Promoting CA-based knowledge and innovation systems and information sharing and communication

Eng. Saidi Mkomwa
Executive Director
African Conservation Tillage Network

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Outline

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- Agriculture in the Global Economy

B
- CA Adoption Trends

C
- Roles for Knowledge & Information sharing in CA adoption

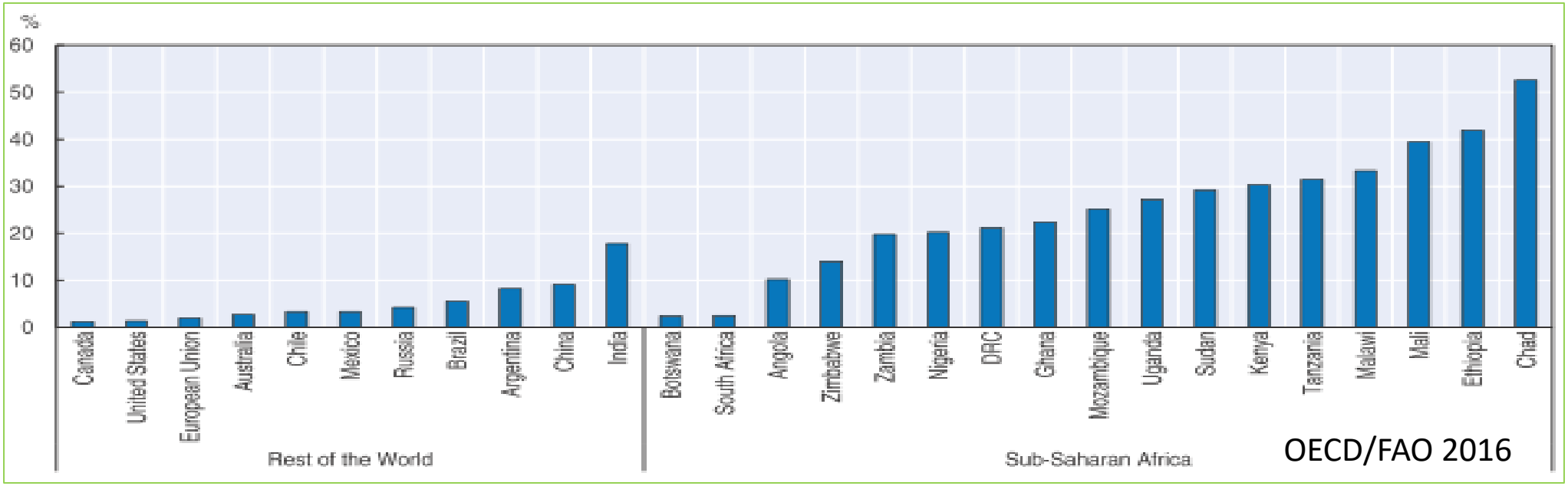
D
- Framework for CA Knowledge & Information sharing

E
- Channels of CA Knowledge & Information Sharing

F
- CA Adoption and Impact Documentation

G
- Call for Action

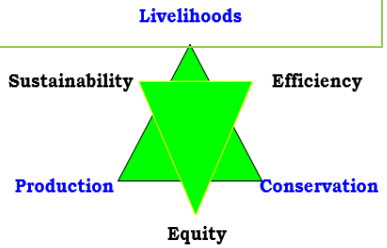
A. Agriculture is Key to Developing Economies



- Globally, livelihoods of 2.5 billion people depend on agriculture (FAO, 2016)
- Employs 65–70 percent of the African workforce
- Supports the livelihoods of 90% of Africa's population
- Contributes 15% of total GDP (ranges 3% to 50%)

B. CA is Key for Agricultural Transformation

- Agricultural Transformation (AT) involves productivity growth (which depends on increased uptake of modern technologies and inputs)
- AT key areas: **climate smart agriculture practices; agricultural mechanisation**; agric. value chains; youth and women; institutional capability & intra-country trade
- Adoption of CA offers farmers a great opportunity to increase productivity while adapting to and mitigating climate change. It can be viewed as a means to **linking Production, Conservation and Livelihoods**.



Status and comparison of cropland area under (Kassam et al., 2018)

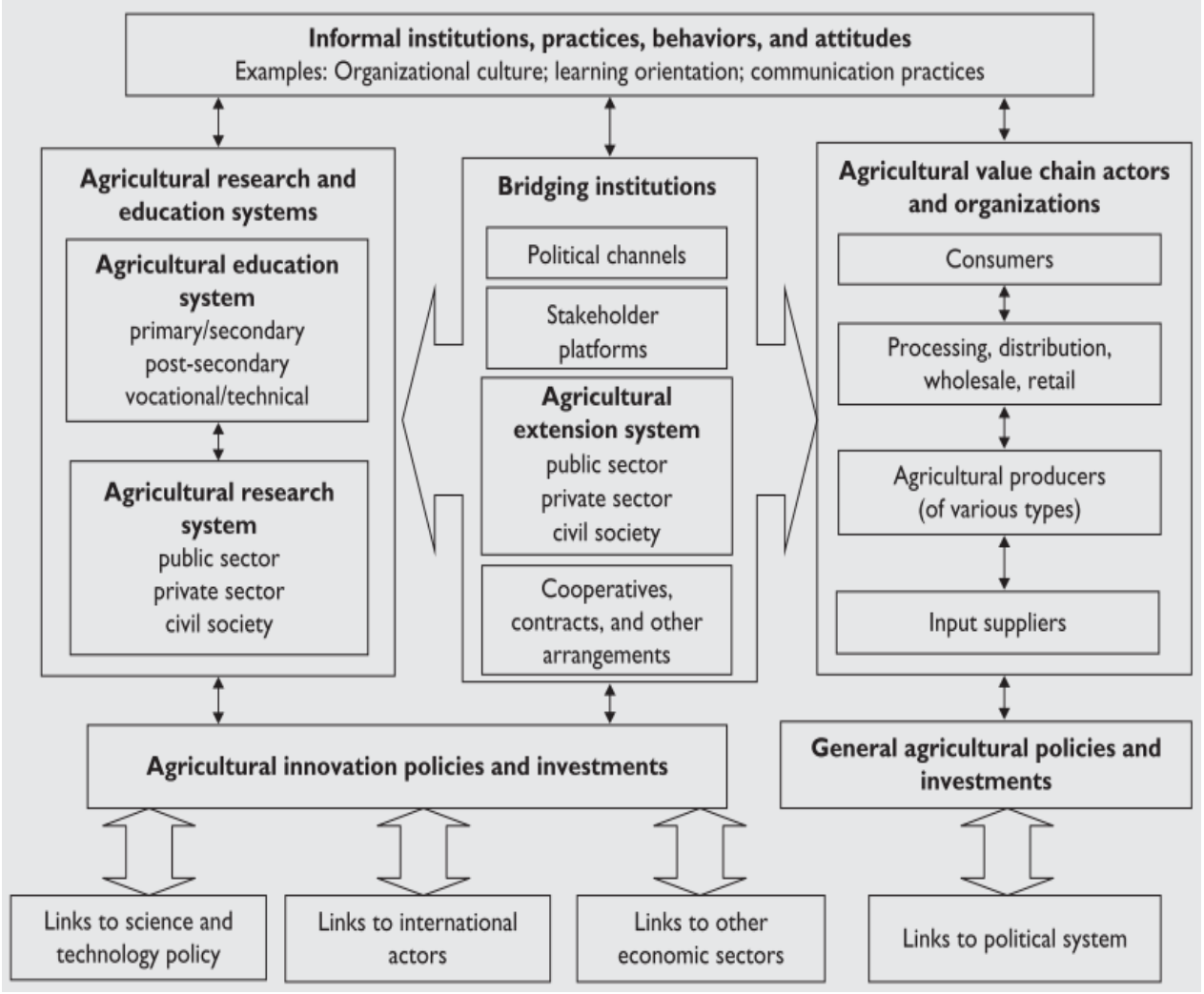
Continent	Cropland under CA (Mill Ha)	Per cent of global CA area	Per cent of cropland
South America	69.90	38.7	63.2
North America	63.18	35.0	28.1
Australia and New Zealand	22.67	12.6	45.5
Asia	13.93	7.7	4.1
Russia and Ukraine	5.70	3.2	3.6
Europe	3.56	2.0	5.0
Africa	**1.51**	**0.8**	**1.1**
Global total	180.44	100	12.5

C. What promotes adoption? What roles for Knowledge and Information?

- **Information**: **Facts** provided or learned about something or someone.
- **Knowledge**: **Information** and skills acquired through experience or education; the theoretical or practical understanding of a subject.
- It is about how to effect behavioural change that triggers adoption – from a pull or push effect
- The NINE Cornerstones and Issues for enhancing the adoption of CA are interlinked and require a systematic and holistic **framework** for capturing, synthesizing, analysing and making available information to various users.

The limiting factors and challenges relate more to **<u>access</u>** to **relevant** knowledge and information

D. Framework for CA-based knowledge and innovation systems and information sharing and communication

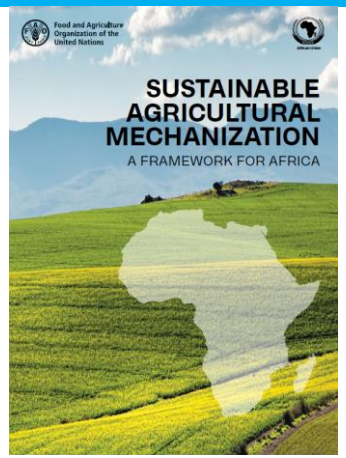


A Conceptual Diagram of an Agricultural Knowledge and Innovation System.
Gava et al., 2017

- **Framework** show how people and organisations join together to promote mutual learning, to generate, share, and use agriculture related knowledge and information.
- For promoting mutual learning, generating, sharing, and using the agriculture related knowledge and information
- Systematic connecting of stakeholders/ people to the best practices, knowledge and expertise they need to create value
- Addressing the disconnection between farmers' indigenous knowledge, extension, and research
- Coordination and integration among different stakeholders

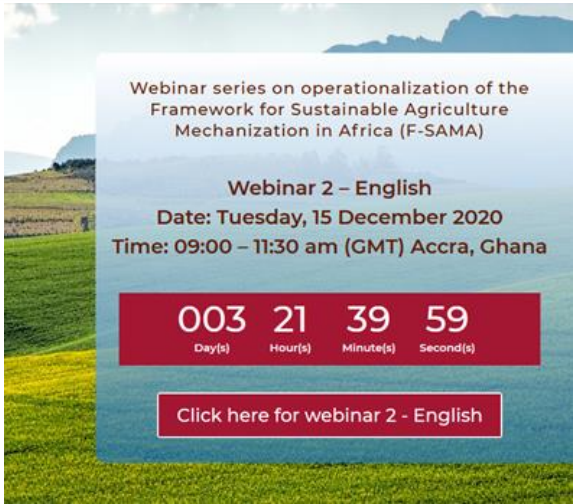
D. Framework for CA-based knowledge and innovation systems and information sharing and communication (cont.)

- In Africa, CA has been integrated into the Framework for sustainable agricultural mechanization (F-SAMA) endorsed by the AU. F-SAMA has 10 elements and CA features as Element 6.
- Knowledge and information management has been identified as key driver in the operationalization of the F-SAMA as underscored in element 10 on regional partnerships and networking. This has led to the development of the Africa-Mechanize Platform.
- The Africa-Mechanize (www.africamechanize.org) is a SAM platform aiming to enhance Knowledge Management, Information sharing, Networking & Partnerships in Africa.



africa|mechanize

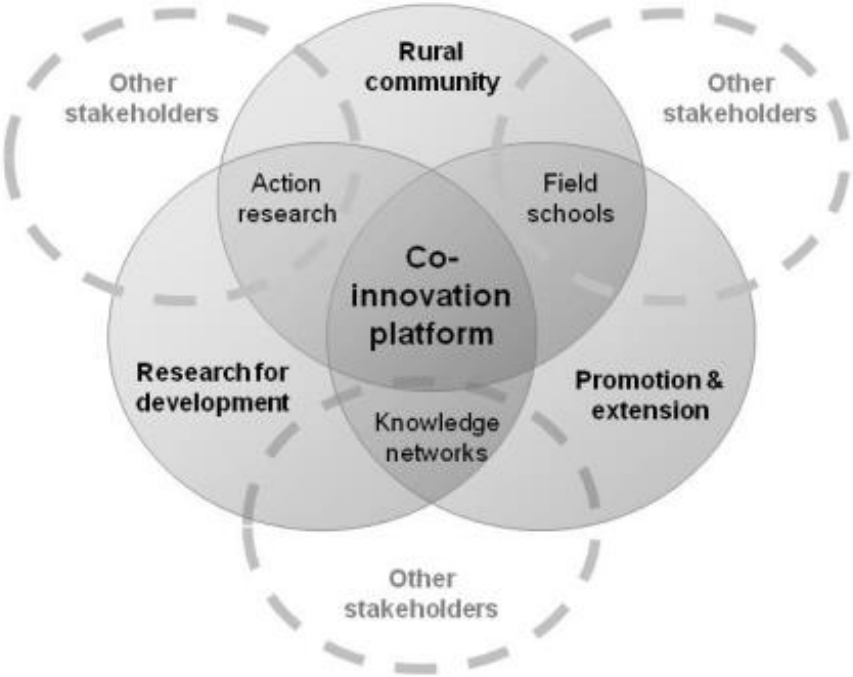
ALL ABOUT SUSTAINABLE AGRICULTURAL MECHANIZATION IN AFRICA



E. Examples of Knowledge generation & Information Sharing Channels

- Channel 1: Research and Co-innovation support for experimentation, adaptation and appropriation of CA knowledge
- Channel 2: International & National CA Education and Training
- Channel 3: CA Communities of Practice (CA-CoP)
- Channel 4: CA Centers of Excellence (CA-CoE)
- Channel 5: World and Regional Congresses on CA
- Channel 6: Publications shared in print and soft version
- Channel 7: International, Regional and Local study tours
- Channel 8: Farmer Field Days

Channel 1: Research and Co-Innovation support for experimentation, adaptation and appropriation of CA knowledge



The functions of the project IPs :

- Coordination
- Information and capacity building
- Experimentation
- Socio-economic study to understand farmer's circumstances for CA
- Policy Advocacy
- Examples: EMBRAPA, BISA, HGBF No Till Centre, Chico University, etc.

Research and Co-Innovation: Keeps adoption grounded (seeing is believing) and dynamic in the contextual realities of the farmers, communities and nations.

Conclusion: Innovation platforms should not focus solely on CA, but rather on underlying shared complex problems which form obstacles to sustainable agricultural intensification and agricultural sector development. (ACT, ABACO Project, Pound and Posthumus, 2013)

Channel 2: International & National CA Education and Training

- **Training** to farmers, students and all other stakeholders is a necessary input in promotion of adoption of CA. Examples of specialized CA training institutions – Rwanda Institute for CA (RICA), HFGB No-till centre (Ghana), CHICO University (USA), Reading University (UK) etc.
- **Students Internships**: Example through a regional IFAD-SCAP project in West Africa trained 19 students (1 PhD, 11 MSc and 7 BSc) from Bobo University (ACT et al 2012)
- **Partnerships** in capacity building e.g. with Gvts, UN agencies (FAO), private sector and farmer organisations
- Mainstreaming of CA in education systems

South Sudan

Tanzania

BISA

Channel 3: CA Communities of Practice (CA-CoP)

- Purpose: To enhance dialogue and actions on issues related to the promotion of CA in Africa
- CA CoPs - groups of people who share a common pursuit, activity or concern. Champion needed.
- Forums - members teach and learn from each other - regard each other as fellow practitioners, teachers, colleagues and sources of knowledge.

PARTNERS

APAD
ECAF European Conservation Agriculture Federation
ACT
Aapresid
GCan Global Conservation Agriculture Network
We are a network of conservation agriculture supporters from around the world
AGRICULTURES PRODUISONS AUTREMENT
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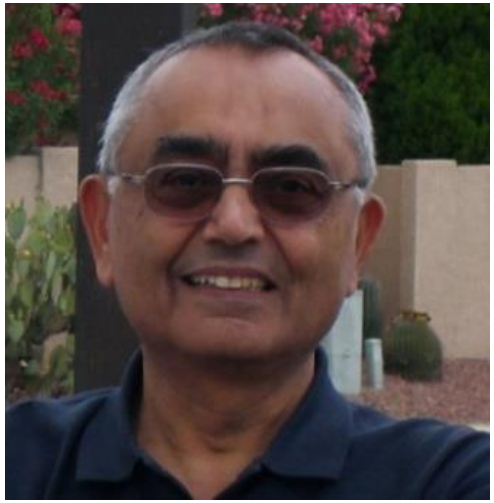
Global CA-CoP
Federação Brasileira de Plantio Direto e Irrigação
Universidade Estadual de Londrina

Food and Agriculture Organization of the United Nations

Global CA-CoP

CONSERVATION AGRICULTURE COMMUNITY OF PRACTICE

for sustainable agriculture and land management



Prof. Amir Kassam,
Global CA CoP Moderator and
Chair of ICAAP- Africa

Channel 4: CA Centers of Excellence (CA-CoE)

- Facilitate CA research for development
- Develop new research methodologies based on CA
- Serving as a Hub for experimentation, development and adaptation of technologies
- Evaluation of different production models and adapt them to farmers' situation

- Establish a quality -assurance system for CA training
- Facilitate national capacity building in CA
- Advance knowledge and expertise
- Provide in-service training programs to improve technical knowledge and skills of extension agents.

- Validation of CA knowledge, practices and extension models by practitioners
- Promotion of mechanized CA service provision
- Receive and respond to farmer challenges on a regular basis.
- Champion awareness campaigns on new technologies and technical solutions.

- Establish business relationships between farmers, service providers, crop-offtakes, millers , dealers, manufacturers and other stakeholders in the CA value chain
- Establish CA-CoPs coordination hubs
- Facilitating the continued and wider collaboration with diverse stakeholders.

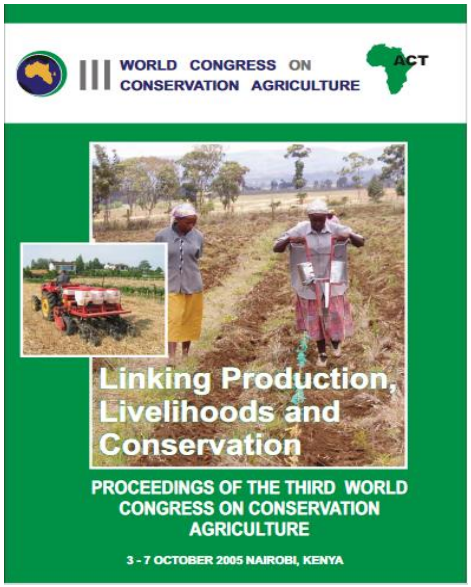
Role of CA-CoE

- Capacity building on CA technologies
- Generate, validate, disseminate and transfer the appropriate and scientific CA information and knowledge
- Develop knowledge sharing platforms

ACT strategic vision to establish 25 CACoEs in Africa by 2025

Channel 5: World Congress supporting CA knowledge & Information sharing

- 1WCCA – Madrid Spain, October 2001 – hosted by ECAF
- 2WCCA – Brazil – hosted by
- 3WCCA – Nairobi Kenya, 2005 – hosted by ACT
- 4WCCA – New Delhi India, 2009 – hosted by Indian Government
- 5WCCA – Brisbane Australia, 2010 - hosted by ACIAR & GRDC
- 6WCCA - Winnipeg Canada, 2014 – hosted by CTIC
- 7WCCA – Rosario Argentina 2017, hosted by AAPRESID & CAAPAS
- 8WCCA – Switzerland 2021 - hosted by ECAF



Mundia Sinkatana and the political will on CA in Zambia

Former Zambian Agriculture Minister Mundia Sinkatana made a Key Note Presentation on 4th October 2005 at the ACT and partners' organised "Third World Congress on Conservation Agriculture (IIIWCCA)" held in Nairobi Kenya. His presentation was titled "Evolving of government policy on CA in Zambia and its role in enhancing CA adoption" (refer to page 128 of the **IIIWCCA proceedings book**. Not only, did he harbour the desire to use policy instruments to get CA adopted in Zambia, but he made all efforts to learn about CA. The Hon. Minister attended the all-week session of the IIIWCCA including field tours to see some smallholder farmers practice and benefit from CA in Kenya. He went further to become a champion for the adoption of CA by "***Practicing the CA Knowledge he gained into Action***" at his farm.

We are seeing the results of his dedication and well-meaning intentions years later – with Zambia leading the pack of having the largest number of smallholder CA adopters in the continent today……. At ACT, salute this unsung hero.

Read and extract more about Mundia Sinkatana at https://www.zambia.co.zm/articles/sikatana.html & https://en.wikipedia.org/wiki/Mundia_Sikatana

Channel 5b: Continental Congresses supporting CA Knowledge & Information Sharing

- Europe – hosted by ECAF and FAO
- North America – hosted by CAAPAS and FAO
- South America – hosted by FAO
- Australia – hosted by ACIAR, GDRC and FAO
- Asia – hosted by IARC and FAO
- Africa – 2 held so far 2, hosted by ACT supported by FAO, NORAD and host country partners.

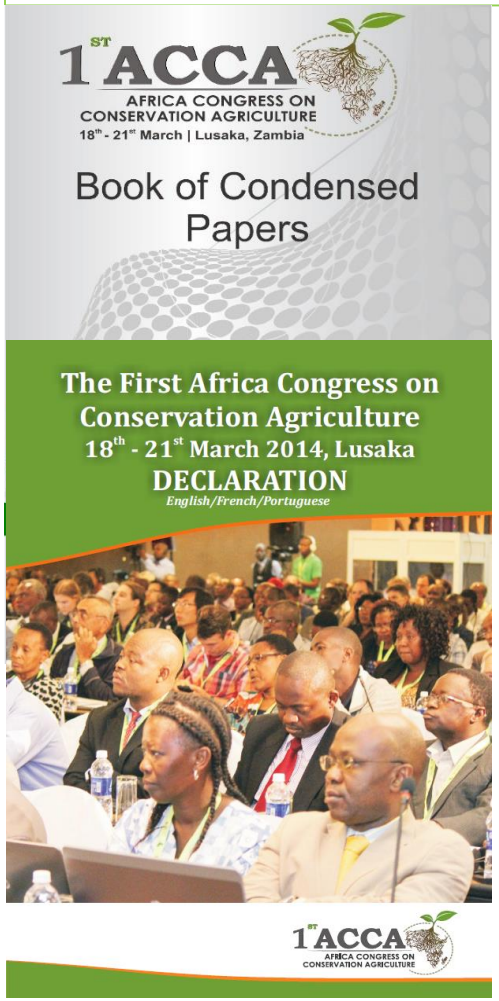
Channel 5c: Continental CA Congress Knowledge & Information Sharing in Africa 915 Participants, 42+ Countries

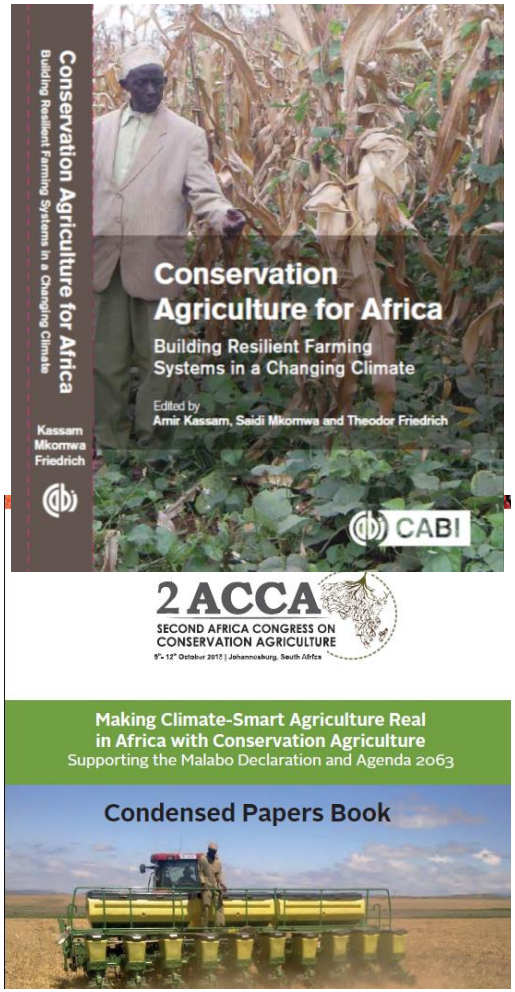
- **1ACCA** Lusaka, Zambia, from 18th to 21st March 2014. This was held under the theme "**Conservation Agriculture (CA): Building entrepreneurship and resilient farming systems"**
- 414 delegates from 42 African and other countries of the world
- Experiences, lessons and facilitating alliances to unblock hindrances to expanded and scaled-up adoption of CA
- For CAADP goal of 6% growth of the agricultural sector, **resolve on**: (i) Policy, political commitment and Leadership (ii) Private sector engagement (iii) Training, extension, research and Innovation, and knowledge support

- The **2ACCA** 9-12 October 2018 in Johannesburg, South Africa.
- 501 delegates, from 52 countries globally. 37 African countries (Government 19%, farmers and farmer organisations 12%, Research institutions and academia 29%, Non-Governmental organisations 24%, Private sector 11%, and Development Partners 5%)
- Theme "**Making Climate Smart Agriculture Real in Africa with Conservation Agriculture: Supporting the Malabo Declaration and Agenda 2063**
- Knowledge sharing, learning and building support for the Africa-wide adoption of CA systems
- **Statement of Actions**

Channel 6: Publications on CA knowledge and information

- Purpose: Documentation of CA technology made to communicate with the public both in print and online versions.

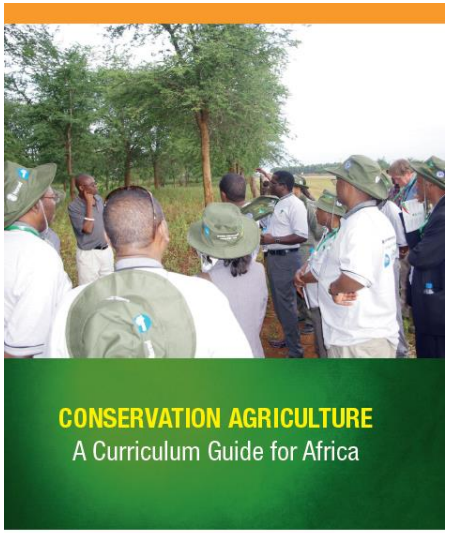




中国農業大學
China Agricultural University

China Institute for Conservation Tillage of China Agricultural University

中国农业大学
国家保护性耕作研究院

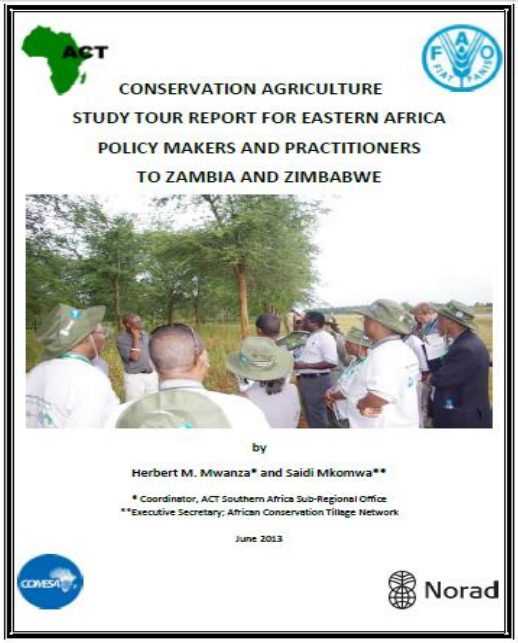


Channel 6: Publications on CA knowledge and information cont…

Purpose: Documentation of CA technology made to communicate with the public both in print and online versions.

Channel 7: Regional Study tours are conducted for cross-boarder knowledge and information sharing

- Purpose: Create regional awareness to farmers, FOs, practitioners, policy makers, agrodealers on CA. Initially Brazil
- Media: TV, Radio, Newspapers and magazines are used to capture and document the experiences of participants.



ACT

CONSERVATION AGRICULTURE
STUDY TOUR REPORT FOR EASTERN AFRICA
POLICY MAKERS AND PRACTITIONERS
TO ZAMBIA AND ZIMBABWE

by

Herbert M. Mwanza* and Saidi Mkomwa**

* Coordinator, ACT Southern Africa Sub-Regional Office
**Executive Secretary; African Conservation Tillage Network

June 2013

Norad

Cuba

Let them see CA - Bangladesh

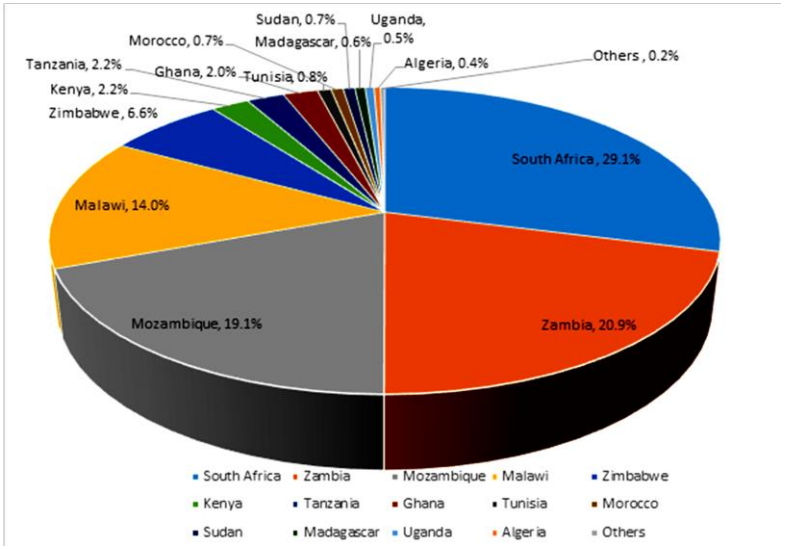
Channel 8: Farmer Field Days are practiced in many countries

Field days are educational events held on-farm. They are organized and hosted by the producer, oftentimes in collaboration with agricultural educators. The events usually include demonstrations of specific management practices and equipment and/or highlight research methods and results.

ACTN improves agriculture productivity in Southern Highlands

F. CA Adoption and Impact Documentation

- CA now adopted in more than 25 countries in Africa as core production component of CSA
- Area under CA has increased by 210% since 2008/09.
- 99% of the farmers are smallholders, 1 hectare



Country	CA Area '000' (ha)	%
South Africa	439.00	29.1%
Zambia	316.00	20.9%
Mozambique	289.00	19.1%
Malawi	211.00	14.0%
Zimbabwe	100.00	6.6%
Kenya	33.10	2.2%
Tanzania	32.60	2.2%
Ghana	30.00	2.0%
Tunisia	12.00	0.8%
Morocco	10.50	0.7%
Sudan	10.00	0.7%
Madagascar	9.00	0.6%
Uganda	7.80	0.5%
Algeria	5.60	0.4%
Lesotho	2.00	0.1%
Swaziland	1.30	0.1%
Namibia	0.34	0.0%
Total	1,509.24	100.0%

G. Call to Action

- Strengthening global coordination and networking on CA based knowledge, information sharing by CA continental institutions supported by UN agencies e.g. FAO.
- Coordinated deployment of ICT and digitalization technologies for CA services provision, M&E and impact documentation.
- Investment in CA knowledge management and information sharing by the private sector for environmental sustainability.

END

Knowledge not shared is knowledge wasted

I thank you for listening

www.act-africa.org

Email: info@act-Africa.org

#AfricaMechanize