The Building Blocks for Scaling Agronomic and Soil Health Solutions for Resilience

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CGIAR week of science and practice of scaling agrifood system Innovation
23 November 2022
Nairobi, Kenya






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EIA

DELIVER

TRANSFORM

INNOVATE

ORAGNISE

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Take Home Messages…

Immediate benefits (agronomic and financial) **are an irreducible minimum for adoption** (*later scaling*)

Invest in **dense networks** of farmer learning sites

Invest in re-skilling extension in digital: **reduce research-adoption cycles**

Take Home Messages…

Social innovations are indispensable

Scale UP proven scaling methods, not just technologies or practices

Scale knowhow and capacity, before emphasizing specific practices

- *farmer agency, self-learning, experimentation, adaptation*

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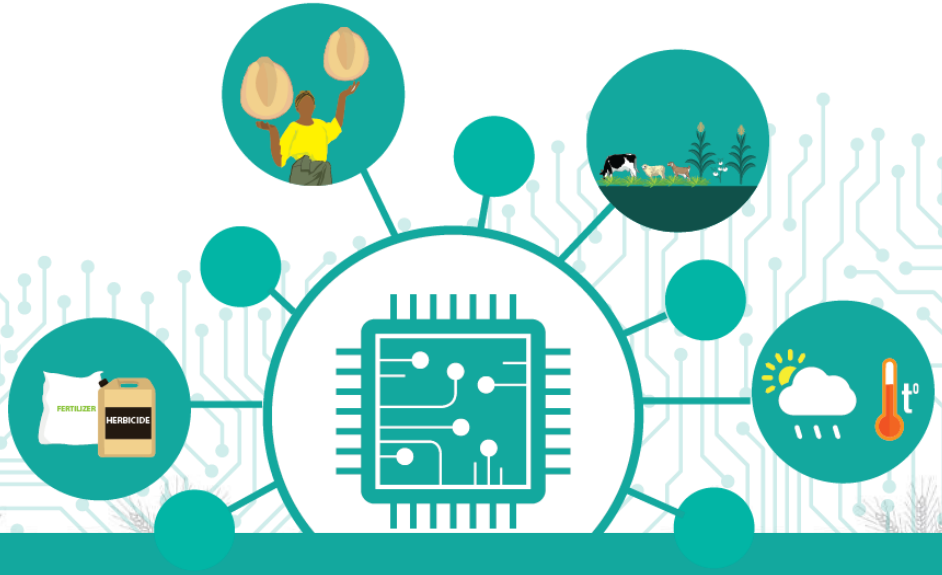
Take Home Messages

It takes up to 3 years for farmers to adopt a new maize variety

What does that say about complex and knowledge intensive SH practices?



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What is a major gap?

The top-down nature of most of extension fail to consider farmers' heterogeneous needs

- *local markets, farm-level soils, farming history, agroecology, resource envelops, public services*

- **generic advisories mean long time lags to adoption**…*farmers must experiment to adapt generic advice to their needs…this takes time…trial and error…risking abandonment*

Lesson 1

The irreducible minimum for scaling soil health interventions

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Immediate benefits for farmers

(agronomic or financial)

Malawi

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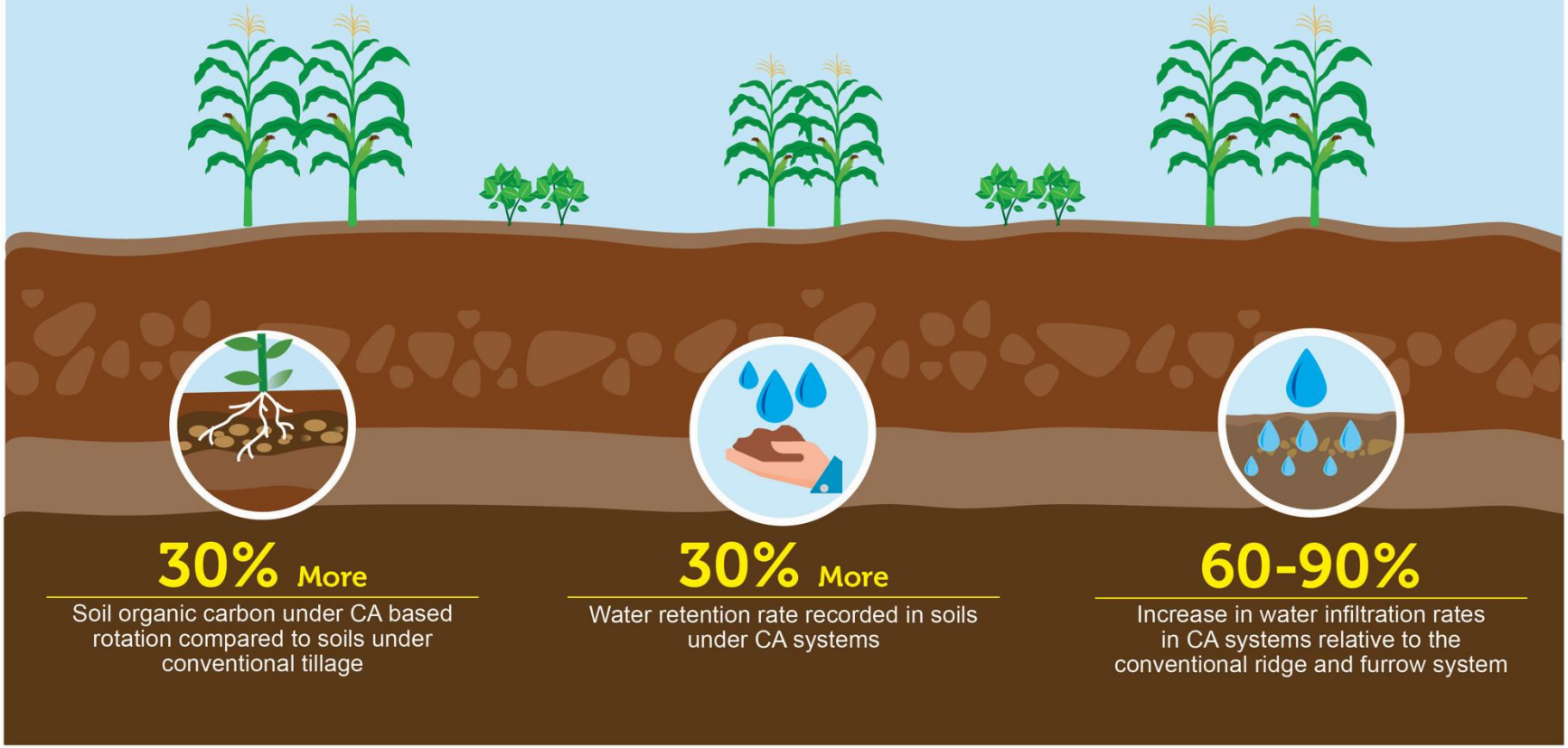
SIMLESA
Sustainable Intensification of Maize and Legume Systems for Food Security in Eastern and Southern Africa

Shifting from conventional tillage and cropping systems to conservation agriculture improves soils stability; helping to reduce the high runoff and soil loss responsible for soil degradation in Malawi



30% More

Soil organic carbon under CA based rotation compared to soils under conventional tillage

30% More

Water retention rate recorded in soils under CA systems

60-90%

Increase in water infiltration rates in CA systems relative to the conventional ridge and furrow system

Ethiopia

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CASI practices improve soil health and control soil degradation in the Central Rift valley of Ethiopia

Rainfall productivity

7.4
Kg/mm/ha
Conventional practices

8.2
Kg/mm/ha
Sole maize under CASI

9.2
Kg/mm/ha
Maize-bean rotation

10
Kg/mm/ha
Bean-maize rotation

34-65%
Reduced soil loss due CASI practises (use of crop residues and intercroping)

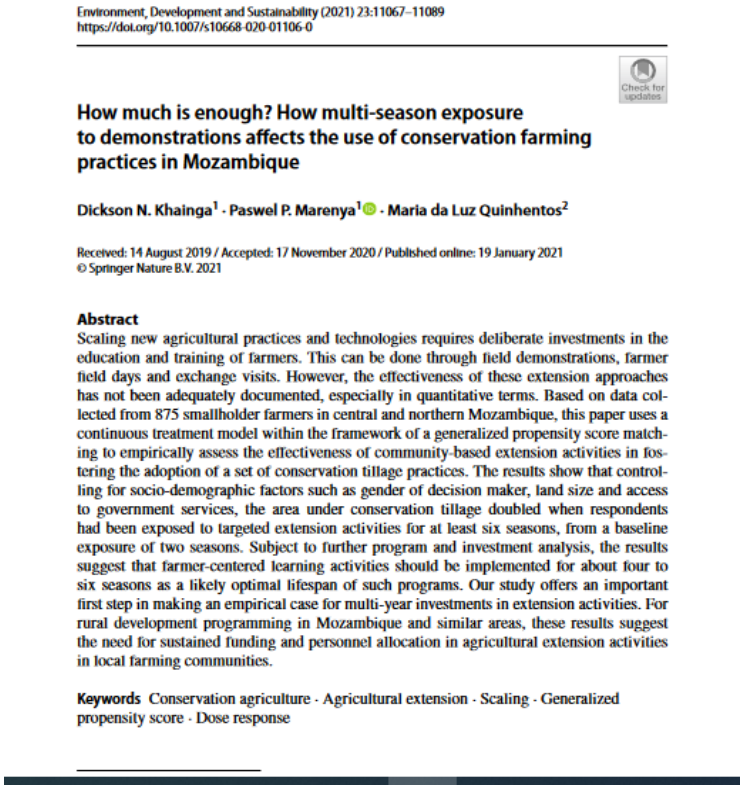
Lesson 2

Over extended periods, Invest in dense networks of farmer learning sites

Lesson 2 (cont'd)

- **Minimum 6 to 8 seasons of demonstrations** appear needed to generate scaling momentum

- **Need information on**
  - optimal **density** of demos
  - Optimal **resource allocation btwn complementary** approaches



Environment, Development and Sustainability (2021) 23:11067–11089
https://doi.org/10.1007/s10668-020-01106-0

Check for updates

How much is enough? How multi-season exposure to demonstrations affects the use of conservation farming practices in Mozambique

Dickson N. Khainga[1] · Paswel P. Marenya[1] · Maria da Luz Quinhentos[2]

Received: 14 August 2019 / Accepted: 17 November 2020 / Published online: 19 January 2021

Abstract
Scaling new agricultural practices and technologies requires deliberate investments in the education and training of farmers. This can be done through field demonstrations, farmer field days and exchange visits. However, the effectiveness of these extension approaches has not been adequately documented, especially in quantitative terms. Based on data collected from 875 smallholder farmers in central and northern Mozambique, this paper uses a continuous treatment model within the framework of a generalized propensity score matching to empirically assess the effectiveness of community-based extension activities in fostering the adoption of a set of conservation tillage practices. The results show that controlling for socio-demographic factors such as gender of decision maker, land size and access to government services, the area under conservation tillage doubled when respondents had been exposed to targeted extension activities for at least six seasons, from a baseline exposure of two seasons. Subject to further program and investment analysis, the results suggest that farmer-centered learning activities should be implemented for about four to six seasons as a likely optimal lifespan of such programs. Our study offers an important first step in making an empirical case for multi-year investments in extension activities. For rural development programming in Mozambique and similar areas, these results suggest the need for sustained funding and personnel allocation in agricultural extension activities in local farming communities.

Keywords Conservation agriculture · Agricultural extension · Scaling · Generalized propensity score · Dose response

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Lesson 3

Use Digital to reduce research-adoption cycles

USE DIGITIAL TO

- *Promote Networking*
- *Lower information acquisition*
- *Facilitate multidirectional communication and feedback*

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Lesson 4

Social innovations are indispensable

Uganda

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Functional Agricultural Innovation Platforms (AIPs) facilitate information exchange, collective action and market participation.

Agriculture Extension services

Before AIPs

8/10

Did not regularly access extension services

With AIPs

Only

1/10

Did not

Marketing

Before AIPs

1/10

Farmers engaged in cost-reducing collective marketing.

With AIPs

9/10

Farmers engage in bulk produce marketing.

5/10

Farmers are actively engaged in bulk input procurement

Lesson 5

Scale proven scaling methods

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Lesson 6

Scale farmer learning, know-how, and capacity, *before or instead of* specific practices

Why? Context Specific SH interventions are NOT widely scalable

Little progress possible without farmer agency

*Underwrite the **costs (risks)** of self-learning, experimentation /adaptation*

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Lesson 6

Scale farmer learning, know-how, and capacity, *before & instead of* specific practices

- Capacity to look for and utilise information
- Capacity to adapt information to local context
- Capacity (and incentives) to implement
- Capacity to participate in multidirectional information feedback loops

Wh

Under

Lesson 6

Scale farmer learning, know-how, and capacity, *before & instead of* specific practices

- **Farmer Knowledge Management & Learning System**
- **Enabling** *farmer agency, autonomy and self-determination*

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Thank you!






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