan Sobel: hello from Dakar, Senegal

Rage Adam: hope every one doing well

Agrilinks2: Brent, curious to hear how you see those linkages might best be made?

Jenna Diallo: Jenna Diallo, Sahel Regional Office, USAID/Dakar

Vicki Morrone: your cutting out

claudia LaLumia: no audio

Thomas Herlehy: The sound is going in and out.

Vicki Morrone: its good quality then cuts, works, then cuts

Judy Payne 2: sound has stopped

Thomas Herlehy: We are only hearing phrases not complete sentences.

Gary Burniske: You keep cutting out.

Julie MacCartee, USAID/BFS: We are having slight connectivity issues - attempting to fix

Agrilinks2: Thanks everyone! We are working on fixing the audio issue.

Thomas Herlehy: nothing now - no sound

Richard tinsley: how about grain recovery and reduced foreign material in the grain

Agrilinks2: Please take a moment to answer the polls!

AMINA AHMED: are there slides to show? I only here audio and poll

Jordan Dey: Please repeat last few bullet points

Richard tinsley: which is the greater concern insects or rats

Agrilinks2: Presentation slides will return.

Agrilinks2: For now, just the polls!

Judy Payne 2: can you move the polling questions so we can see slides?

Bhubhinder Singh: Audio is disconnecting at times

Agrilinks2: Aviva will be back in one second...

Vicki Morrone: nope still a problem

KDAD A/V Tech: Sorry everyone. We are have some connectivity issues from our control room.

HENRY RWAMUGEMA: There is poor connectivity and we are missing important info, any help from IT to fix the problem

Agrilinks2: Yes, it is being worked on.

Agrilinks2: Thank you everyone for your patience... Aviva is loud and clear.

Agrilinks2: Check these programs out: <https://ag.purdue.edu/ipia/fpl/Pages/default.aspx>

madhav subedi: it's all silence

William Lanier: how about moving the polling questions?

Agrilinks2: <http://acdivoca.org/our-programs/project-profiles/kenya-storage-and-drying-aflatoxin-prevention-project-aflastop>

HENRY RWAMUGEMA: the philosophical approach looks excellent. I am interested to hear about affordability in owning the off-farm storage infrastructure for at household level

Francis Kemeze: One of the concern I always hear small farmers complaining for is the fact that when there are blessed with good rainfall they have good productions but bad selling because of the demand and supply forces in the community. But when rainfall is bad they do not even have what to eat.

Julie MacCartee, USAID/BFS: Francis - that's a great point

Agrilinks2: Thanks, Henry. I have noted your question for Q&A.

Agrilinks2: Please don't be shy about adding questions throughout. We will note them down for during Q&A.

Vicki Morrone: can we get a link to Julie's paper (chapter?)

Vicki Morrone: sorry not Julie but Betsy

Agrilinks2: Hi Vicki- we will look into it!

Vicki Morrone: will aflatoxins be addressed on grains and groundnuts?

Victoria Machakaire: Are the storage devices promoted at household or community level?

Rodrigo Ortiz: they are promoted at a household level

Victoria Machakaire: Thanks Rodrigo

AMINA AHMED: I can see the slides now

Present 1: Vicki - aflatoxin prevention is a key feature of the storage devices in question today, but we won't be delving deeply into the specifics of aflatoxin

Julie MacCartee, USAID/BFS: Hi Vicki, that message was from me :)

Vicki Morrone: are containers that can be used a 2nd time given any extra "count"

Julie MacCartee, USAID/BFS: However, we have some more in-depth aflatoxin resources on Agrilinks: <http://agrilinks.org/aflatoxin/>

Vicki Morrone: thx Julie

Francis Kemeze: I will be interested in hearing more about the risks of on farm storage and how to handle them.

Rodrigo Ortiz: they are intended to be used for extended periods. Bags for about 3 years, tanks for about 10 years and silos for up to 20 years

Aisling O'Broin: Do the sellers provide any training/advice to farmers on how to store the commodity, preparation required before storage, cleaning/maintenance of tank/silo?

Rodrigo Ortiz: normally yes, but this is up to them

Richard tinsley: will the bags move up the value chain, or will the farmer have to repack into other bags so they retain the bags

Victoria Machakaire: Are there any chemicals added to the containers?

Tulika Narayan: And our evaluation will assess if that training and transfer of knowledge happened.

Vicki Morrone: How are women farmers being targeted to have access to this technology and market opportunity

Rodrigo Ortiz: the intention is that the SHF will keep the bag to fully realize their cost and value

HENRY RWAMUGEMA: Can we have the tech info/on Kenya-on farm-storage pilot?

Rodrigo Ortiz: yes, please look at our website

Rodrigo Ortiz: agresults.org

Jordan Dey: Richard Tinsley, the benefit of hermetic bags is that they can "move up the value chain" continuing to protect the commodity until it is sold...

Bertrand Murguet: Did the pilot attract mostly local/regional/international providers of storage technologies?

Richard tinsley: can we add an analysis as to what an appropriate bag size taking into consideration the health problems in manhandling 90 kg bags in terms of wrenched backs, also related will be breakage and spillage losses. I think this will make an interesting study

Antony Kavinguha: Are you going to equip the private sector like AgroDealers

Steve Good: Risk of plastic bags is they can be easily damaged

Rodrigo Ortiz: local, regional and international providers we targeted

William Lanier: How do Bags move up the value chain without warehouse protection?

Bertrand Murguet: Thanks Rodrigo - they were all targeted and responsive.

Nick Brown: A bigger challenge than disaggregating sales between SHF and larger scale growers is getting agrodealers (and we currently have well over 100) to report individual sales. Currently only a minority are prepared to provide details of their customers, but it is early days.

Elon Gilbert: Would like to hear more on how reduction of storage losses for maize will result in increased production by SHF (as opposed to shifting resources (land labour) to other enterprises. This might be covered in the evaluations

Torsten Mandal: In e.g. Kenya, major challenges includes theft and robbery, sufficient drying before storage, investment costs, and access to wood for good long-legged stores. I developed methods making tree establishment much cheaper for small farmers also for termite-proof trees. They can also be fitted in between crops with the new methods.

William Lanier: Do bags stop LGB or rats at warehouses?

Richard tinsley: you have to deliver your grain in some container which could be bag and sold as a whole bag

Kenneth Ayuko: How do you reduce aflatoxin infestation through field level contamination?

David Gandhi: Small holder farmers are commonly forced to sell produce soon after harvest to repay loans etc. Hence, smaller size storage containers would seem to be more appropriate. What is the experience in Kenya?

William Lanier: Great question Ken!

Rodrigo Ortiz: LGB yes but rats no for bags

Richard tinsley: I share the concern, we are hearing a lot on insect pest, but I think rats are an equal or greater problem, and bags won't protect from them

William Lanier: how do bags stop LGB from boring into bag?

Steve Good: properly sealed bags should stop LGB, but not rats. if rats open the bags, then all bets are off for GB's

Jordan Dey: William, an outer bag protects the hermetic liner. Can be stored in the home or in a warehouse.

Steve Good: lack of oxygen kills the Gb's

Tulika Narayan: David, Betsy will cover your question in the presentation, as finding from our formative research were interesting.

Rodrigo Ortiz: some of the bags are multiple layers, others have an insecticide incorporated into the plastics

Torsten Mandal: PS In Kenya and many other African countries farmers tries copying demonstration stores, but lack affordable wood and means to grow enough in agroforestry, so rain and rats still enter stores and drying areas. Sealing in moist grain can spoil it all and be hard to monitor.

William Lanier: and what is the cost of all the bags / tonne and recycling the discarded acres of plastic?

HENRY RWAMUGEMA: Rats are major problem on on-farm storage than Gb's. any tech innovation to stop rats ?

William Lanier: Good points Torsten!

Richard tinsley: how could there be a low demand, when farmers basic financial management strategy is to retain everything in kind as long as possible marketing only what is needed for immediate cash needs thus marketing will extend up to 10 months after harvest

Amoussouhoui Rico: i think that the big challenge is about the climate change and the lack of useful equipment to reduce postharvest loss in each step during the harvest and after harvest

Tulika Narayan: Henry, rats may continue to be a constraint, limiting adoption. We will see.

Kodjo KONDO : How do you indent to measure impact on technology uptake?

Rodrigo Ortiz: demand is based upon affordability

Amoussouhoui Rico: for all processing step

Tulika Narayan: Kodijo, we as evaluators are conducting large sample surveys to ask if farmers bought the technology.

Antonny Kavinguha: How much will the farmer have to invest in the Hermetic liner bags? Will not be too expensive for the SHF? Will this not lead to dependency syndrome?

Vicki Morrone: are their appropriate loan programs to help farmers purchase the storage units?

Jordan Dey: Henry, metal silos are great against rats, but less effective against infestation and often require using insecticides. There are trade-offs with all storage technologies, depending on the issue you are trying to address.

Rodrigo Ortiz: the premise is that the increased income from grain and grain security will compensate the costs

David Gandhi: In many areas, maize is stored on the cob (without threshing the grains). Are there any experiences to improve this storage?

William Lanier: Nice comment Antony! Very insightful. Thank you.

Kodjo KONDO : thanks Tulika. Which models do you plan to use?

James Theuri: From your surveys, were you getting different responses from farmers depending on the agro-ecological zones?

Nick Brown: There is evidence that rats are less inclined to attack maize stored in hermetic bags simply because they are less aware of what the bags contain (no smell).

Richard tinsley: nice interesting note

William Lanier: Sorry Nick, that is not true.

Torsten Mandal: Furthermore, storing much grains in poor parts in Kenya require strong structures to prevent theft and violent robberies in the hunger season, and in turn require much wood for poles or brick burning.

HENRY RWAMUGEMA: And I am interested seeing the expansion program model, after on-farm storage pilot, and how local tech firms can be used for expansion to reach more farmers.

William Lanier: and how about wildfires!

frejus Gnanvossou: Hi everybody

Tulika Narayan: Kodjo, Betsy will get into this, but we are using an interrupted time series approach since the pilot will saturate the entire area.

Richard tinsley: I have visited home in Tanzania in which half the floor space was taken by bags of paddy rice

Amoussouhoui Rico: Welcome Frejus

frejus Gnanvossou: sorry for the late

Rodrigo Ortiz: agreed to avoid theft some SHF keep their grain in their home

Richard tinsley: wild fires or controlled burns

Nick Brown: And one bag has an insecticide incorporated within the multilayer structure sandwiched between barrier layers.

Jordan Dey: Antony, hermetic bags are the least expensive of the three technologies...and do not require pesticide use.

William Lanier: What does pesticide in plastic do for resistance?

Amoussouhoui Rico: don't forget the consequences of insecticide

William Lanier: what about recycling the plastic every three uses and after bumper crop?

Amoussouhoui Rico: it's advice to use biologic product for the food

William Lanier: good point Rico! Resistance very important.

Nick Brown: For William. What is not true exactly? That there is evidence or you do not agree with that evidence?

William Lanier: GrainPro's research? No

Torsten Mandal: Particular unrefined plant oil, 0,5-3% of smooth coated grains can kill much insect eggs if used in time (beans or maize), but should be monitored and combined with good drying etc.

AgriLinks2: Hi All- the presentation will be available on the event page.

William Lanier: PICs research? No

Amoussouhoui Rico: for the cereal the parboiling allow to improve the resistant to insects

William Lanier: Proctor 1994. Yes

Victoria Machakaire: living space is in many cases already an issue for many smallholder farmers. Now, with storage being localized on the farm and the risk of theft.....they will be forced to share the limited living space with the stored produce, and for a long time. This is likely to be an issue in the near future. Perhaps it's time to think of cost effective granary technologies and how they can be promoted concurrently

Richard tinsley: isn't par boiling restricted to rice, and done after the paddy has left the farm

William Lanier: USARS Manhattan Kanas. Yes

Torsten Mandal: Filling gaps with fresh ash (pH is about 11-12) also helps ash it enters the respiratory openings of moving insects.

Nick Brown: For William. There is clearly conflicting evidence available here. I don't think we are suggesting that hermetic storage represents a complete solution to the rat problem but that rats are certainly less able to find it. I will share the data later.

Amoussouhoui Rico: Mandal, do you know the impact of those product on the food?

William Lanier: Less able on the research bench?

AgriLinks2: Thanks everyone for the great conversation, sharing tips, debating research.

Nick Brown: In the meantime we are anyway researching incorporating rodent repellents in the bags.

Rodrigo Ortiz: yes great questions

Elon Gilbert: Does the pilot design Betsy is describing include impacts on changes in who does the storage? Is the hypothesis that use of these technologies will mean that farmers store more/longer than others (traders, etc)?

Agrilinks2: How are we able to apply some of what we are hearing from different regions around the world?

Amoussouhoui Rico: we have to take into account the impact of use the product, the economic impact and the impact on the well-being and on consumers' health

Richard tinsley: with all your techniques how much is being bought and distributed through NGOs and how much sold on the open market.

Rodrigo Ortiz: the sales for the contest are through open markets

Richard tinsley: my reference is to treadle pumps which were almost exclusive distributed through NGO with none sold on open market, the ultimate test of viability of a technology

Torsten Mandal: Ricco, tar and so should be avoided. Some prefer shiny beans with oil on it. Combining ash and oil is not studied and would make it important to avoid any tar particle as they can stick. A bit of pure ash dust will not be a problem after cooking - or a benefit.

Nick Brown: Good question. I will check the detail and revert.

Tulika Narayan: Elon, the evaluation will measure the sale timing and price.

Elon Gilbert: Thanks, Tulika. Are you also looking at differences in changes between SHF's, larger farmers and traders/others?

Antonny Kavinguha: We have been putting effort to have the SHF unit into Farmer Organisations so that they can aggregate and store in bulk. Isn't this not a paradigm shift that we are going to make the SHF store more on the farm than at the Aggregation centre?

Torsten Mandal: The store on the image is just what I mentioned and seen all over Africa since 1983, copies of the affordable parts of recommended stores, but with low legs so lots of rain splash it an rats enter freely - despite the presenters comment!

Tulika Narayan: We have focused the large sample study on SHFs, though we have a higher cut off on defining SHF. We will talk to larger farmers and traders through the qualitative investigation to assess impact on markets.

Anne Maftai: I'd like to know if any of these pilot participants have integrated client feedback loops to understand smallholder uptake and usage or lack thereof.

Victoria Machakaire: Who in the private sector is the major participant, is it the big companies or the small ones?

Richard tinsley: again a need to look at the most appropriate bag size to minimize access and marketing full bags etc

Torsten Mandal: You need rat guard and about 1 m tall legs on stores -termite proof if needed.

Rodrigo Ortiz: there are large and small companies involved

Torsten Mandal: It is risky to leave the technical expertise mainly to the industrial product sellers.

William Lanier: What does rat guard and metal legs do to the cost / tonne?

Richard tinsley: don't forget the importance of convenience of farm gate sale in them of opportunity to continue the farm work, and not lose a day for marketing goods

Jennifer Bremer: What about strategic behavior by the farmers, preferring to wait for another donor-funded NGO to provide free or low-cost equipment, rather than buying and then an NGO shows up the next week and they feel like idiots?

David Mbugua: Is the initiative focusing/encouraging more of local private sector actors or external actors are equally encouraged to participate?

Antony Kavinguha: The key market failures that promote post harvest losses is lack of linkages that enhance the value chain strategies.

William Lanier: Good point Jennifer, Rampant handout problem in Northern Ghana

Rodrigo Ortiz: both are equally encouraged

Richard tinsley: for those following my commentary you might want to visit the website i manage: www.smallholderagriculture.com it has several pages devoted to this and related

Richard tinsley: issue

Anne Maftai: I think this question may have been asked earlier, but I would like to know if any of these pilots are testing innovative financing models to enable smallholders to access the storage technologies

AMINA AHMED: thank you Richard for sharing the link

Torsten Mandal: Rat guards are just a cheap cone of recycled sheet metal, but the tall-legged wood structures is hard to afford by farmers if they do not know how to establish enough trees without investing much time, money and land. Only a small fraction of the costs are needed of the standard methods.

Richard tinsley: also the book Developing Smallholder Agriculture: A Global Perspective is now available in Kindle format through Amazon. I hope this will allow more remote reader better access

HENRY RWAMUGEMA: Torsten, rat guard and about 1 m tall legs on stores -termite proof, looks excellent intervention against rats and also can serve reduce problem on humidity interference on the grains from the floor surface.

Rodrigo Ortiz: in the kenya case no, in Nigeria access to finance is being contemplated

Torsten Mandal: Yes Henry, and I think many farmers know it, but cannot afford it.

Victoria Machakaire: What is the cost of the bag and the plastic drum?

HENRY RWAMUGEMA: A model to reduce cost is necessary !

William Lanier: but the cost / tonne stored goes up faster than the benefits!

Anne Maftai: Thanks Rodrigo. What about the use of mobile channels to increase awareness, track usage and provide additional information on proper use of the storage bags/bins

Richard tinsley: what is the possibility of farmers seeing the bags, then go down to the market and purchase what is needed to self assemble

Rodrigo Ortiz: richard, that is not possible, the materials are different

Nick Brown 2: Torsten. Why is it so risky to rely on the technical expertise of industry? If we do not develop products which work and market them properly, we fail

AgriLinks2: Thanks everyone, we have been noting all questions throughout.

Rodrigo Ortiz: they may look alike

Brent Wibberley: Agree with Anthony, linkages are key to ensuring sustainable solutions. Key constraint to processors further down supply chain is always quality of raw material. They should have a shared interest in supporting their supply and can be brought in to support farmers

Rodrigo Ortiz: but no

Torsten Mandal: FAO promoted such good tall-legged stores in all regions of Kenya in 1983 (my first visit), but that part did not pick up.

Nick Brown 2: Thus we have a significant vested interest in developing effective solutions and communicating them properly.

AgriLinks2: We will start asking after this initial kick-off question for Bob Rabatsky of Feed the Future Partnering for Innovations.

William Lanier: FAO has dropped Hermetic, no insecticides for instead airtight and non-residual fumigation.

AgriLinks2: If you have any more questions about the presentations, please feel free to ask in the chat box.

AgriLinks2: We will get to as many as possible.

Martin Bosompem: Did you experience any human pest (Theft)

Rodrigo Ortiz: they are the hardest to control :-)

Torsten Mandal: The risk of only relying on product sellers for technical expertise is they are biased, and e.g. air-tight storage is risky if drying is not good, or if rats enters anyway.

Richard tinsley: how about pilferage from large farmer cooperative storage facilities

Suz Neave: I would be interested to hear people's views on how private sector can compete with subsidised and free products from NGOs and other projects

Agrilinks2: The conversation has focused on some major themes: pests, use, role of private sector, lots of questions about the evaluation and innovative financing models.

William Lanier: Technical manual for the construction and use of family-sized metal silos to store cereals and grain legumes" by Mejía-Lorío and AccessAg videos dropped hermetic years ago.

Rodrigo Ortiz: subsidized and free products do not qualify for the threshold prizes

Richard tinsley: not a problem as NGO will eventually reach the end of their contract and disappear

Bertrand Murguet: to Torsten: if the technology does not work, or is too risky, the assumption is that over time, there will be no demand for such technologies. And that farmers will look for another provider.

Torsten Mandal: Big stores give big problems with bribe and pressure to accept infested and moist grains, while industry focus on the theoretical benefits of their products.

Rodrigo Ortiz: William, in the case of metal silos yes that is right

Rodrigo Ortiz: Bertrand, agreed this is market driven

Victoria Machakaire: What is the role of the extension arm of the government in all this?

Nick Brown 2: clearly there needs to be a balance between private sector sources of information, independent researchers, government and NGOs. But let us not run away with the assumption that government, NGOs and researchers do not have conflicts of interest. There are few truly impartial players.

Bhubhinder Singh: The AgroZ Bag is available to farmers at KES 250/- which is less than USD 2.5

Dianna Gillespie: In regards to having on-farm storage work as a resilience storage, how does the impact evaluation design measure increased resilience?

Torsten Mandal: Bertrand, if storage fails sufficiently farmers may die of hunger before markets correct. Markets and consumer are not perfect, and aid for this can help or harm.

Dianna Gillespie: resilience strategy*

Vicki Morrone: any evaluation of locally made using local resource container systems

Richard tinsley: extension input is probably limited as they are already financiall stalled and will not be able to expand programs

Kristin Wilcox: So the pull strategy is 'word of mouth'? This is confusing since the emphasis has been on the private sector providing the education.

Bertrand Murguet: Agreed, Torsten. This pilot does not aim at solving hunger issues but aims at trying a new way of providing a solution, through the private sector that, until then, was reluctant to enter this market. Therefore, AgResults' pilots should not been seen as panacea.

AMINA AHMED: not only rats, there is an issue of monkey for on-farm storage

Bertrand Murguet: If the pilots demonstrate encouraging results - that is, with appropriate incentives, private sector may come into a difficult market, then there is room for scaling up, convincing large donors and government to look closer at pull mechanisms.

Rodrigo Ortiz: what she said is that at the moment the solvers have not done massive advertising but that is their option since it is a pull mechanism.

Nick Brown 2: And the private sector is providing a lot of education through training sessions for lead farmers. Bhubhinder can elaborate.

William Lanier: Nice comment Kristin

Torsten Mandal: Choosing between only stimulating demand or commercial supply is not enough. Farmers, NGO's, research and extension and companies need more technical knowledge too - particularly on the complex issues of on-farm storage and many needed integrated solutions.

Bhubhinder Singh: AgroZ Bag is being taken to the farmers in the Rift Valley to train them on how to use. 90 training programs have been planned in the next 6 weeks connecting to approximately 9,000 farmers in the Rift alone

Idowu Atoloye: There is much participation by youths in recent days in agriculture. Are you considering including youths also?

Bertrand Murguet: Good point Torsten. Let's hope that pull mechanism attract the best informed companies and not the not so efficient incumbents, with connections with local government and extension farmers.

AMINA AHMED: due to poor infrastructure (transport and storage facilities) most farmers practice on farm storage until they get buyers of their produce, this has many challenges such as aflatoxins, pests and thefts

Carol Adoum: I have always felt that give-aways by NGOs are really undermining the ability of the private sector to build and expand their reach. We need to really really slow down on grants and give-aways. If they can be targeted to the very very most vulnerable perhaps that is okay, but globally the availability of give-aways is undermining private sector stepping in to provide the goods

Victoria Machakaire: If this project is designed to develop the small scale agriculture sector, then the government has to have a hand, if not a major one in the roll out of this technology. Once the government is involved, the question about reaching the farmers and creating awareness may diminish in size because in many cases the government's extension infrastructure is already designed to reach most of the farmers. There maybe need to support the government with resources for them to effectively reach the farmers.

William Lanier: Yes Carol! or at least require PPP

Idowu Atoloye: Most university undergraduates are gearing towards agriculture. Their participation level has increased. I think it will be nice to consider involving them. Will this project involve them?

Torsten Mandal: IF the private sector just promote their product as THE only solutions, they may do more harm than good. Private service providers, NGO's etc. could with qualified supervision support integrated reliable solutions (incl. smart containers/bags etc.)

Suz Neave: Carol raises a very good point

Idowu Atoloye: In Nigeria, youth participation in agriculture has increased. How do we have access to this technology in Nigeria?

Jennifer Bremer: Thanks for the answer!

Amoussouhoui Rico: what's the challenge that you have to face and useful equipment and biologic product be able to help the producer to reduce postharvest loss during storage in take into the African realities

Amoussouhoui Rico:?

Agrilinks2: Getting into the costs for farmers.

Torsten Mandal: If a plastic tank is "affordable" depends on many factors, most cannot afford what they need for rain-water storage.

AMINA AHMED: what about the issue of middle men?

William Lanier: what is the cost of recycling the discarded plastic?

Nick Brown 2: Torsten. The private sector is not a monolith. Each player obviously develops and promotes its own technology. Please do not underestimate the role of competition here.

Bhubhinder Singh: The cost of KES 250/- for three seasons, works out to only KES 83/- per season. This is much lower to the price of normal PP bag and the cost of pesticide dust.

Bhubhinder Singh: The increase opportunity to gain better selling price is very crucial from farmers' point of view

Kristin Wilcox: I may have missed this in the comments - but how many seasons will a bag last? The current discussion of cost has been covered earlier in the presentation but if people are relying on 'word

of mouth' they won't be able to learn enough to make that c/b analysis. Could some of these issues be clarified?

Torsten Mandal: Nick, in e.g. rural Kenya the private sector is important, but often one donor promoted for a while here, and another there, and donors favour those from their own country. Of course they can help and they are important.

Carol Adoum: In my experience, govt extension workers unless closely managed through projects (and ensuring salaries are paid) do not work out very well. They are underfunded, not overseen, and don't get the latest information. As I'm sure we've all experienced, the transfer of technologies from the researchers does not happen through extension workers if the product is not available on the market (or through NGOs, see my earlier comment). So although the govt should be aware and support to the extent possible, they are not the solution.

Nick Brown 2: We should not underestimate the role of word of mouth but obviously we cannot rely only on that. Information is disseminated by multiple actors; they all have a role.

Suz Neave: What is the market structure? Are a handful of suppliers selling all three different storage options and therefore their sales pitch is based on what their customer can afford or needs, or is one supplier selling one product and so suppliers are competing for the same customers.

William Lanier: "Farmers whose scale of operation is too small to be able to produce SAFE FOOD, are too small to farm maize (or any aflatoxin sensitive staple)" Cardwell, K. (2015, April 9). Aflatoxin Identifying the Way Forward Kitty [The TOPS Program's Conversations about Aflatoxin]. International Program lead USDA. Retrieved from <
www.fsnnetwork.org/sites/default/files/Kitty%20Cardwell%20Presentation.pdf>

Bob Rabatsky: The role of demonstration programs, and winning over early adopters is critical to promoting a new tech or approach. but if this is for the storage tech company to do, it costs money and takes time.

Victoria Machakaire: Is there an appetite to, alongside this new technology, promote and improve local storage technologies that farmers have always used? Or is it seeking to completely replace the local innovations? Did the baseline investigate the local traditional methods of storage that farmers have used for years before?

Agrilinks2: On Aflatoxins: <http://agrilinks.org/aflatoxin>

Nick Brown 2: They beauty of the AgResults programme is that it has incentivized a number of players such as ourselves for example to develop genuinely innovative products.

Dianna Gillespie: In order to properly measure an intervention's contribution to household resilience, it is necessary to measure it against a household's ability to respond to either a shock or a stress. How does the program account for this?

Jordan Dey: Kristin, the hermetic bags will last until they are damaged beyond repair. This could be many years; a 3-year timelife is often assumed, but could be longer or shorter depending on how it used.

William Lanier: How does the grower know if the bag is damaged without opening it?

Agrilinks2: Great questions, great discussions. Thank you everyone!

Vicki Morrone: is there any use of Neem seeds or other tree natural pesticides mixed in with the container?

Agrilinks2: We still have time for a couple more, and in the meantime feel free to take the polls.

Torsten Mandal: I think one should look at the decades of experience in these fields and avoid repeating the problems of the past documented in independent evaluations. Promotion and private sector is important but does not solve all problems.

Elon Gilbert: Thanks, Tulika. Not time today, but would be interested in Ag Results hypotheses re changes in S/C/Performance from wide spread adoption of improved storage practices. Not clear if/how grains market performance will improve if there is a lot more storage on farm by SHFs

Torsten Mandal: Rats living at or near farm can find a farm store even if the smell is reduced, and multiply fast if feed is available.

Vicki Morrone: use of natural pesticides? any tested, observed?

KDAD AV Monitor: Poll time!

Nick Brown 2: Suz. I think we should not assume that all SHFs are the same. Like any population group they consist of multiple overlapping segments with different characteristics and needs. Some products will be more appropriate for some segments; others for other segments.

Jordan Dey: Vicki, a natural pesticide is a hermetic environment. The insects suffocate from lack of oxygen. Completely natural, no chemicals - better health for the family and marketability of the grain.

Agrilinks2: Please do take a few minutes now or after this final question to take the poll.

Agrilinks2: We use the information to improve events.

Bhubhinder Singh: <http://www.azpfl.com/index.php/en/brands/agroz/agroz-bag-and-bag-plus>
<http://www.azpfl.com/index.php/en/brands/agroz/agroz-news>
<http://www.azpfl.com/index.php/en/products/agriculture-horticulture>

Vicki Morrone: developing local markets for local container systems with low cost - that was a couple of comments/questions and I too see greater value in this approach for its sustainability and resilience - so development not just local marketing

HENRY RWAMUGEMA: please circulate the web chats to attendees of this webinar for reference and getting more insights of the on-farm pilot storage system

Torsten Mandal: If you keep grains very dry only rats are a problem

HENRY RWAMUGEMA: SURE Torsten, in fact rats love eating dry grains !

Bhubhinder Singh: http://www.the-star.co.ke/news/2015/11/17/new-maize-storage-bags-to-reduce-post-harvest-losses_c1241504<http://ngaruamaarifa.blogspot.com/2015/11/improved-multilayer-hermetic-grain.html><http://www.hivisasa.com/nakuru/agriculture/98486><http://watsupafrica.com/news/new-gunny-bug-made-to-serve-cereals-better/>

Agrilinks2: The chat transcript will definitely be available.

Torsten Mandal: One also need to distinguish between dry and humid areas, and sealed containers easy to inspect or not.

Agrilinks2: All participants will receive materials for today's Ag Sector Council by email.

Jordan Dey:

http://grainpro.com/gpi/index.php?option=com_content&view=article&id=205&Itemid=1758

Agrilinks2: Also check back on the event page for the webinar recording!

Antonny Kavinguha 2: <http://www.agra.org/> AGRA is focused on African countries that are best positioned right now to achieve exponential growth in agriculture production

Ely TERRA: Hello! can i have a registered document before this webinar

HENRY RWAMUGEMA: That is great !

Tulika Narayan: Thank you all --great questions!

Bhubhinder Singh: Thank you so much. Useful discussions!

Agrilinks2: Hi Ely, not sure what you are asking for.

Moffatt Ngugi: Thanks & bye !

Greg Jones: Thank you!

Kodjo KONDO : Thanks

Agrilinks2: Thanks everyone!

Agrilinks2: Please take the polls before you sign out!!!!

William Lanier: Thank you

Nick Brown 2: Where do we find the contact details of the participants?

Jordan Dey: Thank you USAID for hosting..

Julie MacCartee, USAID/BFS: Thank you for attending!

Agrilinks2: We have only 38 of the more than 120 people who joined, so please take just a moment to fill those out.

Nick Brown 2: Thanks a lot and good day.

Agrilinks2: You can contact them through Agrilinks, actually.

Agrilinks2: Check it out: www.agrilinks.com

Martin Bosompem: great information thanks

Agrilinks2: Click on the members tab and search for them.

Adaoha Ndibe: Really learned an awful lot. Thank you.

Agrilinks2: Thank you Adaoha!

Agrilinks2: We host monthly Ag Sector Councils-- check it out at agrilinks.org

Agrilinks2: Thanks Jordan!

Agrilinks2: Check out USAID's Bureau for Food Security knowledge sharing platform, agrilinks.org.