



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

Agriculture is the mainstay of the national economies of many African countries, providing livelihoods for up to 80% of the population. Agriculture also forms a significant productive base for the development of the other sectors. However, agriculture in African countries needs to be fundamentally transformed from the conventional tillage-based agriculture to agro-ecologically based no-till Conservation Agriculture (CA) in order to achieve sustainable production intensification for community-based rural development. Appropriate and affordable agricultural technologies such as CA that are highly productive and at the same time positively contribute to environmental services as an element of sustainability need to be harnessed.

Currently, many African countries face the challenges of depleted natural resources, negative impacts of climatic variability, spiralling cost of inputs, and volatile food prices, which form a major constraint to attainment of food security for a rapid growing population and alle-

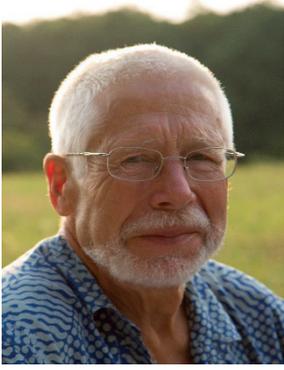
viating poverty. However, across Africa, interest is growing to adapt and adopt the principles of Conservation Agriculture targeting to enhance agricultural sector performance in terms of improved productivity, environment protection and sustained climate change resilience in response to these pervasive challenges. There is sufficient evidence that CA offers a promising option, which, over time, can sustainably increase the productivity of smallholder production systems as well as their profitability and resilience without compromising the environment. CA must be tailored to the agro-ecological and socio-economic contexts of smallholder farmers to achieve impact. The thinking of CA as an overall system, rather than a fixed set of techniques, gives farmers and practitioners the freedom to evaluate and adopt a set of CA-related practices appropriate to local needs.

Documented impact and the feedback from practicing CA farmers has shown that CA has the potential to significantly

increase yields and agricultural productivity in a sustainable manner even for poorly resourced farmers, improving their food security and often enabling them to sell surplus. Such promotions have had variable impacts to the different communities and ecological settings.

To showcase CA activities in various African countries, ACT (The CA Network for Africa) features country-focused articles in its Monthly News Alerts. The articles capture and discuss the status and extent of adaptation and adoption of CA in a particular country for each allocated month's alert. The November and December issues will focus on Kenya and Botswana respectively. We encourage you to share your CA views and articles in time for the planned CA news alerts in those countries. We also encourage bookings for proposed focus country articles for 2017. Please submit articles, links or views to:

kim@act-africa.org



Looking back on 20 Years of ACT

'First contacts with Conservation Agriculture or Direct Planting System', by Kurt Steiner, co-founder of the network.

In 1996 a colleague working with GTZ invited me to attend two workshops: the first was held in Paraguay on 'direct planting' for smallholder farmers, and the second was a national congress on direct planting in Parana State, Brazil. It was the first time I was coming into contact with the subject. Most impressive for me, I visited farmers in their fields as they showed me the dark soil under a ground cover of crop residue. They explained how water infiltration and soil fertility had improved, yields had increased, production costs had declined, farming operations took less time, giving way for other income generating activities. All farmers reported that they had been on the verge of giving up their farms, but now their living conditions had improved, they could renovate their houses, and do other things. This was quite different from Europe or Africa where farmers usually complained about declining yields, higher input prices, low market prices, and so on.

For more information on ACT progression visit <http://act-africa.org/news.php?com=6&item=374#.WCLbycnw5kn>

Namibia get support for Conservation Agriculture from GCF

Namibia has through the Environmental Investment Fund (EIF) successfully capitalised on its accreditation by accessing close to N\$300 million in grant funding from the Green Climate Fund (GCF) towards sustainable development projects in Namibia. This follows the 14th meeting of the GCF that took place 12–14 October 2016 in South Korea, where two of Namibia's project proposals on conservation agriculture and community-based natural resource management were approved.

Environment and Tourism Minister Pohamba Shifeta said out of the N\$300 million, half of that funding will be used for conservation agriculture projects in the Zambezi, Kavango East and West regions.

Its aim, he said, is to reduce food insecurity and vulnerability to climate risk and threats, while increasing the adaptive capacity, well-being and resilience of vulnerable small-scale farming communities who are threatened by climate variability and change. Shifeta said the project will directly and indirectly benefit some 16,000 farmers and will be implemented by the Ministry of Agriculture, Water and Forestry from February 2017. The crop production projects include production of maize, sorghum and mahangu, while some will also include horticulture.

For more information: <https://www.new-era.com.na/2016/10/20/namibia-accesses-n300-million-from-gcf/>

Conference of the Parties (COP 22) Side events on CA



The 22nd session of the Conference of the Parties (COP 22) and the 12 session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 12) will be held 7-18 November 2016 in Bab Ighli, Marrakech, Morocco. The UN Climate Change Conference in Marrakech is the crucial next step for governments looking to operationalize the Paris Climate Change Agreement adopted last year. While the Paris Agreement gave clear pathways and a final destination in respect to decisive action on climate change, many of the de-

tails regarding how to move forward as one global community in that common direction still need to be resolved. With the entry into force of the Agreement happening on 4 November, just days before COP 22, the dialogue and decisions in Marrakech hold immense potential to accelerate and amplify the immediate response to the challenge recognized in the Paris Agreement. Two side events on Conservation Agriculture are planned at the Conference.

Climate Change Mitigation and Sustainable Food Security with CA in Africa and the Mediterranean region

One of the CA side events during COP22 this year is the meeting on 'Climate Change Mitigation and Sustainable Food Security with Conservation Agriculture in Africa and the Mediterranean Region'.

Four international networks that have come together to organize the side event to address the development of Conservation Agriculture in Africa and the Mediterranean region. They are Réseau Innovation Agro-systèmes Méditerranéens, www.rcmed.org; African Conservation Tillage network, www.act-africa.org; European Conservation Agriculture Federation, www.ecaf.org; and Global Conservation Agriculture Community of Practice -Global CA-CoP linked to FAO, www.fao.org/ag/ca. The event will bring together farmers, organizations promoting conservation agriculture, researchers, teachers, the private sector as well as decision makers. The platform will provide an opportunity to present practical experiences, to identify constraints limiting the development of conservation agriculture, and to make recommendations to support these new practices that are positive for farmers and the environment and that contribute to climate change adaptation.

Addressing climate change and food security concerns around the world with Conservation Agriculture

The second CA side event is on 'Conservation Agriculture as a solution to address climate change and food security concerns around the world'. The event is organized by Global Conservation Agriculture Network (GCAN) and its partners. This meeting will help those interested in the future of agriculture and agro-ecology to better understand the issues related to climate change, soil fertility, food security and environment from international representatives of farmers, researchers and policy makers. The objective of this meeting is to highlight the benefits of Conservation Agriculture and the needs of farmers to ensure this agricultural practice is disseminated globally, via relevant public policies. The event will be on 17 November 2016, Marrakech (Morocco).

For more information about COP22 visit <http://tinyurl.com/jsot2ba> or <http://www.cop22-morocco.com/>,

http://unfccc.int/meetingsmarrakech_nov_2016/meeting/9567.php

Zambian maize farmer determined and profit driven



Maize residue left on soil provides a useful mulch that helps retain soil moisture, which is increasingly important as climate change advances.

Wisdom Mababe, the owner-manager of Mababe Farms, runs a mixed farming operation in Mumbwa district of Central Province. He farms maize and soya beans and keeps cattle. Wisdom shared his story and his insights in farming methods with Africanfarming.com.

'Get the business model right before the plough goes into the soil,' is Wisdom Mababe's working model. While it seems soul-destroying to spend a lifetime work-

ing for no reward other than money, it makes equally little sense to run a business that makes no profit. Much as he loves to farm, Wisdom says: 'Farming is about profit; concepts like status and prestige shouldn't enter the equation.'

Currently, Wisdom has realized increase in yields of up to 8.2 t/ha of maize. He ascribes his yield boost to the knowledge he gains from learning new methods and interacting with other farmers. He says he never sits on information but puts what he learns into practice immediately, and corrects mistakes as soon as possible.

The common human weaknesses of procrastinating and denial are particularly bad for farmers, and farmers like Wisdom who act quickly and decisively to correct mistakes tend to be more profitable and therefore more successful.

Get the whole interaction with the farmer on <http://www.africanfarming.com/zambian-maize-farmer-determined-profit-driven/>

Uganda: Promote Climate-Smart Agriculture

One of the challenges facing Uganda's Operation Wealth Creation (OWC) Programme is the rejection of input supplies by the intended beneficiaries (farmers). During the last week of September 2016, the Operation Wealth Creation commandant for Kole district in Northern Uganda received and distributed 80,000 citrus seedlings to sub-counties but the target beneficiaries refused to collect these seedlings on the grounds of late delivery.

"We don't want to waste our energy, resources and time planting these oranges because the dry spell will destroy them all. They should have been brought a little earlier during the onset of the rains," said Opio (one of the selected programme beneficiaries).

Rejection of free planting material happens in many other districts as attempts are being made to implement wealth creation programmes. This is wasting government resources, which in part is attributable to poor planning and lengthy procurement procedures, among others.

It involves farming using a package of technologies and practices such as conservation agriculture, irrigation, integrated nutrient management and pest and disease control. The use of climate smart agriculture technologies and practices makes farms resilient to climate change/variability and enhances productivity.

This is a call to government, development partners and all concerned stakeholders to scale up the use of climate-smart agricultural technologies and practices in planting seedlings being supplied under the OWC programme. To a lesser extent, matching the supply of seedlings with the right season will limit the chances of seedlings drying.

For more information: <http://tinyurl.com/hp62v64> or <http://allafrica.com/stories/201610140335.html>

Conservation Agriculture: Best Practices for Resource-Limited Smallholder Farms

Harvesting of rice bean and maize in Thailand



ECHO has published a Best Practice Note on Conservation agriculture (CA) in October 2016. CA is a resource-saving land management approach that optimizes and sustains the capacity of soils to produce food. In CA, sustainability is linked to the ecological preservation of agricultural landscapes. This is achieved through 1) minimal soil disturbance, 2)

keeping soils covered, and 3) crop diversification. Implementing these three elements requires a combination of practices, for which there are many options. Thinking of CA as an overall system, rather than a fixed set of techniques, gives farmers and practitioners the freedom to evaluate and adopt a set of CA-related practices appropriate to local needs.

Farmers in many parts of the world, because of human population growth, have little choice but to crop their land continuously, with scarce resources to replace nutrients withdrawn by each successive crop. Crop residues are often lost as a source of organic matter and mulch, usually through burning or by removal for animal feed or cooking fuel. Especially where nutrient reserves are already low and topsoil is exposed to erosion, soils lose their capacity to sustain adequate crop yields. Additionally, extreme weather events, adverse changes in climate, human conflict, and sickness can all work against smallholder farmers' abilities to sustain the productive capacity of their soils. [Click here](#) to read the Best Practice Note on CA.

For more information: <https://www.echocommunity.org/en/resources/63af7977-dec4-4934-a989-909d98b70eaa/download>

Argentine farmer fights for no-till agriculture, wins Kleckner Award



Maria "Pilu" Giraudo was the 10th winner of the annual Kleckner award. (Photo by Maria Kalaitzandonakes)

In DES MOINES, Iowa — About 40 years ago, Maria "Pilu" Giraudo's father began to notice his soil eroding. He and neighbouring farmers tried tirelessly to reverse the damage. After some years and many, many trials and advice he reduced and then stopped tilling, rejuvenating the tired soil. On 10 October 2016 Giraudo received the Kleckner Award, an annual recognition given by Global Farmer Network to a farmer who shows leadership and vision, for her work in promoting no-till agriculture in Argentina.

Tilling, digging rows into the soil by hand or with machinery, is an age-old method used by most of the world's farmers, but agricultural advocates like Giraudo are attempting to change this practice and trade it in for something more sustainable. No-till farming may be that method. Farmers can grow crops without disturbing fields and incorporate the leftovers from the last harvested crops.

Giraudo is a fifth generation farmer from central Argentina. She and her family produce soybeans, wheat, barley, sorghum and livestock on 9,800 acres. As an agronomist, she consults with farmers who collectively own about 50,000 acres in Argentina. In June, she took her fight from the farms to the government when she accepted a new role coordinating policies for sustainable development in the Ministry of Agroindustry for Argentina.

"When you become a farmer you realize that you have a responsibility and a commitment not just to produce food, but also to take care of the environment and human health," Giraudo said. "We need to use all the tools to help us meet

this commitment. No-till is crucial not only for this generation, but for the next generation; It interrupts the cycle of soil deterioration."

When her father changed his fields over to no-till, "many thought he was mad," Giraudo laughed, remembering. But now, many farmers are beginning to see no-till as a route for soil recovery in physical, biological and chemical ways. According to a [study](#) published in International Soil and Water Conservation Research in 2014, which looked at the changes in Argentine soil practice, no-till farming went from just a few hundred thousand hectares in 1990 to more than 23 million hectares, or around 79 percent of the grain cropped area in 2010. Much of this change is attributed to the [Argentina No Till Farmers Association](#), an organization that Giraudo was president of until April 2016 and has over 3,000 members.

For more information: <https://mearth.wordpress.com/2016/10/12/argentine-farmer-fights-for-no-till-agriculture-wins-kleckner-award/>

Livestock Helps Farmers Become Resilient to Climate Change



© Heifer International

Malawi, a country [extremely vulnerable to the negative impacts of climate change](#), currently faces a food and nutrition emergency. Nearly a third of Malawi's farmland is affected by the worst drought in southern Africa in 25 years. The country remains challenged in building resilient smallholder farmers who can feed the nation, with most agricultural products concentration on monocrop farming with little or no livestock.

Farmers in Malawi using integrated farming approaches, in which crop and livestock farming mutually reinforce each other—including conservation agriculture, forest management, appropriate irrigation and the use of sustainable, efficient energy sources—are withstanding the current drought caused by El Nino better than many of their peers. Kelvin Haji in Thyolo district and Chrissy Charles in Dowa district, are doing more than just surviving—they are thriving. Kelvin and Chrissy are participants in two separate [Heifer International](#) projects. Both farmers previously relied on crop farming, which did not provide the expected yields due to poor rainfall, leaving their families more vulnerable to hunger and malnutrition.

The climate-smart agricultural and animal husbandry practices Kelvin and Chrissy, and other farmers like them, employ at

the household level help ensure they are able to bounce back when crop production fails from the negative effects of climate change affecting the country. By irrigating and applying cow manure as organic fertilizer to their diverse crops, Kelvin and Chrissy have greater fruit and vegetable yields for home consumption and to sell for income. Manure and compost improve the ability of the soil to hold moisture and improve fertility—essential in drought conditions. Their heifers have given birth, and their cows now provide up to 12 liters of milk daily, a great source of nutrition and income. Their families eat three meals a day, every day. They can afford to send their children to school

For more information:

<http://act-africa.org/news.php?com=68&com2=6&item=365#.WBHxEckaouQ> or <http://tinyurl.com/hl8emva>

Updating Conservation Agriculture Database in AquaStat, FAO

FAO is monitoring the global adoption of Conservation Agriculture. The data presented above are the result of an ongoing collaboration between FAO's Conservation Agriculture and AQUASTAT programmes, and presents the latest values available for all countries that report Conservation Agriculture practices. (These are figures for African countries only. The full table is available on the website.) This script automatically displays new data as updates become available and can be considered the most up-to-date repository for global implementation of CA. The reported areas comply with the CA definition, with the following quantifying parameters:

1. Minimum soil disturbance: Minimum soil disturbance refers to low disturbance, no-tillage and direct seeding. The disturbed area must be less than 15 cm wide or less than 25% of the cropped area (whichever is lower). There should be no periodic

tillage that disturbs a greater area than the aforementioned limits. Strip tillage is allowed if the disturbed area is less than the set limits.

2. Organic soil cover: Three categories are distinguished: 30–60%, >60–90% and >90% ground cover, measured immediately after the direct seeding operation. Area with less than 30% cover is not considered as CA.

3. Crop rotation/association: Rotation/association should involve at least 3 different crops. However, repetitive wheat, maize, or rice cropping is not an exclusion factor for the purpose of this data collection, but rotation/association is recorded where practiced.

The CA land area database is updated periodically based on the feedback received from our regular sources of information. These include: official government sources, no-till associations, NGOs,

national and international research institutes, and informed individuals. The information is posted in AquaStat. The latest figures (update 2013) can be seen at the FAO CA website at (<http://www.fao.org/ag/ca/6c.html>).

Country	Year	Area under CA (ha)
Ghana	2008	30,000
Kenya	2011	33,100
Lesotho	2011	2,000
Madagascar	2011	6,000
Malawi	2013	65,000
Morocco	2008	4,000
Mozambique	2011	152,000
Namibia	2011	340
South Africa	2008	368,000
Tunisia	2008	8,000
Zambia	2011	200,000
Zimbabwe	2013	332,000
Total		1,225,440

Conservation Agriculture useful resource links

- Tropical Agriculture Association (TAA) Conservation Agriculture News: <http://www.taa.org.uk/sub-content.asp?subId=80&sub=yes>
- Cornell University Conservation Agriculture Updates: [Research database](#) for CA articles from Cornell
- European Conservation Agriculture Federation (ECAAF): www.ecaf.org
- Conservation Agriculture and climate smart agriculture in Uganda: <https://youtu.be/bDSHWqg3H2c>
- ACT Social media platforms:
 - Facebook: <https://www.facebook.com/pages/African-Conservation-Tillage-Network/26471910033293?ref=ts>
 - Twitter: <https://twitter.com/ACTillage>
 - Youtube: <http://www.youtube.com/channel/UCofLj9el5ShyQny3xcWR-4DA>

Upcoming Events



Annual meeting of the Conservation Agriculture Regional Working Group

Date: 2–3 November 2016
Venue: Protea Hotel, Lusaka, Zambia

The workshop will facilitate knowledge exchange between members through discussions and presentations. The event is expected to attract an estimated 45 participants from the southern Africa region. It will afford members an opportunity to share latest developments in CA, and resilience in the region.

Established in 2007, the Conservation Agriculture Regional Working Group (CARWG) is an open knowledge and experience-sharing platform that brings together CA interest groups, practitioners and stakeholders in southern Africa. It advocates increased awareness and understanding of the role of CA in increasing productivity, food security and farm profitability through better management of land and mitigating the impacts of climate risks such as drought. CARWG members are drawn from representatives of CA national platforms and taskforces, farmers unions, regional academic and research organizations, the private sector as well as NGOs. At the country level, the ideals and vision of the CARWG are anchored and mirrored by the CA national taskforces/platforms, whose structure varied from country to country to reflect the contextual needs.

The vision of CARWG and the NCAT-Fs is that farmers throughout southern Africa adopt appropriate CA practices to increase productivity, food security, farm profitability and sustainable farming systems.

For more information <http://act-africa.org/events.php?com=68&com2=67&item=368#.WBHyxMkaouQ>

Sub-regional Workshop on Investments in Climate Smart Agriculture, FAO Eastern Africa

Date: 2–3 November 2016
Venue: Kigali, Rwanda

The meeting is organized by the FAO Sub-regional Office for Eastern Africa and FAO Rwanda. The overall objective of the workshop is to facilitate the sharing of information and experiences on national and regional levels, challenges and opportunities on investments in climate smart agriculture in Eastern Africa.

For more information: <http://act-africa.org/events.php?com=68&com2=67&item=369#.WBHyxkaouQ>

Consultative Meeting on a Mechanization Strategy New models for sustainable agricultural mechanization in sub-Saharan Africa

Date: 30 November–3 December 2016
Venue: Safari Park Hotel, Nairobi, Kenya

The meeting is a joint effort of several organizations led by the World Bank, CEMA, FAO and AGRA in close collaboration with ACT and AfricaRice. It is designed to foster interaction, learning, and 'match-making' of concrete investment opportunities. There will be high-level speakers from the public and private sectors with plenary sessions as well as parallel dialogue sessions around models conducive to match-making.

The meeting will provide a platform to discuss sustainable mechanization and, specifically, the role of public-private and private-private partnerships. This will be implemented via the exchange of knowledge, perspectives, experiences and lessons learnt in the past while identifying leveraging and entry points for sustainable development of agricultural mechanization in SSA.

Read more: <http://bit.ly/2fWZNYT>

25th National No-Tillage Conference 2017 Dates Announced

Date: 10–13 January 2017
Venue: Hilton St Louis, Missouri, USA

More than 100 cutting-edge, money-making sessions over 4 days, delivering insightful learning and unlimited networking with the best of the no-till community.



Invitation to ECHO East Africa Symposium 2017

Date: 7–9 February 2017
Venue: Naura Springs Hotel, Arusha, Tanzania

ECHO Symposium will provide a network and training opportunity for those involved in alleviating hunger and poverty in East Africa. Three mornings of plenary sessions, featuring knowledgeable and experienced speakers, will be followed by afternoon workshops and discussion groups led by regional agricultural development workers and experts. It will be a valuable time of learning, information sharing and networking for those working and serving in the East African region.

For more information: <https://www.echocommunity.org/en/resources/e3923199-0527-4963-9c82-f33302ee3ed2>

2nd Agriculture and Climate Change Conference: Climate ready resource use-efficient crops to sustain food and nutritional security

Date: 26–28 March 2017
Venue: Sitges, Spain

Maintaining crop production to feed a growing population during a period of climate change is the greatest challenge. Increased crop yields during the last century were brought about through breeding for increased harvest and disease resistance, as well as by using more irrigation water and agrochemicals. Improved cultivars were adopted readily during this period of relative climate stability. While genetic gains continue, albeit at reduced rates, productivity is in decline in many regions. Given the multiple challenges of climate change, reduced water supplies, and declining soil fertility in many regions, new approaches to produce climate resilient crops are desperately needed. The conference will focus on the likely impact of climate change on crop production and explore approaches to maintain and increase crop productivity into the future.

For more information and important dates, link: <http://act-africa.org/events.php?com=68&com2=67&item=368#.WBHyxMkaouQ>

For more information, please contact: Executive Secretary | [African Conservation Tillage Network](http://www.africanconservationtillage.org)

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