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

Updates & News Alert

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July-August 2021

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Editor's view: Introducing July - August 2021 CA & SAM Issue

Access to food – in quantity and quality – is a fundamental human right. With the population of Africa expected to rise to 2.5 billion by 2050 and to 4 billion by the turn of the century – and the share of the poor rising – the question remains, how will Africa feed this growing population sustainably? Will it simply depend on growing food imports? Clearly, such a scenario is unacceptable, given that over 65% of the productive agricultural land left to feed the expected 9 billion people in the world by 2050 is located in Africa. Africa must rise up and unlock its full agricultural potential – with all its bright sunshine, abundant land resources and active labour force, to be a global powerhouse in food and agriculture. In this backdrop, the Africa commitment must change with a view to mobilize this potential to achieve sustainable and economically viable agriculture for wealth creation and sustainable development.

Mainstreaming sustainable agriculture systems in Africa is imperative. Severe environmental degradation, low farm profitability and poverty associated with current conventional production systems have brought the agricultural sector to a crossroad. 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 agriculture production and management must be changed. And, it is now clear according to ACT and partners that significant shift is bestowed on transformation of farming systems towards Conservation Agriculture (CA)-based systems with adoption of appropriate sustainable agricultural mechanization (SAM) technologies. This will create a paradigm that offers our men and women farmers, small-scale or large-scale, a real opportunity

ACT programs, projects and initiatives are firmly anchored towards achieving the SDGs.

End poverty in all its forms everywhere

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Achieve gender equality and empower all women and girls

Take urgent action to combat climate change and its impacts

to commercialize agriculture efficiently, intensify agricultural output, increase profit, enhance soil health and the environment for enhanced contribution to ending poverty, protecting the planet, and improved quality of life, peace and prosperity for all..

In order to facilitate effective promotion of the above sustainable agriculture-based technologies in Africa and beyond, appropriate and affordable agro-ecological and socio-economic based technologies and innovations anchored on the fundamental CA concepts and principles and precepts of SAM technologies needs to be emphasized and developed. In this regard and considering the need to contribute significantly to attainment of this goal, ACT has continued to evolve taking lead in facilitating, coordinating and enabling knowledge and information sharing among the African's agricultural actors and practitioners. It is always in its strive to establish and execute appropriate knowledge and information sharing platforms and systems tailored to different target groups at different levels in the continent and beyond. ACT's interventions remain focused on contributing towards attainment of SDGs and Africa Agenda 2063 – The Africa We Want.

In this July-August 2021 issue, we highlight some of the farmers' success stories as regard to CA and SAM from different African countries as testimony of the envisioned benefits being accrued in different regions. It has proven to be transformational and life changing experience for the few, but exponentially increasing, farmers who have fully adopted CA and using appropriate SAM technologies, considering the impact reports and case studies from the different parts of the continent.

We encourage you to share your Conservation Agriculture and Sustainable agriculture mechanization views and articles capturing the status and extent of adaptation and adoption of Conservation Agriculture and Sustainable Agricultural Mechanization 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, news on CA and tag us on twitter *@ACTillage.*

Apologies for any cross posting of some articles.

The sixth (6) Webinar: 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, 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) 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.

To sustain the momentum of the continental information exchange through these Webinars initiated in 2020 (as contained in the https://www.africa-mechanize.org/webinar-portal/), the 5th August 2021 webinar under the Africa Mechanize platform for 2021 was the **sixth Webinar** in the series and titled '*Increasing production and productivity in agriculture, by accelerating mechanization with countries' case of Senegal and South Africa*.' The webinar targeted public and private stakeholders including Directors and Heads of Agricultural Mechanization Services, Farmers Organizations, Private Sector, Non-Governmental Organizations (NGOs) and the Academia. IT provided an opportunity to create a participatory environment for the establishment of a regional implementation mechanism of F-SAMA.

The Webinar was held in English and French and participants posted their questions and answers during the Zoom-based meeting.

You can get proceedings and recording of the previous webinars in www.africa-mechanize.org and also register for the upcoming webinars in the same website.

Reduced vulnerability to climate change and improved livelihoods of rural communities in Kenya

PARTICIPATORY APPROACHES FOR INTEGRATED DEVELOPMENT (PAFID)
"Empowering rural communities to improve their livelihood"

P.O. Box 51122, Nairobi
00100, Kenya

Participatory Approaches for Integrated Development (PAFID) is implementing the Norad funded Regional Climate Smart Agriculture Programme across 3 Counties in Eastern Kenya: Kitui; Makueni and Meru. Over 29,000 smallholder farmers were trained in Climate Smart Agriculture Conservation Farming (CSA CF) of whom over 13,000 adopted the practice converting more than 5,500 Ha from conventional to minimum tillage systems.

The average yield of all crops surveyed across the counties for farmers that adopted CSA CF exceeded that of farmers practising conventional tillage and was particularly pronounced in years of lower-than-average rainfall, such as 2020 (Figure 1).

This increase in yield of CSA CF adopters also reflected in their incomes when compared to farmers practising conventional tillage systems (Figure 2).

Reduced CSA CF production costs when compared to conventional farming practises increases profitability of smallholder farmers (Figure 3).

Adoption of CSA CF by smallholder farmers enables them to increase yields and profitability and adapt to more frequent and extreme weather events.

For more information, contact: Mr Colin Gunson, CEO, PAFID, **E**: gunsonc@gmail.com

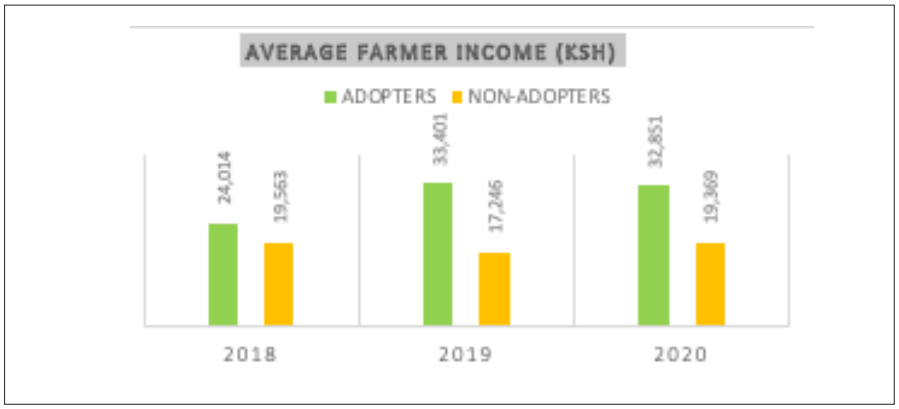


Figure 2: Farmer household income variances between CSA CF MT adopters and non-adopters

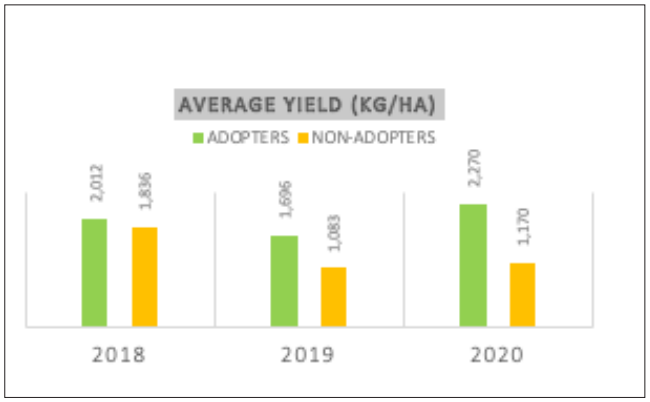


Figure 1: Average yield comparison between CSA CF adopters and non-adopters

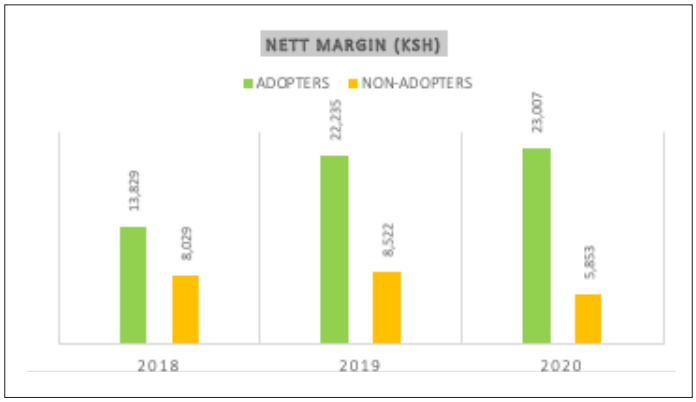


Figure 3: On farm net margin difference between CSA CF MT adopters and non-adopters

Conservation Farming mechanized min-till efforts pay off with government buy-in in Uganda

In 2012 under the NORAD – funded Conservation Agriculture Regional Programme (CARP), Rural Enterprises Development Services (REDS) an agricultural NGO, introduced the Ndume https://ndumekenya.com/ ripper for mechanized minimum tillage in Uganda. This technology has now been embraced by government institutions and by 2020, these institutions have purchased over 20 Ndume rippers benefitting eight prison farms across the country and 13 cooperative unions in seven districts of Eastern Uganda.

In February 2021, REDS trained 112 cooperative members and five district climate smat agriculture coordinators with four ministry of agriculture animal industries and fisheries (MAAIF) officials in attendance. These cooperatives are beneficiaries of the sustainable land management program of MAAIF.

The Ndume ripper has eased tillage for the Uganda Prison Services, now boasting of having 16 three-tine rippers across their stations. Five of the prison stations produce foundation seed and three of them undertake certified seed multiplication with certified seed production of 1000 tons annually. The seed varieties are drought tolerant and three-way hi-breed with a cumulative yielding capacity between 5.5 to 8.8 tonnes per hectare and the germination rate ranges between 95%-98%.

REDS takes credit as the lead technical partner for training and technical backstopping for this collaboration that started in 2012 under CA awareness campaigns.

For more information, contact: Mr Edward Gitta, CEO, REDS, **E**: edwardgitta@yahoo.com

Measuring tine width - Namasere Farmers' Coop Bugiri

Ripping exercise at Nkondo Multipurpose, Buyende.

Fertilizer Application Training at Bugobi Bukenga in Namutumba.

For more information, contact: Mr Edward Gitta, CEO, REDS, E: edwardgitta@yahoo.com

Conservation Agriculture reduces climate risks throughout Southern Africa

Conservation agriculture research in Malawi, Zambia, and Zimbabwe by the CGIAR Research Program on Maize (MAIZE) has generated scientific evidence on the productivity, profitability, and environmental, social and human impacts of conservation agriculture. This research has been used in all target countries to inform policies toward more climate-smart agriculture adaptation interventions.

Farmer adoption of conservation agriculture practices (defined by minimum soil disturbance, maintaining soil cover, and crop diversification through rotations or intercropping) covers more than 627,000 hectares in Malawi, Zambia and Zimbabwe, with yield benefits of 30% to 50% (up to 140%) under drought conditions.

Through Total LandCare, a regional non-governmental organization (NGO), more than 200,000 farmers have been reached with conservation agriculture in Malawi alone. Other NGOs in Zimbabwe and Zambia have supported the adoption and scaling of conservation agriculture systems. In 2020, the Government of Zimbabwe introduced a nationwide campaign to advance the conservation agriculture-based "Pfumvudza" concept — a crop production intensification approach under which farmers ensure the efficient use of resources in small, targeted land units — building on previous scientific evidence generated by the International Maize and Wheat Improvement Center (CIMMYT) and its partners within MAIZE and local NGOs.

The targeted number of farmers for this effort in Zimbabwe was 1.8 million, with a reported uptake of finally 2.2 million with a four-fold increase in maize production in the 2020/21 cropping season, making Zimbabwe self-sufficient in maize grain, which has not been the case for decades.

MAIZE/CIMMYT has incrementally conducted regional on-farm and on-station trials since 2004 in more than 50 trial locations (on-farm communities and research stations) with approximately 300 replicated and un-replicated researcher/extension-managed trials. In addition, 4,000 farmer-managed smaller scaling plots were established to test technologies across different agro-ecologies (soil types, rainfall regimes, and farm types) under farmer conditions and management. Learn More

Project to increase crop yield launched at Egerton University in Kenya

A multi-agency team has been formed at Egerton University to fight soil acidity which reduces maize production on small- scale farms, raising food insecurity.

The United States Agency for International Development (USAID) through the *'Feed the Future Advancing Local Leadership, Innovation and Networks (ALL-IN)'* programme has launched the effort which will be implemented by the University's *Tegemeo Institute of Agricultural Policy and Development* to counteract soil acidity which cuts maize yields by at least 30 per cent.

The project's Lead Principal Investigator and a research fellow at *Tegemeo Institute of Agricultural Policy and Development* Dr John Olwande said the initiative would involve over 4,000 farmers in counties of Bungoma, Kakamega, Trans Nzoia, and Uasin Gishu which were among the most important for maize production areas in Kenya.

"These counties are among those in which the government conducted soil tests in 2014 and found that the soils were highly acidic," Dr Olwande said.

"The project's goal is to address the high cost of soil management by involving stakeholders in the entire value chain of fertilizers and lime," he added. While speaking at the Njoro Main Campus during the launch, the Investigator indicated that the project would bring on board experts and stakeholders to build evidence on practical ways to encourage farmers to update their knowledge about the condition of their soils and encourage them to apply appropriate soil management practices. Learn More

Conservation farming can help avert hunger, poverty

Attaining food security to avert hunger and poverty through sustainable agricultural systems is key to stimulating growth in countries like Zambia. To achieve this, farmers should adopt conservation farming methods that allow them to reduce costs, increase their yields, improve nutrition and minimize the chances of crop failure in drought years. Available data shows that agriculture practices such as conservation farming have led to an increase in profits for smallholder farmers and, in turn improve the fertility of their land.

It is believed that many thousands of rural families can genuinely benefit from conservation farming if fully supported. It is for this reason the Community Markets for Conservation (COMACO) is working with a number of communities in Eastern, Central and Muchinga provinces to promote conservation agriculture. About 225,929 farmers in Eastern, Central and Muchinga provinces in 2020 were reported to have signed a conservation pledge and joined a local cooperative.

Presently, COMACO is working with about 81 cooperatives, of which they provide farmers services across the three provinces.

According to the COMACO 2020 annual report, about 22 cooperative organizations are on track to be self-financed with their own business plans. As a result, annual household income in these communities rose by 2.3 per cent, while food security stood at 1.4 per cent. Therefore, COMACO's impact on conservation is through its influence of new skills and premium markets on farmers' livelihoods that help shape environmental outcomes. This influence extends to community leaders and their role in moulding community norms for safeguarding local resources. COMACO started conducting community sensitization meetings using video shows to enhance sensitization of the programme. The sensitization shows are intended to help farmers in communities learn of how other parts of the country have benefited from adopting sustainable agriculture practices. The sensitization programme is also targeting to raise awareness among the traditional leaders, whom COMACO recognises as key in implementing its programmes to improve living standards in the communities. It should be pointed out that Zambia's rural landscape suffers from weak environmental governance, which has allowed prevailing market forces to promote agricultural systems that are over-reliant on maize, harmful to the soil, dependent on chemicals and susceptible to climate variability. Read More

Zimbabwean young farmers lead the charge in agriculture

The anticipated 2021 bumper harvest should finally ensure food surplus in Zimbabwe, Information Minister Monica Mutsvangwa said in June. Just a year ago, the United States Agency for International Development (USAID) doled out $86.9 million to boost food security in the country. About 57 per cent of Zimbabwean women between ages 20 and 31, and 47 per cent of men in the same age bracket are growing fruits such as mangoes, involved in rearing livestock such as the prolific breeders Boer goats, and cultivating tobacco, corn and so on.

President Emerson Mnangagwa who took over the reins of government in November 2017 has adopted policies to attract the young and educated to farming while at the same time luring back many white farmers who had relocated to Australia, South Africa and the United Kingdom following the seizure of their land about two decades ago. The president pledged to provide 99-year land leases to white farmers and guaranteed the security of those willing to return home. Returning white farmers are partnering with their black counterparts, including young black farmers, leading to a healthy exchange of capital, skills and machinery. Also, Zimbabwe's structural economic transformation, from traditional office and factory jobs to informal entrepreneurship, is now extended to the agricultural sector, catching the attention of young farmers.

"We are seeing a pro-youth farmer's mindset in government, which sends positive signals," says Gift Mawacha, an agricultural historian at Chimanimani High School in east Zimbabwe, the country´s most fertile farm belt. "And the youth are saying 'hey, we are jobless but there´s money in growing potatoes and flowers.'"

The government's pro-farming mindset is anchored in a programme called "Pfumvudza" (meaning "Master Farmers' Revolution") through which it provides financing subsidies to young farmers. Researcher Eddy Maseya describes Pfumvudza as a climate-proof concept that leverages "conservation farming techniques to make the most of small pieces of land." Backed by the UN Food and Agriculture Organisation (FAO), Pfumvudza consists of "minimum soil disturbance or tillage; having permanent soil cover by using organic mulch and using crop rotations and intercropping cover crops with main crops," according to The Future Agricultures Consortium, an alliance of research organisations seeking to improve agriculture in Africa. Learn More

Digitisation boosts mechanised farming among Kenyan farmers

When 33-year-old Kimani Mwaniki, an Irish potato farmer in Elburgon, Nakuru County in Kenya's Rift Valley, heard about a farmer's virtual school, he didn't hesitate to enrol. He was keen to learn how the programme will enable him to get higher crop yields for his market in the capital city Nairobi and elsewhere.

For years, the young farmer had been relying on the occasional visit of an agricultural extension officer for information about best practices on his five-acre land, but not anymore. Now, armed with a smartphone, Mwaniki can connect with experts and farmers like him across the county for information about the right seeds, when to plant them and how to tend to his crops. It also tells him about the right machinery, where to find it and how to use it.

He says through the virtual school; he has been able to find the right machinery to prepare his land at a low cost. The virtual school programme is supported by Nakuru Agri Call, an intervention of the County Government of Nakuru. It seeks to empower some 3,000 smallholder farmers in the area with information about competitive farming practices, including mechanization, appropriate land preparation, seed sourcing, crop care and post-harvest management.

Just by logging in to Facebook and Twitter on the Nakuru Agri Call page, farmers get tips about soil analysis, collecting soil samples for analysis, and sending their samples for analysis. Users can also find farming tips on the school's WhatsApp page.

The program's focus is on mechanization. Officials say it is set to spur smallholder farmers like Kimani to engage in agribusiness and improve their livelihoods while shoring up rural economies dependent on agriculture. Learn More

Celebrating the news of good harvests in Zimbabwe and Malawi

Join us in sharing in the good news! At many of our project sites in southern Africa, a combination of favourable weather conditions and good farming practices mean many farmers have had a fantastic growing season.

Here is what Velina Siapani of Zingozo village, Zimbabwe, a lead farmer on a project of our member Mennonite Central Committee Canada, implemented locally by partner Kulima Mbobumi Training Centre (KMTC) had to say: "This was a bountiful season for me as compared to the 2019-2020 agriculture season," she explains. "I managed to get 47 buckets of millet from the 2kg pearl millet seeds which I received from KMTC. As if this were not enough, I also managed to produce three buckets of groundnuts and eight buckets of cowpeas." Read More

Online Course: Small-scale agricultural mechanization hire-services as a business enterprise

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). Read More

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

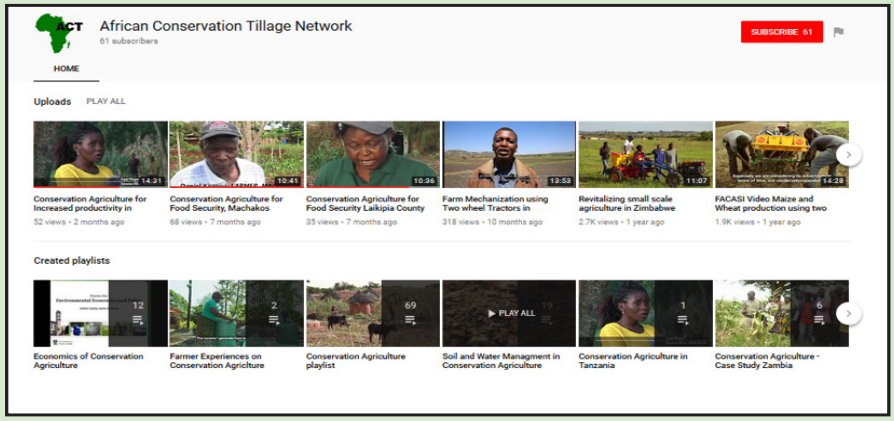
The FAO e-learning Academy provides learning opportunities and multilingual e-learning courses for professionals working in food and nutrition security, social and economic development and sustainable management of natural resources, with the overall goal of strengthening capacity of member countries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

A publication on Small-scale agricultural mechanization hires services as a business enterprise developed by FAO and CIMMYT with the funding support from GIZ and currently hosted at the FAO e-learning Academy is critical product supporting this course.

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

Farmers' experiences and stories on CA: Interesting videos and success stories on CA

Watch farmers' experiences and stories on CA on ACT-YouTube channel. ACT as a CA knowledge hub, strives to bring to the globe diverse farmers practices and experience on CA. Many farmers and actors in the agricultural sector from different countries appreciate and acknowledge the transformational effects of Conservation Agriculture on agricultural productivity and sustainability. To get more stories and farmers' perspectives, watch the several videos and clips commissioned and produced by ACT and partners in our YouTube playlists http://www.youtube.com/channel/UCofLj9el5Shy-Qny3xcWR4DA



Events and Opportunities

WEBINAR No. 7: Joint Actions on Operationalization of the Framework for Sustainable Agricultural Mechanization in Africa (F-SAMA)

Title: Enhancing social sustainability and the roles of women and youth in agricultural mechanization in Africa
Date: Thursday, 28th October 2021 (TBC)
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 ensuring that mechanization targets women, who bear the brunt of African agriculture, and must target youth, specifically to make agriculture more attractive and a choice for employment and entrepreneurship.

This webinar is targeting public and private stakeholders including Directors and Heads of Agricultural Mechanization Services, Gender Equality and Women Organizations, Farmers Organizations, Private Sector, Non-Governmental Organizations (NGOs) and the Academia.

This is seventh Webinar in the series 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**

To read our past CA Newsletter Issue, Download our **CA News app** from **Google Play store** at: Google Play **CA News app**

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Norad

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