

3 ACCA

THIRD AFRICA CONGRESS ON
CONSERVATION AGRICULTURE

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Adoption and Practice of Conservation Agriculture (CA) and CA-Based Mechanization in Selected Counties in Kenya

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Theme:

Building a Resilient Future in Africa
through Conservation Agriculture and Sustainable
Mechanization



Introduction

- Land degradation and climate change are major challenges to maize systems in Kenya
- Recurrent crop failures demand building farming systems that are diverse and resilient
- Conservation agriculture holds great potential to sustainable agriculture in a changing climate

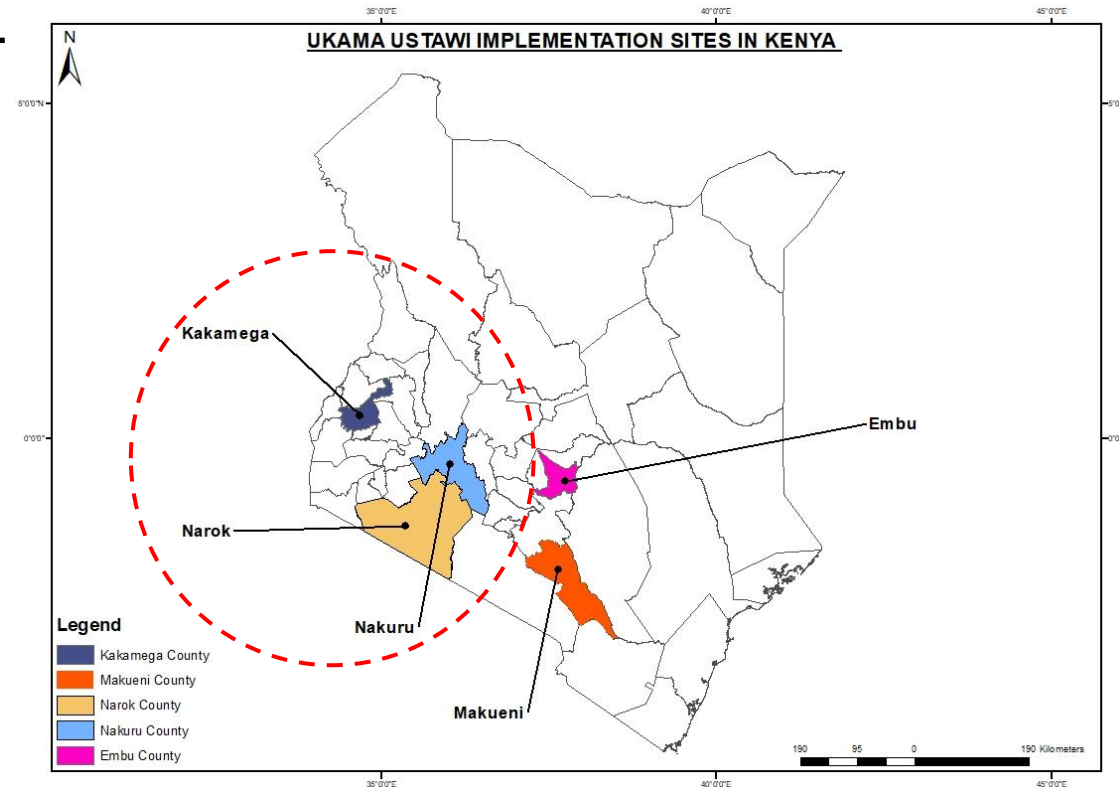
- The **One CG Regional Integrative Initiative Ukama Ustawi (UU)** seeks to promote sustainable intensification and CA practices to build resilient agrifood systems in East and Southern Africa

Objectives of the study

- A study was carried out under UU by the Africa Conservation Tillage (ACTN) and Alliance of Bioversity International and CIAT

Objectives:

- To ascertain the current status of adoption and practice of CA
- Establish possible challenges that hinder massive and widespread adoption of CA practices
- Study sites: Nakuru, Kakamega and Narok Counties in Kenya



Methodology

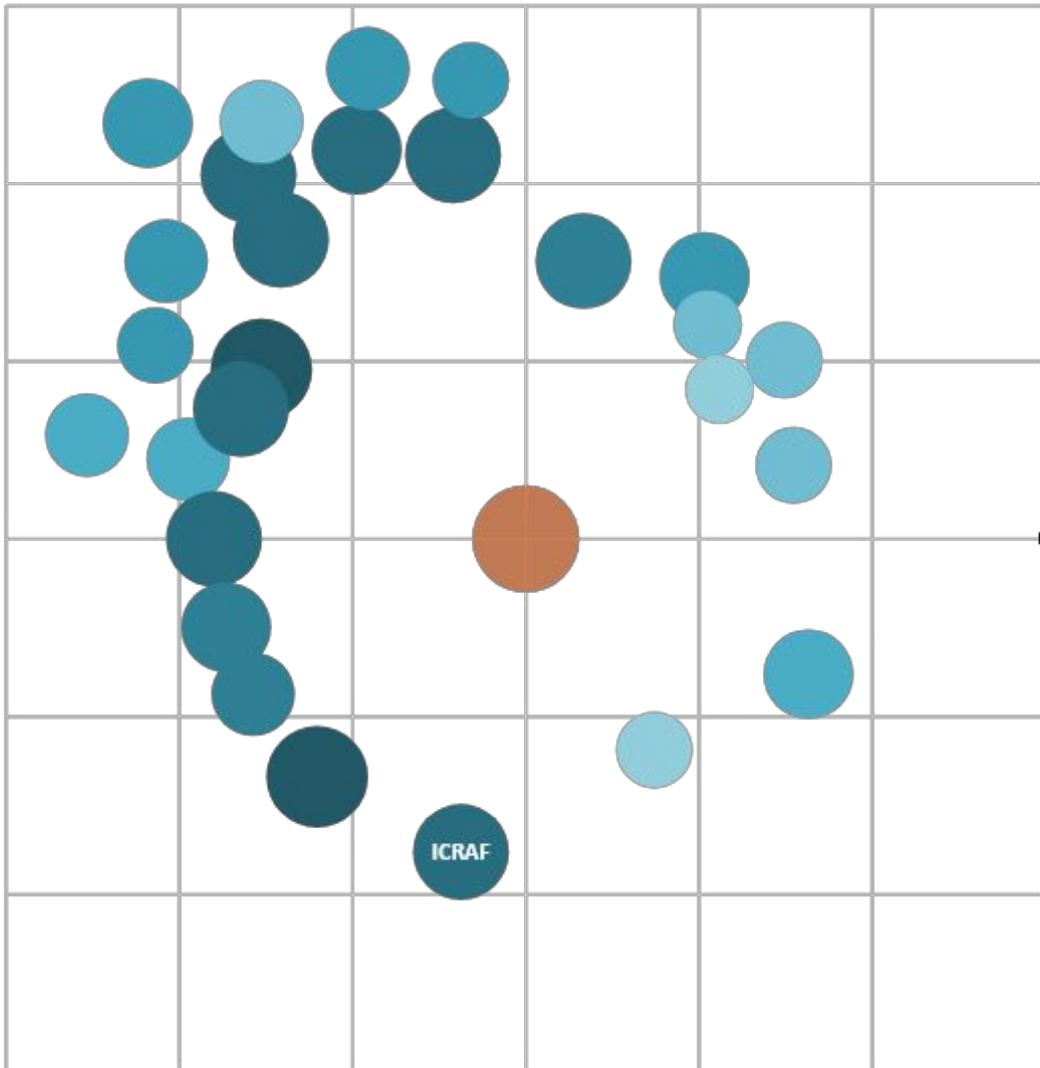
- Survey of key stakeholders working on CA in target counties
- Data and information included primary and secondary data collected either quantitatively or qualitatively from different sources using different
- Techniques and methods including:
 - *Desk literature reviews*
 - *Participatory and inclusive process which included key informant interviews, focus group discussions*
- ACT Network databases including the CA Hub Kenya membership database
- Key informants
 - Non-governmental and not-for-profit organizations, national and international agricultural research organizations, academia, mechanization services providers, equipment fabricators and private sector associations
- The data collected was consolidated, collated and processed using simple Excel analysis
- Results summarized into tables and graphs

Results

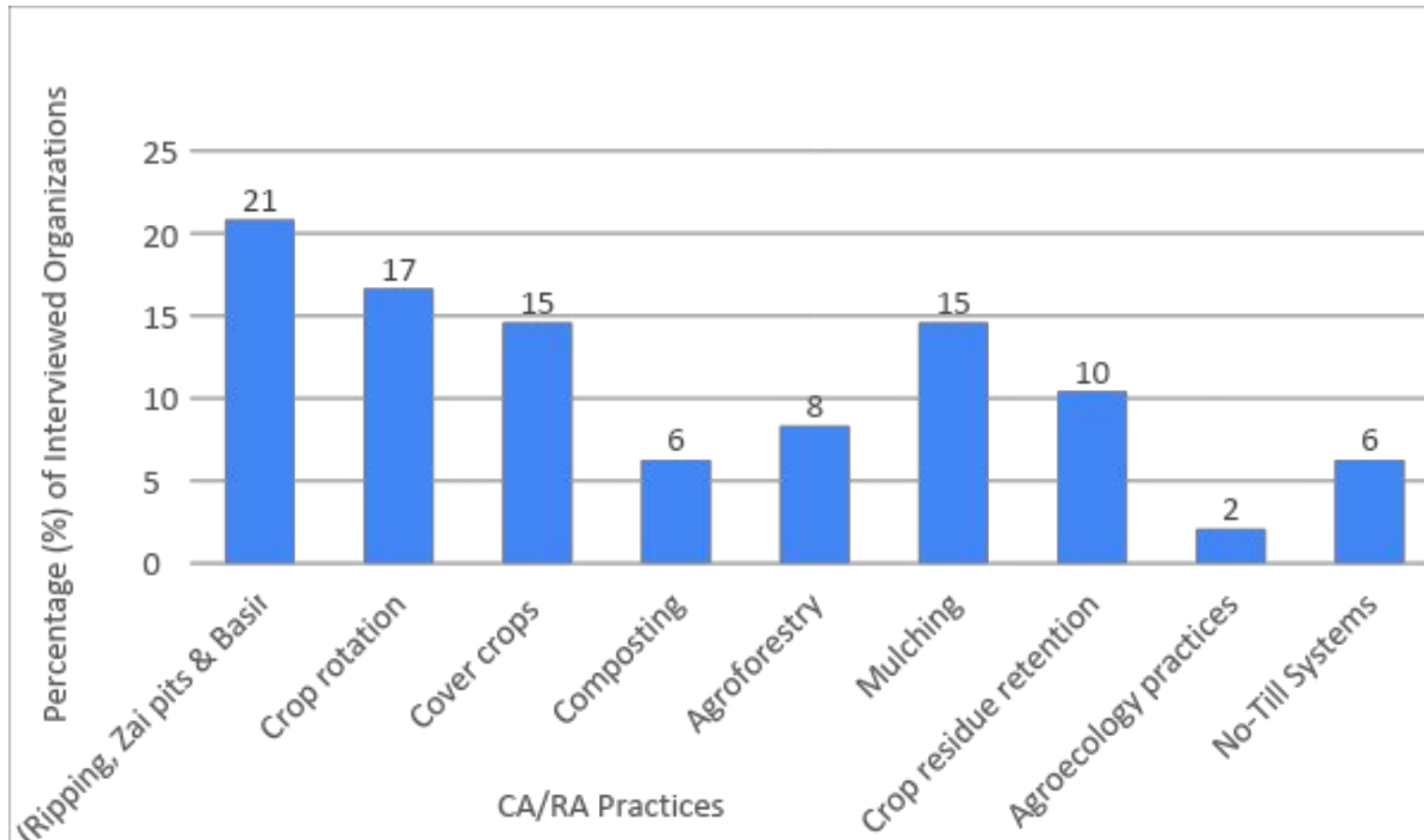


Stakeholders in CA promotions

- Diverse partners engaged in CA work in Kenya
- Their influence and power to promotion and practice of CA is highly varied
- Most organizations focused on extension and training (38% each), 14% on research on CA while 5% on marketing and advocacy.
- Majority of the organization used farm or on-station field days and field demonstrations as dominant approaches to CA promotion

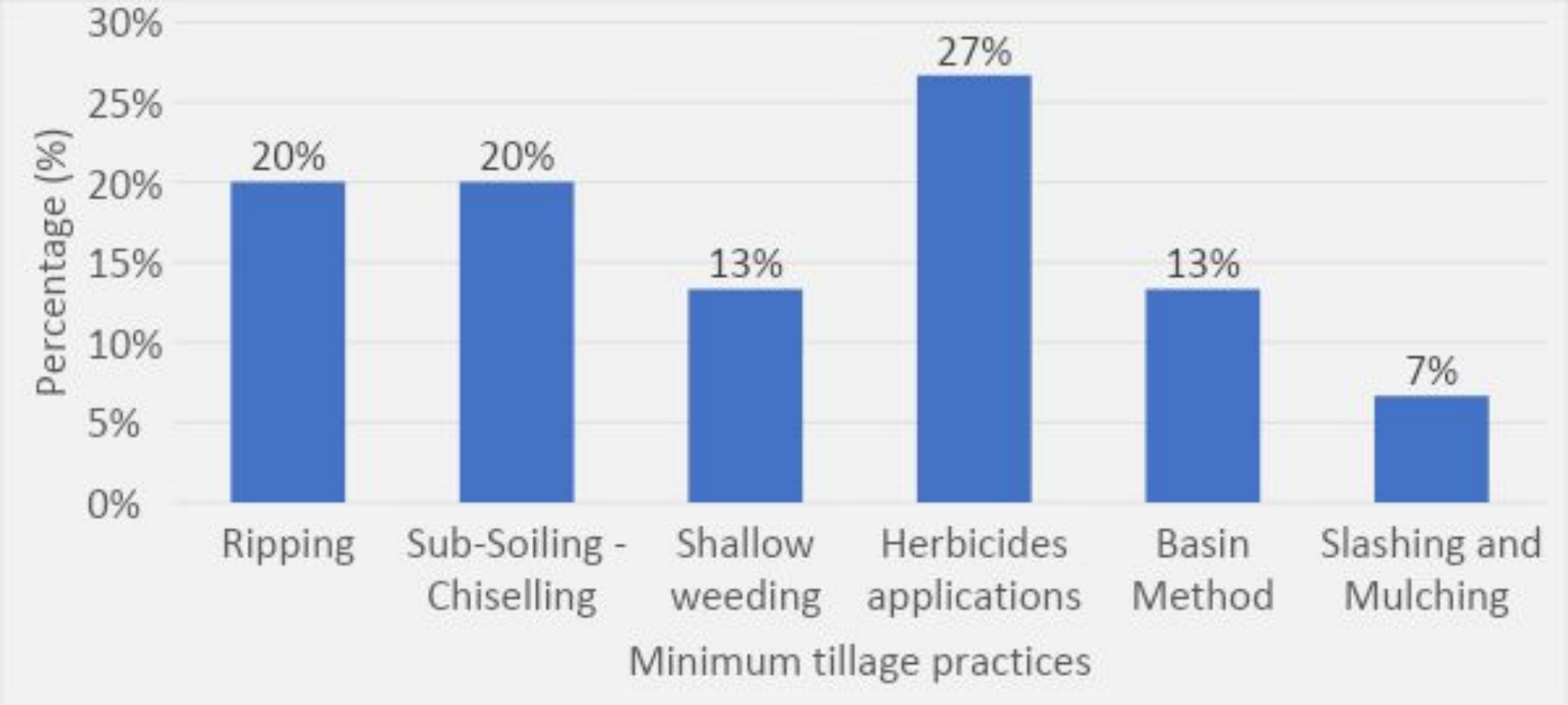


Conservation agriculture technologies promoted



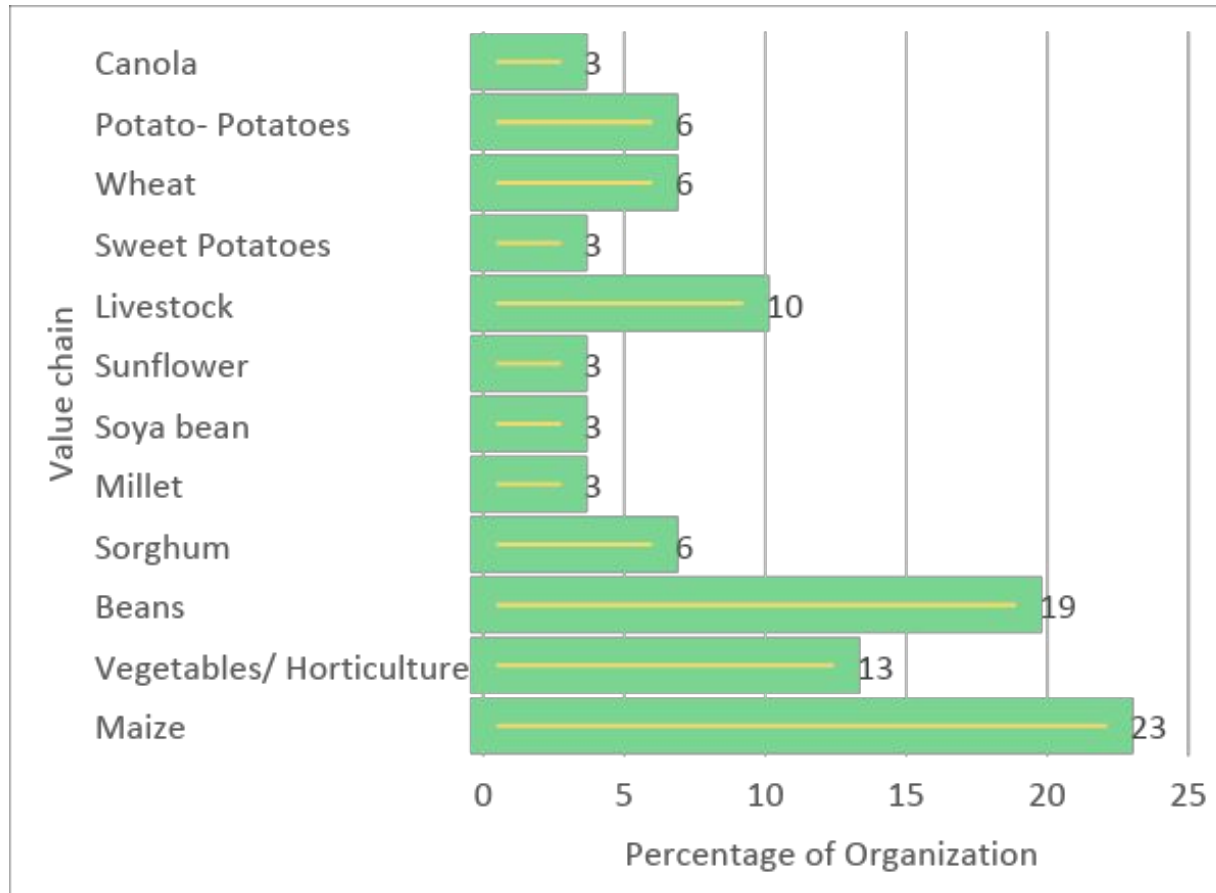
- Diverse technologies/practices recorded
- Stepwise scaling taking into consideration farmer typologies
- Need for bundling CA practices based on context and ease of adoption

Minimum tillage practices applied by farmers



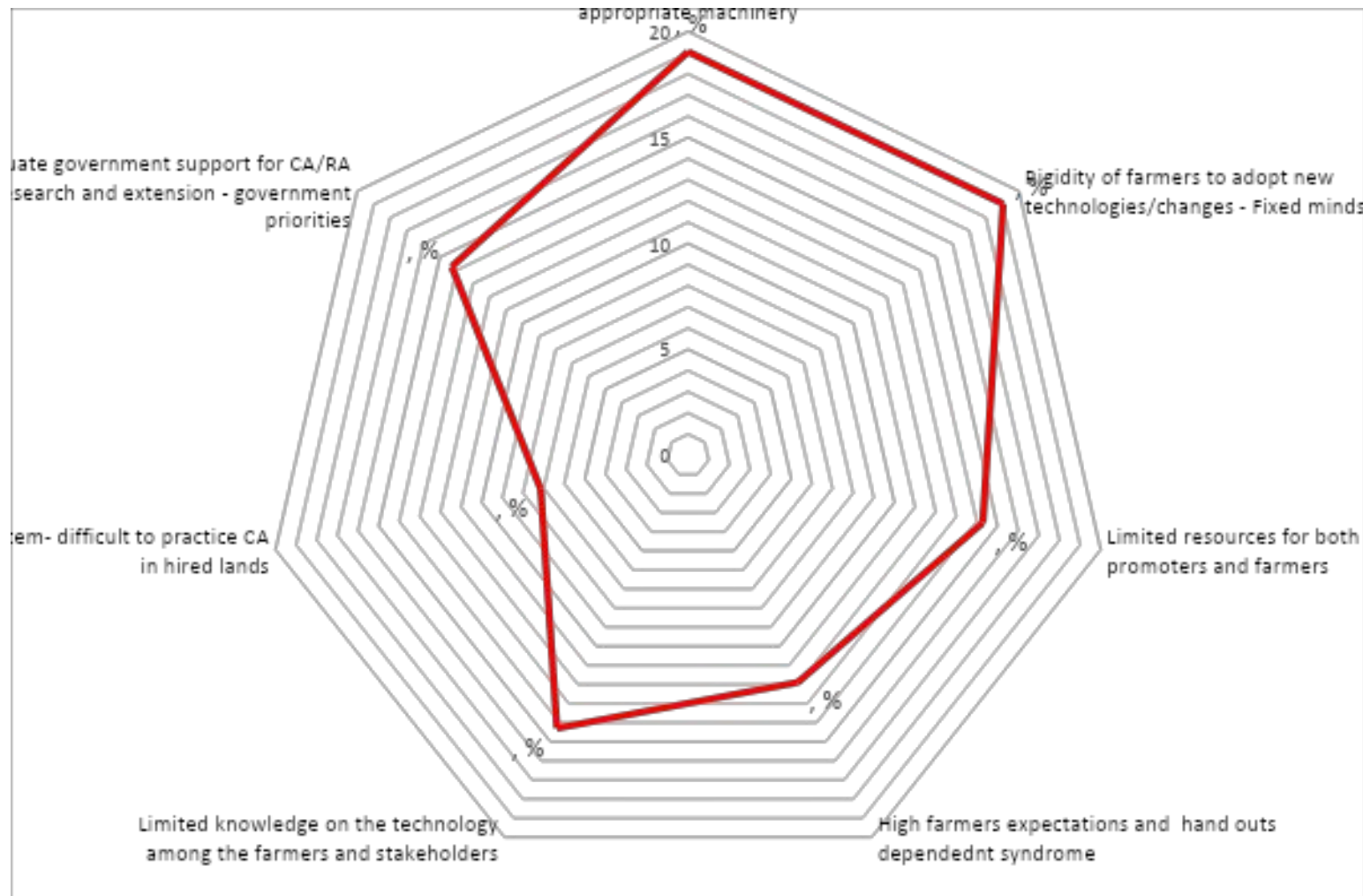
- Majority practiced 1 or 2 out of the 3 core principles of CA

Prioritized Value chains in CA promotion by various organizations



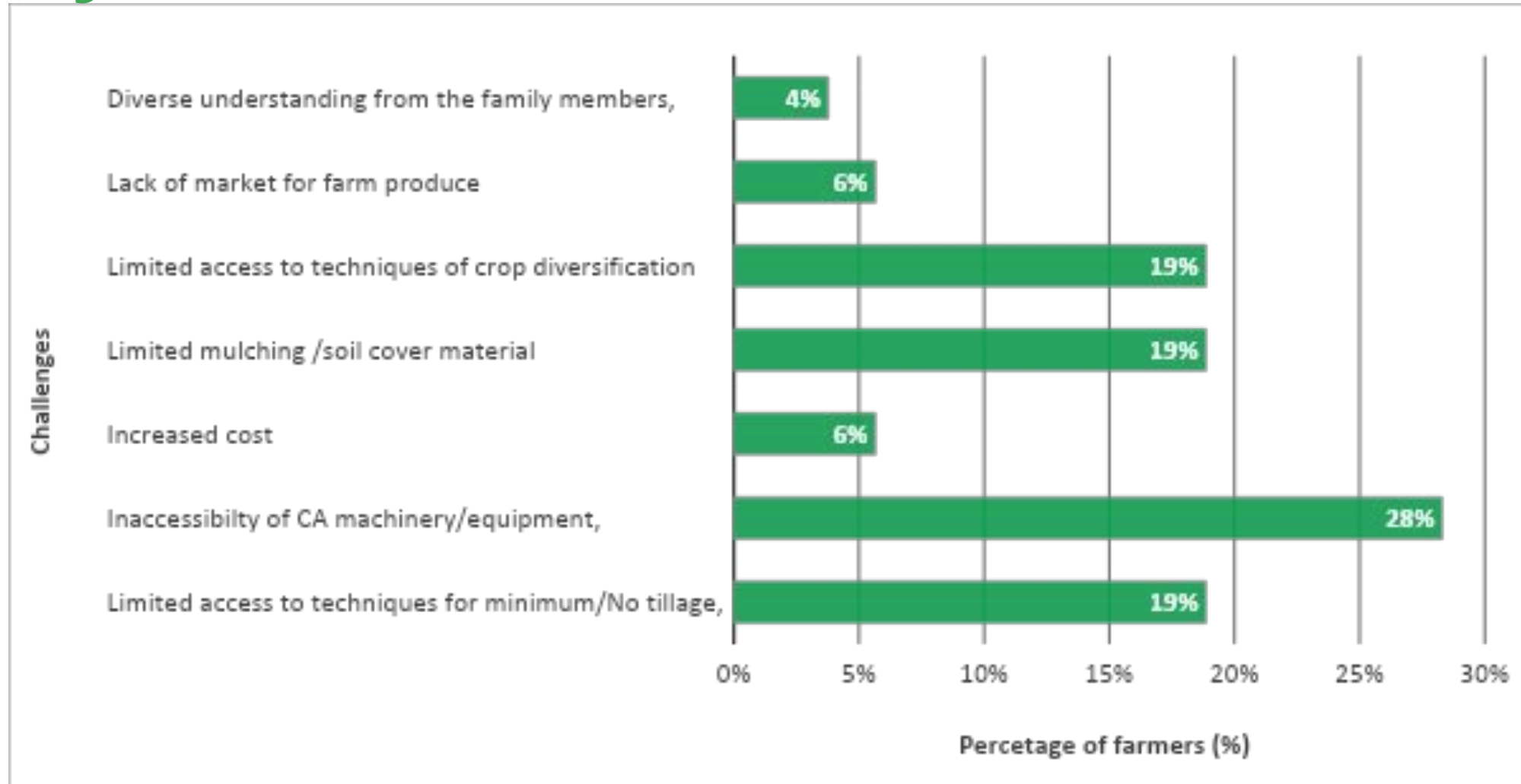
- CA has been promoted mainly for cereals (maize, wheat)
- There is potential to use CA on diverse value chains
- This presents an incentive for wider scaling

Challenges/ Hindrances to adoption and scaling up of CA by (Institutional level)

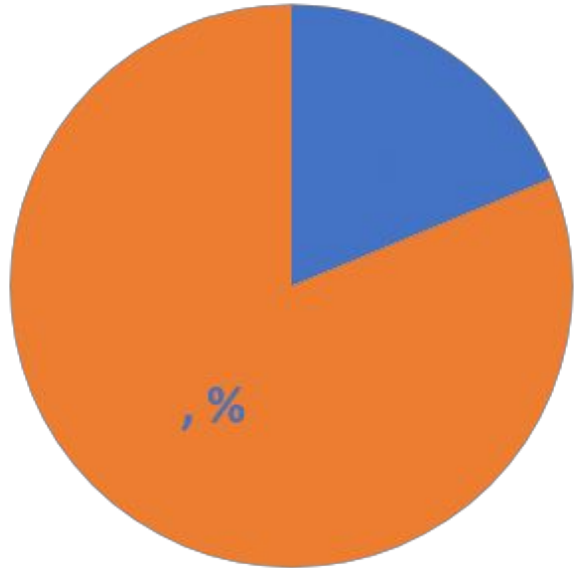


- Beyond the technical limitations e.g. equipment, change of mindset remains a major hindrance to CA adoption
- More awareness and learning needed around CA
- Evidence based promotion of CA needed to influence change

Challenges in adopting and practicing CA by farmers



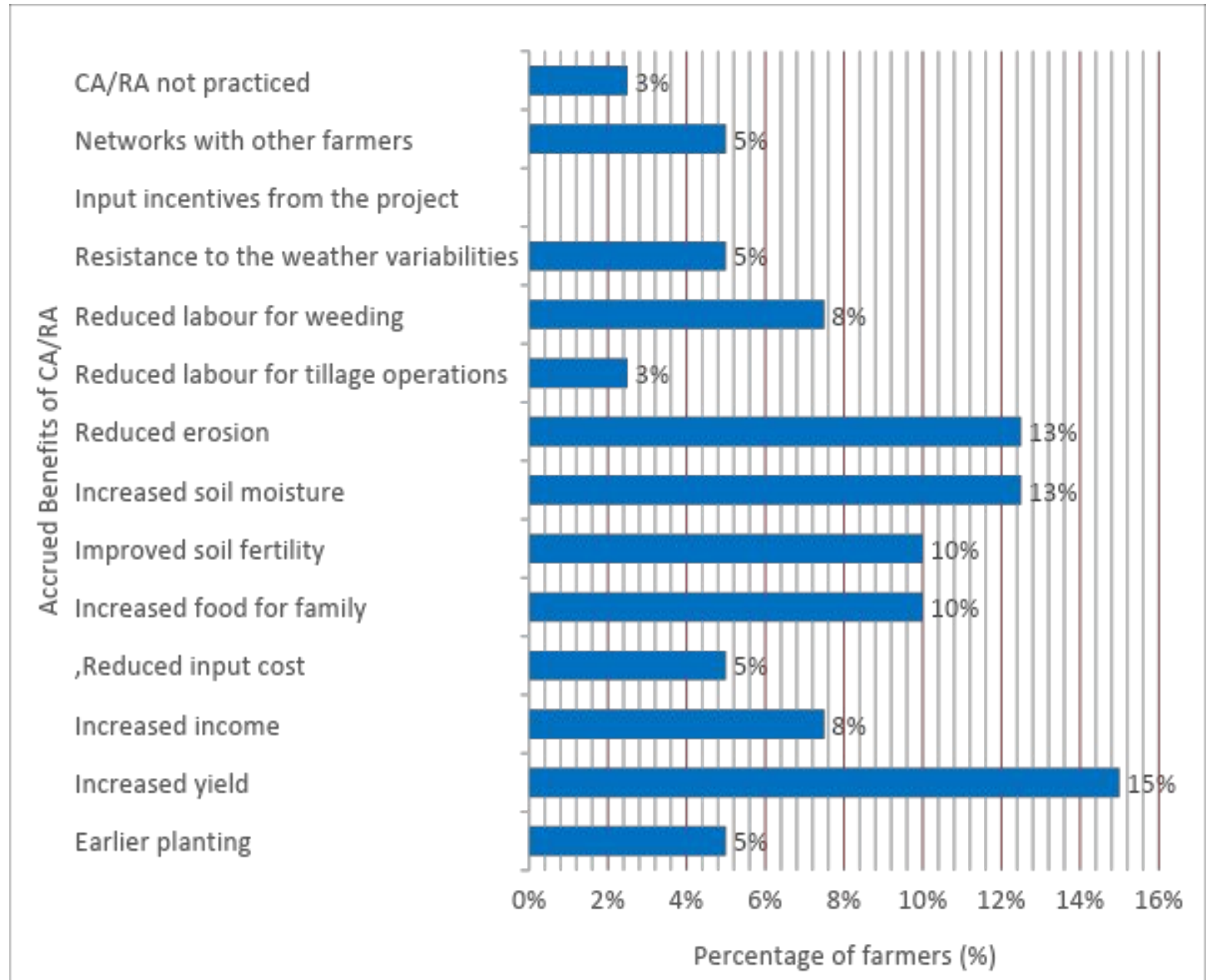
Mode of Accessing CA Mechanization



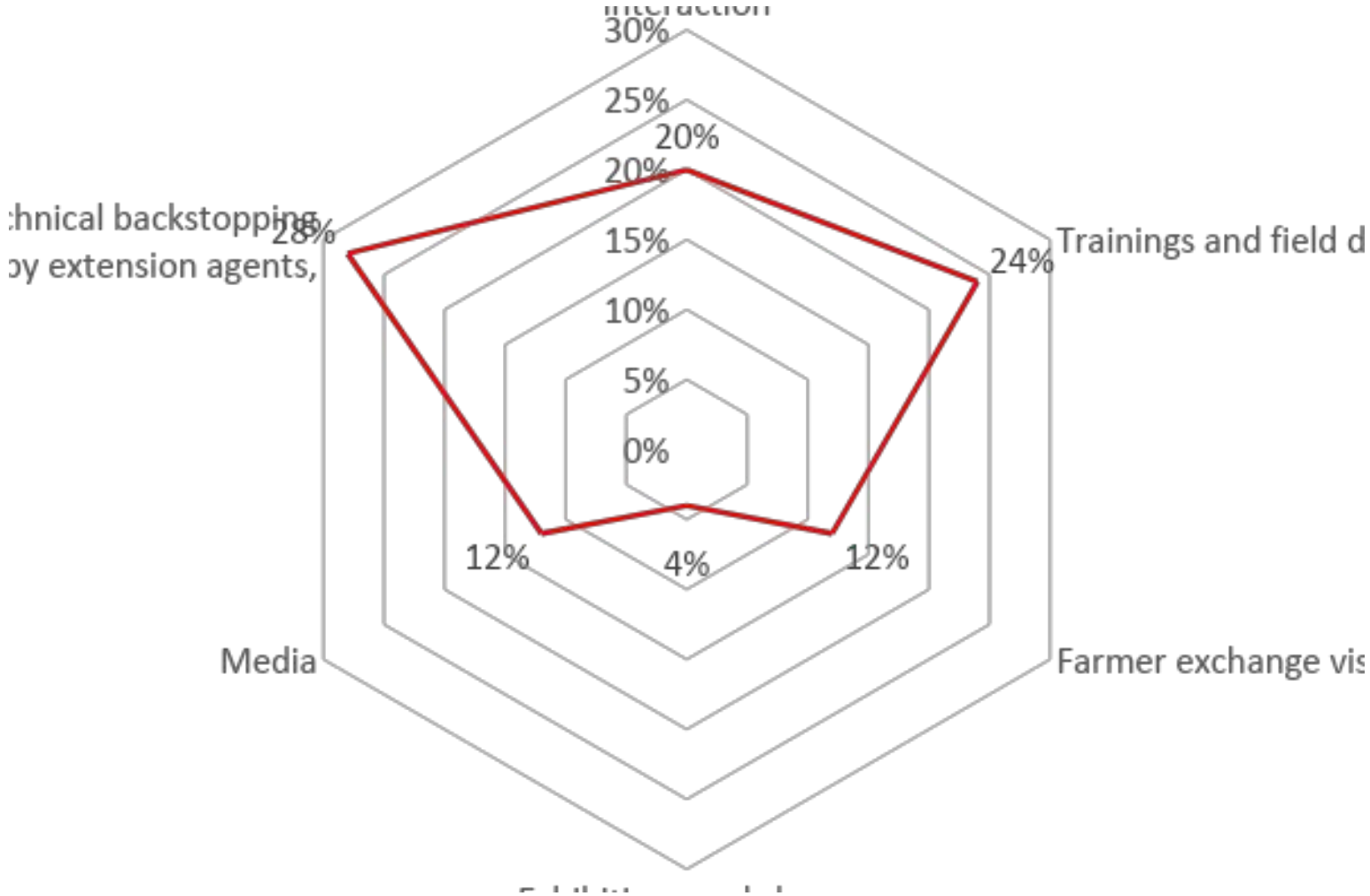
- **Hand tools technology:** Hand ripper, jab planter, shallow weeders, knapsack sprayers and threshers
- **Animal drawn technology:** Rippers, planters and ox-cart
- **Tractor drawn Technology:** Sub-soilers/rippers, planters (cereals & potato), no-till planters, shallow weeders (scrapers), boom sprayers, combine harvesters, threshers, shellers, dryers and mills.

Benefits when practicing CA

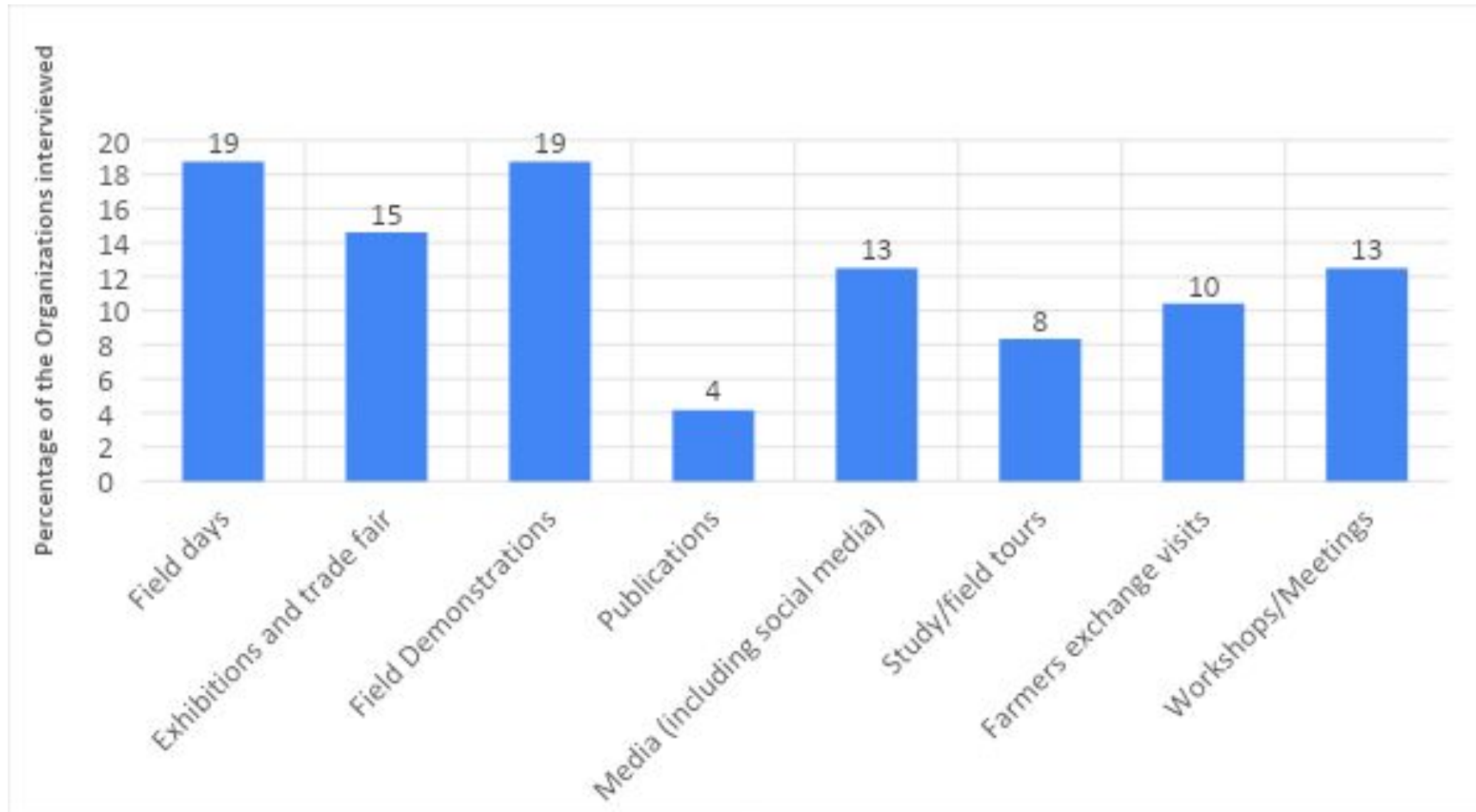
- CA promotion should take into consideration farmers perceived entry points and benefits
- Unique CA packages/bundles needed to address the multiple benefits/needs



Sources of information on RA/CA technologies by farmers



CA Dissemination /Promotion Approaches



- Most promotion methods are the traditional- farm and visit, demos
- Such have limited reach
- More innovative approaches are needed including using digital solutions

Conclusions

- CA is perceived to go against conventional practices
 - More awareness and capacity strengthening is needed; Longer term interventions needed
- A holistic programme CA Agricultural Value Chain (CA AVC) approach rather than fragmented component approach
 - CA application CA has applications across the crop-tree-livestock spectrum
- Restrained access to mechanization
 - Develop models of Sustainable Agriculture Mechanization (SAM) targeting large and smallholders
 - Need for increased financial support and investment by private sector towards CA mechanization
 - R&D to innovate around CA mechanization

Conclusions...

- Research and development needed to generate knowledge on benefits of CA
- Fragmented project approach in the promotion of CA by diverse actors
 - Need for more networking and coordination
 - A public-private sector-civil societies partnerships (PPPP) model (Quadruple Helix Model) is proposed, e.g. the
- Increased and longer-term investment needed around CA to achieve impact
- More policy enabling environment e.g. embedding CA in national and county development plans and country CSA strategies

Acknowledgement

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To learn more about Ukama Ustawi and other initiatives in the CGIAR research portfolio, please visit <https://www.cgiar.org/research/initiatives-dashboard/>

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