Collaboration between WUR and CRP Roots Tubers and Bananas II

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Yesterday: Launching the expanded RTB / WUR partnership







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Three main areas of collaboration

- I. A methodology to assess and enhance 'innovation and scaling readiness'
- 2. Mobilising ICT to address collective action problems
- 3. Social processes shaping the distribution of seed
- Common thread: a new theory and practice of innovation and scaling

improved seed and other innovations





1. A methodology to assess and enhance 'innovation and scaling readiness'

Scaling of a technology is affected by interdependencies

Farmers cannot change unless others also change

• e.g. actors in the broader enabling/disabling environment (e.g. value chain)



3. A methodology to assess and enhance 'innovation and scaling readiness'

- Scaling depends often on mutual expectations, agreement, trust and coordination in networks
- These do not emerge and diffuse by themselves







3. A methodology to assess and enhance 'innovation and scaling readiness'

Builds on EU typology & language

From idea to maturity / suitability in intended environment

• We add:

- Attention for interdependencies
- A learning and enhancement process





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 TRL 0: Idea. Unproven concept, no testing has been performed.

 TRL 1: Basic research. Principles postulated and observed but no experimental proof available

TRL 2: Technology formulation. Concept and application have been formulated.

TRL 3: Applied research. First laboratory tests completed; proof of concept.

TRL 4: Small scale prototype built in a laboratory environment ("ugly" prototype).

TRL 5: Large scale prototype tested in intended environment.

TRL 6: Prototype system tested in intended environment close to expected performance.

TRL 7: Demonstration system operating in operational environment at pre-commercial scale.

TRL 8: First of a kind commercial system. Manufacturing issues solved.

TRL 9: Full commercial application, technology available for consumers.

Identifying and assessing interdependent technologies / practices



Identifying and assessing the 'enabling environment'



Combining them to assess socio-technical 'innovation readiness'



Reflection on feasibility and further efforts and investment

- Is there agreement on the desirability of scaling?
- What are the limiting technical / institutional factors?





And what strategies may enhance innovation and scaling readiness?



First testing of the framework / methodology

- Scaling <u>banana wilt control</u> in DR Congo and Uganda (led by Bioversity International)
- Scaling <u>best cassava agronomy practices</u> in Tanzania and Nigeria (led by IITA)
- Early warning systems for managing <u>cassava pests and</u> <u>diseases</u> in Vietnam (led by CIAT);
- Decision support for potato late blight management in Ecuador (led by CIP)









3. A methodology to assess and enhance 'innovation and scaling readiness'

- It helps technical scientists to foster better conditions for scaling
- It allows comparative analysis for a new science of scaling
- It develops indexes that help to monitor progress



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Scaling Readiness

Accelerating the Scaling of RTB Innovations

RTB SCALING READINESS NEWSLETTER SERIES #1

This is the first of the series of newsletters that will capture our efforts to develop an approach that will accelerate the scaling of innovations in the CGIAR Research Program on Roots, Tubers and Bananas (RTB). The newsletters will capture the major concepts of scaling readiness, activities, and information about the RTB cases in which we are developing and testing the approach. The scaling readiness project is an Earmarked Funded project under RTB Cluster 5.4 and is implemented by Wageningen University, IITA, Bioversity International, CIAT and CIP.



2. Mobilising ICT to address collective action problems

Addressing agricultural challenges often requires collective / concerted action

Horizontal (communities) or vertical (value chains)







When and how can digital platforms change the logic of collective decision-making?

- Radical change in ICT availability in Africa
- New opportunities for connectivity
- New opportunities for 'bigdata' and 'citizen science'





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Environmental Virtual Observatories for Connective Action



Environmental Virtual Observatories for Connective Action

- WUR invests 1,2 million euro
- 11 PhD African PhD candidates
- 7 co-funded 50/50 by CGIAR
 - potato diseases (CIP)
 - tick control (ILRI)
 - agr. service delivery (IITA)

CGIAR

BXW control (RTB)







3. Social processes shaping the distribution of seed

- RTB seed systems are special
 - vegetative, bulky, perishable, accumulation of disease
- Highly dependent on farmer multiplication
- What social factors shape the distribution and diffusion of improved varieties?





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Seed tracing studies: e.g. improved potato varieties in Chencha, Ethiopia

- Wealthy farmers are better sharers
- Women share less, but there is no gender exclusion in sharing
- In 2 years: 7 times more farmers use improved varieties





Yenenesh Tadesse, C.J.M. Almekinders, R.P.O. Schulte and P.C.Struik, 2016. Tracing the seed: seed diffusion of improved potato varieties through farmers' networks in Chencha, Ethiopia. Experimental Agriculture..

Seed tracing studies: e.g. improved varieties in Chencha, Ethiopia

- But: resource constrained farmers cannot make optimal use.
 - no labour to make ridges
 - limited access to fertilizer, fungicide, diffuse light store





Outlook

- We are excited about the strengthened collaboration!
- Good complementarity in expertise / networks
- Great opportunities for combined
 - research
 - development
 - capacity building



