

Triple S PLUS is Ready for Scaling: Learning, Research, Impact ...Together

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In 2017 the CGIAR Research Programme on Roots, Tubers and Bananas (RTB) Scaling Fund awarded funds to three innovations to foster their scaling. Triple S PLUS technology (Storage in Sand and Sprouting) in northern Ghana and southern Ethiopia was one the recipients of this award. The project works in collaboration with RTB cross cutting clusters on: scaling RTB agri-food innovations; and gender and youth. We are generating an evidence base around the scalability of Triple S, outcomes for improved access to quality seed and early food, and the contribution of using a scaling approach.



What is the problem?

Sub-Saharan Africa is increasingly experiencing prolonged dry periods during which sweetpotato plants desiccate resulting in widespread shortage of planting material at the on-set of rains. Triple S, a root-based system for conservation and multiplication of planting material, has been validated and piloted in nine countries in SSA. We now want the Triple S technology to be available to many more farmers, especially women in areas with a long dry season. However, scaling is not a linear process, and has multiple and complex pathways. To be successful at scale, we need to think beyond Triple S as a technical practice, but as an innovation package with complementary activities.

What do we want to achieve?

By 2022, we want to reach over 80,000 farmers (50% women), with key messages on Triple S while ensuring that the scaling process is inclusive and responds to the different categories of farmers. We anticipate that 10% of those reached will use the technology to increase access to quality planting material for food security and income benefits. We also want to understand how to ensure successful scaling in different contexts with different types of scaling partners.

Fig 1. Inspecting and sorting sprouting roots from the stepped pit, Pungu Machoro, Navrongo, Ghana. (Credit S. Achibase)

Partners:

- **Ethiopia:** CIP, Southern Nations, Nationalities and Peoples' Region, Bureau of Agriculture and Natural Resource Development; People in Need (PIN) and Women's Development Army
- **Ghana:** CIP, MEDA (GROW), Global Communities (RING) and Ministry of Food & Agriculture



Fig 2. Ms. Ayelech talking about her experience with Triple S at the RTB Scaling Sweetpotato Triple S PLUS Inception meeting. Hawassa, Ethiopia, April 2018 (Credit F. Asfaw)

“ Triple S has become very important for us; it helps us to keep our sweetpotato planting material and is good as a source of income. We have been trained about this technology by CIP. We know how to set up Triple S, how to select the roots to differentiate between healthy and rotten roots. We have become experts in the technology and we are eager to work on a large scale. Our only concern is marketing. ”

Ms. Ayelech Alemu Tefera, Ethiopia

How are we making this happen?

In Ghana, we work with international NGOs (MEDA and Global Communities) and the Ministry of Food and Agriculture who implement large-scale agriculture-nutrition programmes. In Ethiopia, we work with the Bureau of Agriculture and Natural Resource Development (BoANRD), which is the public-sector extension system. The scaling partners have existing strategies to include women in their activities; e.g. MEDA works with women's groups and uses the listening circle approach with pre-recorded messages on "talking books"¹. The Ethiopian public extension system mobilizes the women's development army at village level and will identify Triple S Champion Households to ensure that both male and female farmers are reached.

The Triple S PLUS innovation package is based on gender responsive communication comprising five steps for successful implementation:

- i. Awareness raising, sensitization, planning and preparation
- ii. Healthy root selection and loading of the Triple S container
- iii. Monitoring, de-sprouting and preparing to plant out stored roots
- iv. Root bed preparation and planting out 6-8 weeks before the rains start
- v. Harvesting vines from the Triple S root bed to use for planting material

These steps are communicated using simple language and cartoons to the core group of farmers by Trainers of Trainers using the Triple S Training Resource Set. This consists of: A Guide for Trainers; Triple S training flip charts; and three farmer handouts². The Triple S Training Resource Set is packed in a robust carrying case and satchel and can easily be transported by extension workers. The flip chart has hooks and a pole to hang on a tree or wall.

To extend the use of Triple S PLUS beyond a project realm we are using a multi-media approach (practical demonstrations, written materials, facilitated video screenings, and radio) and we want to test different dissemination intensities to assess



Fig 3. Loading the Triple S container: Triple S+ Trainers of Trainers of Trainers training, Ethiopia (Credit F. Asfaw)

which can be more effective for reaching women and working at scale. For a “core” group of farmers the intervention is based on: demonstrations, face-to-face training sessions, and facilitated video screenings. A second group of “spillover” farmers will participate in facilitated video screenings. Radio programmes will also be used to reinforce the messages; with a third group (acting as a control) only exposed to radio messages.

We are using the theory of scaling approach together with tools developed by RTB colleagues to improve our “readiness for scaling” of Triple S as an innovation package. A theory of scaling is a type of theory of change. It helps us to zoom in on how to improve scaling readiness to effect change.

Using the scaling readiness tool, we systematically unpacked the different components of the Triple S PLUS innovation package. Some components had high technology readiness (e.g. selection of healthy plants & pegging; and, checking, de-sprouting & removing rotten/weevilled roots) – but the use of the component had not yet moved beyond the project realm. We analysed which components were at lower “scaling readiness” and why – whether the technology still required tweaking, or

whether we needed to identify strategies to increase use. We used this analysis to make a series of management decisions on whether a component could be dropped, substituted, out-sourced, improved, re-orientated or re-located.

In Ethiopia, we identified that the videos were ready but to be effective they needed translation into local languages and dissemination through appropriate channels. CIP did not have this capacity, so the activity was outsourced. The scaling partner BoANRD, was already piloting a video-based extension approach with the NGO Digital Green, but only in some of the woredas in our target group. Discussions are in progress to add the Triple S video to their dissemination package in these woredas and identify how to host facilitated video viewings in the remaining woredas.

Interrogating our theory of scaling has helped us analyse who are our next end users; what type of behaviors we seek to change, and appropriate entry points to initiate that change. This process has also helped to inform our partnering strategy. For example, to target women farmers, our entry point had to focus on the contribution that Triple S PLUS could make to early production of roots for home consumption, and extending availability of fresh roots through storage in sand. In Ethiopia, this highlighted the need to identify and engage with partners working with women on nutrition activities. In Ghana, our approach promotes

¹ A talking book is an audio device which makes it easier to share knowledge with people who cannot read and who live without electricity.

² All these materials are available at www.sweetpotatoknowledge.org



Fig 4. Using cartoons as part of a multi-media communication for behaviour change approach (Credit T. Stathers and M. Were)

options for different sizes of structures for sand storage to meet men's priorities for quality planting material, and or, women's preference for roots for home consumption or sale.

What are we learning?

To achieve impact with our Triple S PLUS innovation package, we need to move its use beyond a project context, up to a landscape and systems level. For this to happen, we need to consider who has access to the technology at the same time ensuring our scaling strategy is gender responsive. We have engaged with different types of scaling partners. The international NGOs were motivated to collaborate as they recognized that Triple S PLUS provided an appropriate exit strategy for their orange-fleshed sweetpotato (OFSP) vine dissemination activities. However, while that rationale holds, the overall priorities and time scale of this type of partner may shift in response to their funding conditions, and "piggy-backing" additional training and monitoring activities may stretch partner staff resources too far. As we move beyond the project realm, it is more challenging to ensure the quality of the intervention (e.g. training events, translation of resource materials, quality of roots for storage). We sought to utilize partners' existing monitoring systems; but this has highlighted trade-offs in terms of number of and depth of questions desired by researchers; and monitoring the uptake by tens of thousands of respondents in a development programme. Scaling partners have also emphasized that increased awareness among their target groups about preparation of diversified OFSP products

drives the demand for OFSP vines. This spurs interest in storage in sand for production of quality planting material or extended fresh root storage. This underlines the need for a value chain or systems perspective when scaling a specific technology.

What next?

At project level, we have a set of monitoring tools to track (across the three different levels of promotion intensity) the numbers of male and female ToTs and farmers trained, demonstrated changes in knowledge and use of the Triple S PLUS components, and whether this is leading to improvements in access to quality planting material. We are also monitoring early and extended availability of roots for consumption and sale. These monitoring activities are complemented by facilitated reflection on how we are navigating the scaling process with partners; and tracking how the use of the scaling readiness tools are enhancing the scalability of Triple S, and better scaling performance.

The Sweetpotato for Profit and Health Initiative (SPHI) and sweetpotato seed systems and crop management community of practice, provide the mechanism to exchange learning and experiences, and to engage with additional potential countries and scaling partners in SSA. We will apply the scaling readiness tool in new contexts to develop appropriate scaling pathways to extend the benefits of Triple S for conservation and multiplication of quality planting material in areas with a long dry season.

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