AFRICAN CONSERVATION TILLAGE NETWORK
Partnering for Economic Growth, Improved Food Security and a Better Environment

Updates & News Alert

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Editor's view: Introducing the May - June 2021 CA Alert

The agenda of transforming agriculture to more sustainable and profitable systems must be fully embraced by Africa where agriculture is largely characterised by the low agricultural productivity - just about 35% of the global average. The major contributors to this situation have always been cited as over-reliance on continuous tillage-based systems and dominant use of rudimentary production tools particularly the hoe.

ACT finds it a noble duty to continue reminding the diverse sector players and national governments on the fundamental need to change the way farming is done, for Africa to feed its growing population amidst the many challenges facing the sector. Africa can, without doubt, eliminate extreme poverty and end hunger and malnutrition through appropriate agricultural transformations that build greater resilience and economic empowerment. The opportunities include domesticating and scaling what has worked well elsewhere and technological successes in the sector from within the continent. Mainstreaming sustainable agriculture systems (based on Conservation Agriculture and Sustainable Agricultural Mechanization) into private sector and national strategies and programmes is greatly necessary. If we have to offer farmers in Africa a better chance to survive on the farm and if sustainable and economically viable agriculture is to be achieved, then the paradigms of agricultural production and management must be changed. However, this should be done in consideration that Africa's Agriculture is dominated by smallholder farmers, largely rain fed and low input farming systems which makes it less attractive for the conventional mechanized processes. It is a fact that without sustainable agricultural mechanization we cannot meet our agricultural production needs now and in the future. The critical role of Conservation Agriculture and Sustainable Agriculture Mechanization in catalysing the transformation of the continent's agriculture cannot be over emphasized. Agriculture needs to be viewed differently in the continent, not a way of life nor a social safety net for the jobless, but as a thriving business, even for the smallholders managing one hectare. It requires prioritization for greater investments by the private and public sector across entire agricultural value chains, from farm to fork.

ACT acknowledges the various sources, authors, reporters, organizations and practitioners whose articles appear in this May – June, 2021 issue. We encourage you to share your Conservation Agriculture and Sustainable Agricultural Mechanization views and articles capturing their status and extent of adaptation and adoption in any Country in Africa or beyond for sharing with others. Please submit articles, links or views to kim@act-africa.org. Use the *#conservationagriculture, #africamechanize* to share links on articles, journals and news, and tag us on twitter *@ACTillage.*

Apologies for any cross posting or re-posting of some articles or information

Conservation Agriculture Global eminent event: The 8th World Congress on Conservation Agriculture (8WCCA)

During the month of June, most of the agriculture stakeholders convened virtually at the 8th World Congress on Conservation Agriculture 8WCCA. The 8WCCA was held virtually in Bern, Switzerland from 21st – 23rd June 2021. The theme of the Congress was: ***The Future of Farming: Profitable and Sustainable Farming with Conservation Agriculture***. A two-day programme of Field Visits followed on June 24th and 25th organized to allow for a broad and safe participation of all interested participants. The Field Visits took place at the estate 'Witzwil', about 40 minutes away from Bern.

The congress was attended by 783 participants from farmer associations, international organizations, scientific institutions, private sector, non-governmental and civil society organizations, from more than 108 countries, from the developed and developing world. The main objective of the 8WCCA was to celebrate the Conservation Agriculture Community's success as the driver of the biggest farming revolution to have occurred in our lifetimes, and to build on this and boost the quality and speed of this transformation globally towards sustainable agriculture in support of the Sustainable Development and the international climate goals.

The 8WCCA provided a unique opportunity to shape the future of "Profitable and Sustainable Farming with Conservation Agriculture" as reflected in the 8WCCA Declaration. The Congress participants declared their commitment to engage the CA Community in achieving the renewed goal focus on bringing at least 50% of the global cropland area or 700 million hectares under good quality CA systems by 2050 and to taking the actions needed for this. Conservation Agriculture (CA) is widely acknowledged to be a sustainable system of agricultural intensification which improves soil health and thus, remains a key element to ensure the production of food and other agricultural products, while providing additional ecosystem services, even under the threatening scenarios involving the consequences of climate change and larger world population. During the three days of the Congress, manifold topics were discussed in depth at plenary sessions, panel discussions, parallel sessions and poster sessions, with the objective to promote a wider adoption of CA worldwide.

This Congress confirmed that CA is here to stay. It has shown that the CA Community is in very good health, full of energy and new ideas. It has confirmed the validity of the Community's way of operating, with farmers in the driving seat, innovating, sharing experiences, spreading the word and creating demands for supportive services from the public and private sectors. All those who participated feel proud of the CA Community's achievements and are determined to do everything within their power - and working with others who share their determination - to contribute to the emergence of a truly sustainable future of farming world-wide.

More information about the congress is available on https://8wcca.org/

The 8WCCA Declaration can be accessed at 8WCCA Declaration

FAO Director-General Opens the 8th World Congress on Conservation Agriculture

Opening the **8th World Congress on Conservation Agriculture,** the Director-General of the Food and Agriculture Organization of the United Nations (FAO), QU Dongyu, urged for new solutions and smarter ways to produce more food with less, and stressed that without a healthy environment, there are no healthy foods.

The three-day virtual Congress, followed by two-day field demonstrations in Bern, Switzerland, was organized by the European Conservation Agriculture Federation (ECAF) and SWISS NO-TILL with the technical support of FAO. Its theme was: *The Future of Farming: Profitable and Sustainable Farming with Conservation Agriculture*.

"To produce more with less requires us to be truly innovative and environmentally thoughtful," underlined Qu in his welcome and opening remarks. "FAO is supporting its Members in achieving this delicate balance based on local conditions and priorities. This includes Conservation Agriculture, integrated with other good agronomic practices, to prevent soil erosion, and promote biodiversity, biological interactions and efficient natural resource management."

During the past 40 years, the world has lost a third of its arable land, about 430 million hectares, due to unsustainable agricultural practices. CA can prevent further losses of cropland while regenerating degraded lands. Conservation Agriculture (CA) is a farming system that promotes minimum soil disturbance (i.e. no tillage), maintenance of a permanent soil cover, and diversification of plant species. CA's main benefits include: making the food production system sustainable, and soils healthier; enhancing biodiversity on top and under the soil; carbon sequestration; increased yields; and reduced production costs, time and labour.

Speaking about global challenges, Qu asserted that a key challenge was meeting the growing demand for food, while reducing the pressure on natural resources and ecosystems. "We see disturbingly high rates of food loss and waste, air pollution, greenhouse gas emissions, the loss of biodiversity, and resulting inequality. We urgently need to do things differently and act holistically to transform our agri-food systems," said Qu. The FAO Director-General stressed in this respect the need for greater engagement with the private sector to leverage innovations and technological advances in agriculture, and greater use and promotion of digital applications and technologies. Read More

"To produce more with less requires us to be truly innovative and environmentally thoughtful," QU Dongyu said.

Africa Plenary Session at the 8th World Congress on Conservation Agriculture (8WCCA)

The Food and Agriculture Organization of the United Nations (FAO) and the African Conservation Tillage Network (ACT) organized a special Africa plenary session at the 8WCCA on **experiences and investments in Conservation Agriculture and Sustainable Mechanization for Smallholders in Africa**. The focus was on linking investments in sustainable mechanization with businesses by and for smallholder farmers in Africa. ACT consolidated 156 participants, from 45 countries, with 9 percent of the participants coming from outside Africa, and 30% from West and North Africa. The participants constituted of Directors of Agricultural Mechanization and Extension Services and related Government technicians (21%); researchers and the academia (22%); NGOs and Networks (20%); Farmers and farmer organizations (13%); Private sector for profit (11%) and Development partners (10%). Another 100 participants were sponsored by the FAO-NORAD SUCASA project from the southern Africa Conservation Agriculture Regional Working Group that includes all of the 10 SADC countries.

The session objective was to share experiences on sustainable agricultural mechanization as an approach to facilitate the uptake of Conservation Agriculture by more smallholder farmers in Africa. This is because smallholder farmers produce up to 80% of the food consumed by the continent's population. Therefore, any effort to transform the agri-food systems so that they are more resilient and more inclusive must focus more on this group of farmers.

The opening remarks were delivered by Dr. Ade Freeman, Program Leader for the FAO regional office for Africa, who clearly notified the session that at the 31st FAO conference for Africa, inclusive and sustainable food systems transformation was prominently featured as a necessity for Africa to feed a growing population and provide safe, nutritious and affordable food that is balanced and sustainable. "Sustainable natural resource management, accelerating the use of Conservation Agriculture and enhanced use and access to mechanization, digitalization and all appropriate technologies will significantly contribute to this transformation" Addy said.

In his opening remarks, Dr. Joseph Mureithi, representing the ACT Board, crystalized to massively transform agriculture in Africa if we must eliminate extreme poverty and end hunger and malnutrition. He mentioned that this can be done, if only many model innovations and best-case studies and other success stories across Africa and beyond can be scaled. Investment in research, extension systems and mechanization must be accelerated. Private and public participation in the sector should be encouraged to help spur agricultural transformation of the continent. Significantly, Mureithi emphasized the need to promote and use climate-smart agriculture and agricultural-based financial models feasible in Africa– that build greater resilience for African economies.

On his part Xia Jingyuan, FAO NSP Director, expressed the commitment of FAO to take the continent along the journey of transitioning to Conservation Agriculture and other sustainable practices. He emphasized that creation of enabling environment by all stakeholders, and partnerships are fundamentally required to enable this transformation to happen.

Highlights of F-SAMA and of discussion paper on F-SAMA element 6: sustainable transformation of land preparation and crop/animal husbandry practices; launch of the FAO publication: agri-hire in SSA - business models for investing in sustainable mechanization; and networking and linkages in SAM: AfricaMechanize Platform were among the key presentations made during the session. Five case studies on experiences and investments in Conservation Agriculture and Sustainable Agricultural Mechanization for Smallholders in Africa were presented out of 15 submitted.

You can listen to the recording of the session at https://www.youtube.com/watch?v=jtW0e9iyco0.

Launch of the 'Agri-hire in sub-Saharan Africa: business models for investing in sustainable mechanization' Publication at the Africa Session of the 8WCCA

During the plenary Africa Session at the 8WCCA, FAO launched a publication on **Agri-hire in sub-Saharan Africa: business models for investing in sustainable mechanization**. This publication aims to (i) showcase a variety of business models of private-sector businesses providing agricultural mechanization hire services in Africa, (ii) identify success factors, and (iii) provide entry points for investment. There has been a surge in the attention to sustainable agricultural mechanization for Africa. The need to support agricultural mechanization in the value chain in order to achieve agricultural and rural development is well recognized. Therefore, it is vital to address the major challenge of ensuring that business models for mechanization hire services driven by the private sector *(including farmers, cooperatives, and small and medium enterprises*) are not only profitable, sustainable and inclusive for smallholder farmers and vulnerable community members including women and youth, but also resilient to the effects of climate change. This publication can be downloaded from the link http://www.fao.org/3/cb5071en/cb5071en.pdf

The publication is a critical knowledge product that supports an online course on **Small-scale agricultural mechanization hires services as a business enterprise** developed by FAO and CIMMYT with the funding support from GIZ and hosted at the FAO e-learning Academy. This course aims to present the provision of farm mechanization services as a viable business opportunity, in an environmentally sensitive and responsible way. It introduces the benefits of mechanization for smallholder farmers, the role of hire services in farm mechanization and the characteristics of a hire service business, in the context of sustainable crop production and with a focus on Conservation Agriculture (CA).

The **online version** of this course runs on the latest versions of the major browsers, such as Google Chrome, Microsoft Edge, Mozilla Firefox and Apple Safari. The **downloadable version** only runs on Windows PC's and no additional software is needed. This course is designed for a range of stakeholders with an interest in agricultural mechanization and the basics of running a hire service business. These courses are free of charge, as a global public good, in the FAO e-learning Academy:

- Small-scale agricultural mechanization hire services as a business enterprise https://elearning.fao.org/course/view.php?id=711
- Local area and market assessment https://elearning.fao.org/course/view.php?id=712
- Selection, assessment and purchase of power sources and implements https://elearning.fao.org/course/view.php?id=714
- Managing the hire service as a business https://elearning.fao.org/course/view.php?id=713

The FAO e-learning Academy provides learning opportunities and multilingual e-learning courses for professionals working in food and nutrition security, social and economic development and sustainable management of natural resources, with the overall goal of strengthening capacity of member countries to achieve the 2030 Agenda for Sustainable Development.

To sign up for the course: sign up. For more information on the course, you can Read More

Webinars: Operationalization of the Framework for Sustainable Agricultural Mechanization in Africa (F-SAMA)

Sustainable Agricultural Mechanization (SAM) in Africa remains an urgent matter and an indispensable pillar for attaining the Zero Hunger vision by 2025, as stated in the Malabo Declaration of 2014 – Goal 2 of the Sustainable Development Goals – and the Prosperous Africa We Want of Agenda 2063. Doubling agricultural productivity and eliminating hunger and malnutrition in Africa by 2025 will not be realized unless mechanization is accorded utmost importance. Understanding this situation, AUC and FAO, through an Africa-wide consultative process, developed a Framework for Sustainable Agricultural Mechanization in Africa (F-SAMA) that was launched in October 2018. It aims to inform policy and decision makers in the Member States, the Regional Economic Communities (RECs) in Africa, and the wider development community dealing with agricultural development on the significance of mainstreaming SAM in the overall national and regional agricultural development programmes. Efforts to accelerate mechanization therefore require substantial political and financial commitment. Without long-term commitment, the prospects for African agriculture and farmers are likely to remain bleak. Therefore, any intervention brought forward need to consider activating this commitment.

As part of the roll-up effort, AUC, FAO and ACT have developed and implemented pan-African based webinar series focus on operationalization of the F-SAMA. The Webinar provides a platform to share information and update on the progress made by member states and other stakeholders in operationalizing the framework. In addition to presentations, facilitated discussion and questions and answers sessions are implemented to generate more insights into the issues being discussed. Experts from FAO, AUC, ACT, Directors and Heads of Agricultural Mechanization Services in SSA, and other mechanization stakeholders, shares experience on the importance of mechanization.

You can get and register for the upcoming webinars in the website www.africamechanize.org.

Why Crop Diversity Matters for Restoring Africa's Drylands

Africa's drylands are critical for supporting agrobiodiversity – and agrobiodiversity is critical for supporting Africa's drylands. They are ecologically and culturally fragile landscapes, subject to severe, ongoing degradation. Yet these landscapes cover more than 40 percent of the continent, are rich in biodiversity and support the livelihoods of more than 525 million people. Restoring them is therefore essential for multiple reasons, including food security. In a massive undertaking, African countries have committed to restoring 100 million hectares by 2030. This is why the restoration of Africa's drylands was the focus of Global Landscapes Forum (GLF) Africa, a digital event that attracted more than 6,000 African nationals from nearly every country on the continent.

During the event, There was two panels discussions on the role of crop diversity, "Untapped Potential: The importance of African genebanks in ensuring food security" and "Biodiversity for Resilience: Harnessing crops' potential for drylands restoration and climate change." In the case of Africa's drylands, experts on the GLF panels explained how agrobiodiversity offers potential both for increased crop production, even in the face of climate change, and for effective land restoration.

In terms of production, crop diversity provides the raw material needed to develop climate-smart crops – crops that are resistant to pests and diseases, are more tolerant of drought and extreme heat, and have higher nutritional content Learn More

Namibian Farmers Fight Effects of Climate Change with Conservation Agriculture

Conservation agriculture practical training with Namibia Nature Foundation staff for Mbambi and Tjova Farmer Clubs. They are demonstrating land preparation and planting approaches.

Farmers who work the rich soil of the Okavango River Basin in the Kavango region of Namibia depend on rainfall to water their crops. In 2018 and 2019, the rain didn't fall, and the worst drought in 90 years devastated fields, killed thousands of livestock, and left a third of Namibians without adequate food. Some farmers, however, managed to keep their crops alive using "Conservation Agriculture," a farming system that retains precious water and enriches soils by reducing erosion and conserving resources. Farmer Maria Gorety Mangundu has practiced Conservation Agriculture since 2015 and now teaches dozens of her neighbours to plant, nurture, and harvest essential food crops despite increasingly uncertain rainfall.

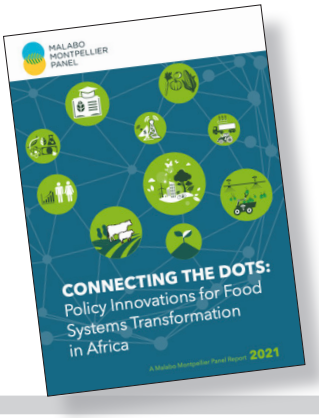
In late 2019, USAID's Resilient Waters Program, implemented by Chemonics, teamed up with NNF and farmers to develop strategies that improve crop production and yields and enhance their resilience to future climate shocks.

NNF developed a program to build the capacity of Kavango farmers to apply Conservation Agriculture to their fields. Using a systems approach, the program assesses local conditions and identifies strategies that work with available resources. This systems approach is critical to deliver on the Resilient Water Program's objective to build more water-secure communities and ecosystems. Water policies and practices form dynamic links between government priorities, sustainable livelihoods, biodiversity, and ecosystem health. As such, approaches to water and conservation management must be similarly comprehensive and allow for adaptive feedback to changing conditions.

But instead of prescribing one specific technique, Conservation Agriculture encourages farmers to share effective methods with each other, such as minimal tillage, diversification of crop species, and a permanent soil cover of crops in rotation. This sharing often occurs through "farmers' clubs," sources of collective learning and support. Read More

> Climate change is devastating crops and livelihoods in Namibia's Kavango region. Conservation agriculture offers farmers hope and the ability to mitigate the impact of an uncertain, changing environment.

Country Case Studies - Connecting the Dots: Policy Innovations for Food Systems Transformation in Africa



The report— Connecting the Dots: Policy Innovations for Food Systems Transformation in Africa—draws on their experience and at times visionary leadership in successfully moving the needle toward systems-level change and transformation. By combining the definition of sustainable food systems put forward by the High- Level Panel of Experts on Food Security and Nutrition (HLPE) with the data provided by the latest CAADP Biennial Review, the report presents progress made in four leading countries: Ghana, Malawi, Morocco, and Rwanda. Learn More

Individual countries case studies are available in the links below:

- Ghana Case study
- Malawi Case study
- Morocco Case study
- Rwanda Case study

Understanding Adoption and Impacts of Conservation Agriculture in Eastern and Southern Africa: A Review

Conservation Agriculture (CA) aims to concurrently promote agricultural productivity, local livelihoods, climate resilience and other environmental objectives. The authors reviewed the emerging evidence base in Eastern and Southern Africa to address whether CA is climate smart and why adoption rates by smallholders remain generally very low. They first developed an adoption framework that can be used to assess when and where the different components of CA are expected to be adopted under different conditioning factors and consider options to make CA climate smart.

Their results suggest that CA can contribute positively to productivity and adaptation/resilience objectives, although the degree of success varies considerably by farm, household and regional characteristics. Overall, they found that capital-intensive (mechanized) CA is more likely to be adopted in areas of economic dynamism where capital is cheap relative to labour. Labour-intensive CA practices are more likely to be adopted in regions of economic stagnation where capital is expensive, and labour is abundant and cheap. A subnational focus is needed to identify economic conditions of different regions and agro-ecological zones and to test hypotheses derived from the framework in this paper and to propose the most appropriate CA packages for promotion. Their findings suggest that labour using variants of CA such as planting basins are more likely to be adopted than are capital using mechanized options in densely populated parts of Malawi, Ethiopia, Kenya, Tanzania, Zambia and Zimbabwe where labour is abundant, and presumably cheap, but capital is expensive. However, rising land scarcity (prices) and wages in the region present an opportunity for capital intensive, mechanized CA operations to be adopted if the cost of capital can be kept low and if there is a supportive environment for mechanization. They concluded that CA is climate smart and if adopted widely, it has the potential to help build resilience in smallholder farming systems. CA can be more climate smart, and its uptake can be enhanced by reframing, better targeting, adapting CA to location-specific economic and biophysical, and through greater and more effective public spending on agricultural research and development. Read More

Resilient Food Systems Programme Highlights 2020

In 2020, the global coronavirus 2019 (COVID-19) pandemic posed new challenges to the initiatives and institutions supporting the farming communities and ecosystems that underpin Africa's food systems. This year's challenges highlighted the value of the Resilient Food Systems (RFS) programme and heightened the sense of urgency for achieving the programme's objectives. The pandemic showed how external shocks intersect with existing challenges—land degradation, unproductive agricultural practices, insecure livelihoods, climate change, among others—to exacerbate long-term drivers of vulnerability in smallholder food systems.

Despite these challenges, RFS projects and beneficiary communities adapted to the changing environment. In many ways, the integrated nature of the programme, which promotes the use of innovative approaches to complex problems, provided RFS projects with the tools and skills necessary to meet the demands of the 'new normal'. In spite of the ongoing pandemic and desert locust crisis in the Horn of Africa, RFS projects were able to focus on building the resilience of smallholder farming communities and ecosystems to stresses and shocks—now and in the future. The 2020 reporting period was marked by continual learning. Valuable lessons drawn from the achievements and innovations of the RFS country projects and Regional Hub will not only inform the programme's implementation in the years to come, but can also provide helpful insights for other initiatives, governments and implementation partners working to enhance the long-term sustainability and resilience of food systems in developing countries around the world. Read more

Events and Opportunities

WEBINAR No. 6: Joint Actions on Operationalization of the Framework for Sustainable Agricultural Mechanization in Africa (F-SAMA)

Title: Increasing production and productivity in agriculture, by accelerating mechanization: A countries' case of Senegal and South Africa.

Date: Thursday, 05th August 2021

Time: 09:00 - 10:30 am (GMT)

To sustain the momentum of the continental information exchange through the Webinars initiated in 2020 (as contained in the https://www.africamechanize.org/webinar-portal/), the next Discussions/Webinars under the Africa Mechanize platform for 2021 will focus on countries presentations for Senegal and South Africa. This webinar is targeting public and private stakeholders including Directors and Heads of Agricultural Mechanization Services, Farmers Organizations, Private Sector, Non-Governmental Organizations (NGOs) and the Academia. This is the sixth Webinar in the series, and is organized to provide an opportunity to create a participatory environment for the establishment of a regional implementation mechanism of F-SAMA. These webinars and discussion forums are being organized by the African Union (https://au.int/), Food and Agriculture Organization of the United Nations (FAO) (www.fao.org) and African Conservation Tillage Network (ACT) (www.act-africa.org).

The Webinar will be held in English and French and participants can engage by posing their questions and answers during the Zoom-based meeting.

No payment is required for participation in the webinar, however registration is required. Please register in advance at the AfricaMechanize website at: **www.africamechanize.org**

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Norad

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