

CONSERVATION AGRICULTURE for sustainable intensification in Tanzania

Key facts



Maize yields have increased from 1.2 t/ha to 6.5 t/ha in the high potential areas.



9 MSc students have been trained in the SIMLESA conservation agriculture (CA)-based techniques.



Pigeon pea yields have increased from 0.38 t/ha to 1.4 t/ha in the high potential areas.



When combined, CA-based technologies reduced women's labor in weeding and land preparation by 50%.



Credit: CIMMYT/Peter Lowe



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Project sites:



More deliberate crop diversification and intercropping of maize and legumes.

Use of improved crop varieties.

Use of fertilizers.

Proper crop husbandry management.

Farmer challenges:

- Climate variability.
- Low productivity due to low soil fertility, lack of improved seed genotypes and low awareness of good crop husbandry.
- Lack of market information.
- Drudgery due to low mechanization.
- Low farm gate prices due to poor bargaining power.
- Lack of institutional governance.
- Lack of improved livestock feeds.

Technology package:

The Sustainable Intensification of Maize-Legume Cropping Systems for Food Security in Eastern and Southern Africa (SIMLESA) project has tested and promoted:

- Reduced tillage to conserve soils.
- Use of herbicides to manage weeds.

SIMLESA approaches

- Establishment of exploratory trials to test CA-based technologies i.e. use of fertilizers, herbicides and improved varieties under intercropping systems, and proper crop management.
- Participatory seed variety selection (PVS) trials with farmers and local research institutions to identify maize and legume varieties that are well-adapted to the environment.
- Formation of 'innovation platforms' (knowledge exchange and action forums) to increase agricultural information exchange among value chain stakeholders.
- Capacity building for researchers and extension workers.



Credit: CIMMYT/Peter Lowe

Achievements

- Maize yields have increased from 1.2 t/ha to 4.5 t/ha in low potential environments, and to 6.5 t/ha in high potential environments.
- When intercropped with maize, the yields of pigeon pea increased from 0.38 t/ha to 1.15 t/ha in the low potential regions and to 1.4 t/ha in the high potential areas.
- Through 172 PVS trials for improved maize varieties, farmers selected 91 varieties for out-scaling.
- In the northern zone of Tanzania, 98% of the total cropping area is under pigeon pea-maize intercropping.
- Between 2010 and 2017, it is estimated that about 50,000 households benefited from the adoption and/or awareness of the CA-based practices.
- Through 124 PVS trials for improved pigeon pea varieties, farmers selected 13 varieties for out-scaling.
- SIMLESA-Tanzania has trained 1 PhD and 9 MSc students; 109 others have received short courses in the SIMLESA trainings.
- When combined, CA-based technologies reduced women's labor in weeding and land preparation by 50%.

Scaling out

- ✓ The project has out-scaled its work from 10 communities in 2010 to 142 communities in 2018.
- ✓ Through their partnership with local NGO, RECODA, national farmers' organisation, MVITWATA, and private seed company, SUBA-AGRO, the SIMLESA messages reached 48,481 farmers.

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References

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www.CGIAR.org
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