Questions and Responses raised in the Q&A box during FAO Side event

#	Question	Response
1	1) What do you think on agricultural extension Education system? 2) How to produce compitant Extension agent able to support farmer? 3) How could we make Extension free from political influences?	**Dr. Kristin Davis:** The agriculutral extension education system must also be upgraded, per the diagram I shared showing the need for new extension attitudes, skills, and knowledge (see https://cgspace.cgiar.org/handle/10568/115143). I am working with Michigan State University to examine the undergraduate extension curriculum in several African countries and we hope to present the results at AFAAS Extension Week in 2023 in Nigeria. Extension education is currently outdated, too focused on theoretical with not enough practical training, and under-resourced. Separating extension from political influences is a difficult one. In many countries extension is used for political purposes, unfortunately. I think we can turn the political arena to our advantage by allying with farmer organizations to lobby the government to meet farmers' needs in a farmer-led way.
2	The educated youth are going outside agriculture for mainly two reasons - shortage of land and lack of interest in rural life. How can we address these problems?	**Dr. Kristin Davis:** This report I worked on with the Feed the Future Developing Local Extension Capacity project (https://www.digitalgreen.org/wp-content/uploads/2017/09/DLEC-Study-on-Engaging-Young-Agripreneurs_Lessons-from-Rwanda-and-Uganda.pdf) talks about the different type of youth and how organizations engage youth as providers and recipients of extension services. The thing about youth is, they are interested in agriculture if they can make money through it. Extension needs to be innovative in terms of how it reaches out to young people and provides them with entrepreneurial skills so that they can make a livelihood in rural areas - they could be a producer, but they can also be a village agent or advisor. Programs need to provide opportunities for them in the rural areas, but this does require work on the enabling policy environment, institutions that can support and equip youth. They need financing and skills. Mentoring is also very important.
3	The application of digital tools in Africa is challenged by poor internet connectivity and low literacy levels of farmers. How can these two challenges be overcome?	**Dr. Krisin Davis:** This issue has to be addressed on a number of fronts. There are many examples of innovations to deal with poor connectivity. For instance, Digital Green has a "connect online - connect offline (COCO) tool to support extension staff in poor internet areas. Talking books and the use of videos on a USB stick and with a pico projector can get information to people where there is no internet. See also https://cgspace.cgiar.org/handle/10568/101498 for the Digitalisation of African Agriculture report. Low literacy levels of farmers is not necessarily an extension issue. It can be overome in part through some of the innovations mentioned above. However, even extension staff lack "digital literacy" and this can only be overcome by training programs. I'm sure our participants have more to say on this.
4	What Extension services should be implement small scale machination technologies for the farmers to make accessible and affordable?	**Dr. Mel Oluoch:** Small-scale machination technologies improvement can be enhanced through delivering effective linkages to fabricators, access to credit and training. SSM requires entrepreneurship skill development and effective fabricator's training and backward and forward linkages
5	As these digitilized technology are quit expensive how do you ensure that it reaches resource constrained farmers	**Dr. Mel Oluoch:** It is important to work in partnership with Agriculture Extension Personnel and the Private sector. Most farmers have mobile phones and the current digital applications are developed such that farmers with smart and non-smart phones can still access the digital services. The extension personnel to farmer linkage ensures that farmers are trained on how to use the digital services and to ensure that the needs of farmers are being fully adreessed through the digital services.
6	Now farmers are being told to do GMOs to increase their productivity, as experts in extension services what's your take on this especially in Africa?	**Dr. Mel Oluoch:** We should follow Biosafety laws in every country as the guiding principle

7	What is the contribution of SAA in Ethiopia, in case of livestock, which is currently highly affected by drought especially in lowland area of the country?	**Dr. Mel Oluoch:** SAA is mainly focussed on crops but our latest Regenerative Agriculture approach is also addressing Livestock to a minimum degree. We use the manure (for example) in the faming systems to improve soil health and drive up productivity. RA approaches also addresses climate change and drought mitigation in many ways
8	Can this Urea Deep Placement (UDP) technology be used for other plants apart from rice? If yes,how can it be done?	**Dr. Gambo Abdulhamid:**Yes it can be use on other crops such as Maize and Sorghum. We currently promoted the use of the technology in maize production and making effort to cover other crops
9	How is the UDP TECHNOLOGY applied in maize production	**Dr. Gambo Abdulhamid:** The application is similar to that of Rice Production. The only difference is the alternate stand. In Rice is after every 4 stand, while in Maize is after every 2 stand. The performance is the same in terms of cost saving, yeild and vegetative groth
10	Extensioning system especially in developing country like Ethiopia is not equiped, which is the major bottleneck for technology transfer and adoption. What do you think is solution?	**Dr. Gambo Abdulhamid:**The improvement of the extension system can be achieved through enhancing political will on the areas of funding, extension agents recruitment and training and integration of pluralistic extension service delivery as against the conventional public extension system. On the side of the farmers, poor access to finance, profitable market and effects of climate change are to be addressed to improve adoption of new technologies.
11	How those this agricultural technology and innovation expand to reach out the farmers in rural communities areas.	**Dr. Gambo Abdulhamid:** Enhancing pluralistic extension is key to expanding farmer reach and innovations aims to close EA-Farmer ratio is also key. SAA is promoting CBF model to increase farmer reach across many states. The use of social media, print and electromnic media are also other inintiatives, SAA is making good effort arround that in Nigeria, Ethiopia, Mali and Uganda.
12	What are preparation of SAA toward harvest and post-harvest losses of rice in Nigeria, especially in Kano and Jigawa?	**Dr. Gambo Abdulhamid:** Many climate resilliant technologies where promoted by SAA in these states, Coupled with the wrong prediction the climate change effect produces devastating results in many location including our demo sites. We are looking inward to see how we address such issues in many other devastated location in countries where we work. Recently we had a meeting with Jigawa ADP on this issue and will meet soon to design future mitigation strategies
13	Is biofortification demonstration starts in ethiopia?	**Ms. Sakile Kudita:** I'm not sure, our regional director would have the latest information on this, but from what i know, some biofortification work has started in ethopia.
14	How stable are these nutrients under processing conditions of adding value to the bio-fortified food. Is there data of which nutrients are likely to leach out most? Jacqueline (Uganda)	**Ms. Sakile Kudita:** Provitamin A carotenoied are not very stable especially when exposed to heat and light. The breeding targets for biofortified crops takes these inevitable losses into account so that even when losses occur, what remains is enought to still make an impact. Data on processing losses from the most common processing technologies is available
15	How about the productivty of the crop for example maize,is bioforitfied maize productivity is equal with those non biofortified?	**Ms. Sakile Kudita:** The target for biofortification is to improve the micronutrient status without compromising on yield, taste, stress tolerance and the many other traits that farmers look for in any variety they adopt. So in short, the productivity for biofortified crops is similar to that of thier non-biofortified counterparts.
16	When we disseminated a yellow QPM there were serious questions about the yellow color. But when we included food demonstrations farmers were happy with the food colour and changed their minds.	**Ms. Sakile Kudita:**Thank you for sharing. That has indeed been the experiance in most countries for biofortifid varieties. Negetive perceptions change once farmers get to taste the varieties, and see them growing in the field and see their many advantages beyond just nutrition. The knowledge of their nutrition benefits give an extra incentive for adoption.