

ACT E-Newsletter Vol 1



Conservation Agriculture for Improved Livelihoods and a Better Environment

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30th June 2010

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*Have You Registered to the Online ACT
Membership Network?*

www.act-africa.org/members



*Have you Activated your online ACT membership
Subscription? Check your email after Registration*

Expanding And Diversifying!

The African Conservation Tillage Network, has formed a new wing named the African Conservation Tillage Initiative as from May 2009. The ACT Initiative is an International Non Governmental Organisation registered in Kenya. While the ACT Network spearheads the pan-African CA drive, the initiatives address country specific projects.

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**CONTACT US! We wish to hear your experiences
and views related to the subject of conservation
agriculture"**



Message from the Executive Secretary

*The Curtain is Unveiling:
Conservation Agriculture is coming back home
to Africa, to stay*

It is with great pleasure that we bring to our esteemed ACT membership and beyond, Volume 1 of the “Jambo” Conservation Agriculture Newsletter for 2010. This electronic newsletter is one of the Endeavors of the organisation to create avenues for Conservation Agriculture information sharing amongst the stakeholders.

The Newsletter comes at a time when there is increasing interest in agriculture, albeit the decreasing investments in the sector. It comes at a time of divergent thinking, whether agriculture is part of the problem or part of the solution to the adaptation and mitigation of climate change threats. Twenty percent of the natural resource base of most African countries suffers from water and wind erosion while 70% suffers from moisture stress. These challenges cannot be addressed by high input (fertilisers, improved seeds, chemicals and machinery) driven conventional farming alone. Increasing land degradation in Africa - attributed to population pressures, the ploughing tillage, exploitative nutrient mining and overgrazing - has left rural communities vulnerable and struggling to eke a living. The response by most households is even further overexploitation of the land including marginal lands, such as steep slopes, river banks and wetlands with adverse effects on land quality and overall biodiversity. Communities become trapped in the poverty-natural resource degradation spiral. There is need to perceive agriculture from a different perspective that soil is a living matter requiring not only to be nourished by external inputs, but nurtured by organic amendments notably soil organic matter for it to retain its resilience.

Conservation Agriculture is not a totally new concept to Africa. Actually some enthusiasts trace its principles as far back as the Egyptians. Manual pitting systems for conserving soils and water (e.g. the Matengo pits in Tanzania and Zai pits in Burkina

Faso) have been practices by farmers over centuries. However, CA as we know it today has been perfected by the North and South Americans, with the introduction of mechanised no till seeders and the introduction of effective herbicides.

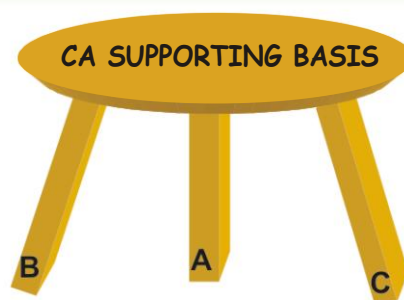
Conservation Agriculture is based on the three principles of: little or no soil disturbance (through direct seeding into previously untilled soil); crop rotations; and permanent soil cover

(through crop associations and retention of crop residues). CA is more sustainable and leads to higher benefits (for farmers, communities and the environment) when the three principles are applied simultaneously. Experience from pilot CA projects in Zambia, Zimbabwe and Tanzania have shown that CA practices, together with timely agronomic practices, such as timely planting, precise fertilizer dosing and effective weed control, enables households to increase access to food from their own production. The use of trees and shrubs in farming systems can enhance the scaling up of conservation agriculture by supplying wood and non-wood tree products, restoring soil fertility, improve the microclimate and providing shade to crops.

It is estimated that there are 105 million ha worldwide of arable and permanent crops grown in CA systems. However, less than 400,000 ha of these (0.3%) are in Africa. Recent developments from the many African players in the technology are proving that the technology is profitable and feasible: under hand-tool based systems (the Zimbabwe and Zambia - Chaka hoe - Basins); with and without herbicides; and has been perfected for mechanised commercial farming as is the case with the No till farmers of South Africa. The challenges are numerous, but so are the opportunities and options to improve rather than retreat. With the demonstrated farmer-environment benefits from CA and the Good Will of the African Institutions behind us, who can be against us?

Gauged by the number of visitors to ACT and partner offices and project sites, the number of enquiries on CA, the number of newly incubated/developed CA initiatives that involve ACT and the number of studies conducted by development partners, there is indeed rekindled interest in Conservation Agriculture. The stage is set, the lessons generated by the successful CA practising farmers in Africa are being synthesised as an input to the scaling up efforts. African Governments and Development Partners are equally searching for technology options that make sense in addressing poverty while safeguarding our

**CA WORKS BEST WHEN ALL 3
PRINCIPLES ARE APPLIED**



Mother Earth. CA is one that technology that makes sense. It is THE technology and THIS is the MOMENT for Conservation Agriculture to come back home to Africa. This time, however, with a difference, that it is going to change for the better the status of the smallholder African farmer, and forever.

The ACT Conservation Agriculture Initiatives in summary

Conservation Agriculture for Sustainable Agriculture and Rural Development

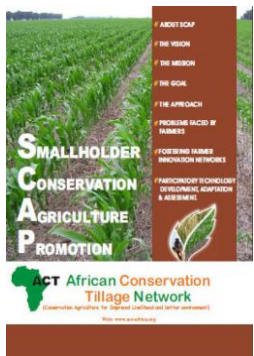


This is a regional FAO project on Conservation Agriculture that is now in its 7th year, being implemented in Kenya and Tanzania. ACT has the overall regional coordination, knowledge and information management and monitoring and evaluation. Other players in the project include the two

governments through the Ministries of Agriculture, the Kenya Agricultural Research Institute (KARI) and the Selian Agricultural Research Institute (SARI) in Tanzania. Some 7,000 households have been supported and are now benefiting from the adoption of one of the promoted CA technologies.

Read more on www.act-africa.org/ca-sard.html

Smallholder Conservation Agriculture Promotion



The Smallholder Conservation Agriculture Promotion project (SCAP) is pilot IFAD financed project being implemented in West and Central Africa (Burkina Faso, Guinea and Niger) from 2008. ACT through her regional office in Ouagadougou is responsible for direct implementation in collaboration

with other IFAD Financed loan projects and regional/national research centres. Other partners in this project are the World Agroforestry Center (ICRAF) and the French International Research Institute (CIRAD).

Read more on www.act-africa.org/scap.html

Conservation Agriculture in Africa



Analysing and FoReseeing its impact Comprehending its Adoption (CA2AFRICA) has the overall objective to assess and learn jointly from past and on-going CA experiences under which conditions and to what extent CA strengthens the socio-economic position of landholders in Africa.

A consortium of 10 highly experienced, complementary European, African and International partners (including ACT) has been assembled to develop an up-to date knowledge database on CA practices in Africa.

Biophysical, socioeconomic and conceptual models of innovation systems will be applied to a series of case studies across five regions in Africa to analyze the impact and adoption of CA at different scales (field, farm, and region). This will facilitate the identification of pathways for decision-makers in different African regions and under different conditions. It will allow setting the agenda for future research, development and promotion of CA in Africa. Dissemination, networking and training will make the project outcomes highly accessible to the principal stakeholders (researchers, public and private extension services, farmer organisations, national and regional policymakers, private sector).

Training and Capacity Building

Since its inception, ACT has been conducting several training across the continent on Conservation Agriculture and natural resource management in collaboration and partnership with stakeholders. Initial trainings with the support of SADC, concentrated on Southern Africa. With this drive, more than 300 middle level extension and research managers were trained on the principles of conservation agriculture and the new way to farm. With the expansion of ACT, a number of similar trainings have been conducted in East, Central and West Africa for the same target group from the National Government Agencies, Civil Society Organizations and the private sector. The organization has also been conducting tailor-made CA training in collaboration with FAO in specific countries including Sudan, Zimbabwe among others. The main thrust of these trainings has been to expose the trainees to as much practical learning as possible from a rich source of resource persons with vast field experience that exist within the network. Those that have passed through the ACT training continue not only to be CA practitioners but conduct trainings to colleagues and farmers hence leading to a spiral effect which has resulted in the increase in adoption of CA by farmers in the continent. A major challenge is the need to accelerate and address the issue of curriculum reform at a higher national level so that agricultural colleges stop training “tillage / ploughing” as usual.

Publications

ACT has a publishing status and to this end, the network has authored a number of publications on conservation agriculture. In addition to the published books, the network produces a continental newsletter articulating issues on conservation agriculture. ACT in collaboration with IIRR and other partners developed a CA reference book for farmers

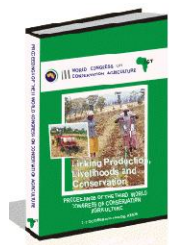
The ACT Conservation Agriculture Initiatives in summary



Books for farmers and extension officers. 1500 copies of the manual have been produced and distributed. Also, 8 case studies from 5 African countries have been made and 13,000 books published. Posters, brochures and leaflets are other promotional materials that target smallholder farmers without access to internet.

Read more on www.act-africa.org/data.html

Third World Congress on Conservation Agriculture



The World Congress provides a global forum for knowledge sharing on conservation agriculture principles and technologies aimed at sustainable food production. The 5th World congress on Conservation Agriculture will be held from 26th to

29th September 2011 in Brisbane Convention Centre, Australia. The focus will be on conservation agriculture principles in both large-scale, high-tech commercial farms, and small-scale low-cost smallholder farms from developing regions in the world in the context of food security concerns, increasing food demand and climate change. (For more information: www.wcca2011.org)

Proceedings of the 4th World Congress on Conservation Agriculture held in New Delhi, India in February 2009 are available at

www.wccagri.ernet.in

The 3rd World Congress on Conservation Agriculture hosted by ACT on October 2010 Nairobi, Kenya (More information www.act-africa.org)

The 3rd World Congress hosted by ACT was held in Nairobi Kenya in October 2005. It is still one of the milestones for ACT in the continent. Arising from this event, a number of African Countries have embraced conservation agriculture and strategic projects - like the Smallholder Conservation Agriculture Promotion (SCAP) project have been initiated. Proceedings of the workshop can be downloaded at ACT's Website - www.act-africa.org/publications.html.

Proceedings of the first and second world congress are available at the following links:

- 1st WCCA, Madrid, Spain, October 2001:

www.ecaf.org

- 2nd WCCA, Iguassu Falls, Brazil, August

2003: www.febrapdp.org.br/proceedings

New Initiatives

Several collaborative initiatives have been made with a wide diversity of partners world wide. Updates of these will be provided in the coming newsletters.

Knowledge and information management and sharing

ACT places networking, knowledge and information management at the core of its functions. Web-based information support to its members is provided under the web site www.act-africa.org.

Under the web site are available CA databases of equipment suppliers, CA professionals, institutions, farmer organizations and continental/global experience reference material. Electronic newsletters and special topic forums are being performed. An increasing number of people (extensionist, researchers and policy makers) are accessing e-news, enhancing faster and cost-effective CA/SLM networking.



Conservation Agriculture

About Conservation Agriculture

Conservation agriculture (CA) aims to achieve sustainable and profitable agriculture and subsequently aims at improved livelihoods of farmers through the application of the three CA principles: minimal soil disturbance, permanent soil cover and crop rotations/associations. CA holds tremendous potential for all sizes of farms and agro-ecological systems, but its adoption is perhaps most urgently required by smallholder farmers, especially those facing acute labour shortages. It is a way to combine profitable agricultural production with environmental concerns and sustainability and it has been proven to work in a variety of agroecological zones and farming systems. It is being perceived by practitioners as a valid tool for Sustainable Land Management (SLM). It is because of this promise that ACT is actively involved in promoting CA, especially in African countries. CA can only work optimally if the different technical areas are considered simultaneously in an integrated way. It is understood that the multidisciplinary nature of CA will always require the rich mix of expertise available to ACT and her partners as it works to promote the CA concept in Africa.

Longer need to spend time tilling and can use that time in other ways, such as on-farm processing, which adds value to their production.

Adoption of Conservation Agriculture

Short-term solutions and immediate benefits always attract farmers to adopt a technology. However, with exception of saved labour, the other benefits of conservation agriculture (e.g. increased crop yields, cost savings and soil fertility improvement) are usually attained gradually when the three principles become well established within the farming system.

CA requires a new way of thinking from all concerned. Along with this "new way of thinking agriculture", there is already enough technical and agronomic evidence that could positively influence farmers contemplating the adoption of CA principles. It is, however, important to demonstrate to farmers that the technical and agronomic aspects are directly related to the management and economic ones and, therefore, any technical and agronomic improvements obtained by applying CA principles need to be quantified in monetary and economic terms.

Conservation Agriculture Vs Climate Change and Livelihood

As proven worldwide, conservation agriculture reduces crop vulnerability to extreme climatic events. In drought conditions, it reduces water requirement by 30%, makes better use of soil water and facilitates deeper rooting of crops. In extreme wet condition, CA facilitates rain water infiltration reducing the danger of soil erosion and downstream flooding. On the other hand CA gives families opportunities to improve their livelihood. Farmers who adopt CA no



Crop rotation and associations



Permanent Soil Cover



Minimum soil disturbance

IMPROVED AND INTEGRATED CROP MANAGEMENT

Conservation Agriculture Statistical Facts

Technological Changes

Because of the opportunities for increased outputs, reduction in production costs and higher income levels which a technological change can offer, it is useful to take into consideration the process of adoption / adaptation and diffusion of technical innovations. The economic potential of conservation agriculture, in terms of costs of production, profit, yield, soil conservation, etc. is very important. However, unfamiliarity with conservation agriculture practices might make the initial impact on yield and input usage uncertain. It should not be forgotten that the adoption / adaptation decision must take place in an uncertain environment (subject to the vagaries of nature and the market). Farmers' attitudes to risk and, in particular, their strategies for risk aversion must also be taken into consideration.

There are four requirements for the adoption of CA practices:

1. It must bring the farmer a visible and immediate benefit, economic or otherwise.
2. The benefit must be substantial enough to convince the farmers to change their ongoing practices.
3. For the technology to be disseminated, the costs incurred must be able to be covered by the farmer.
4. The introduction of CA should be followed up by extension support for sometime

The potential conservation agriculture adopter / adapter may be confronted with constraints in terms of purchasing power; access to credit and information; and poor communications links with product and input markets. In this regard, the availability of inputs in the quantity and at the time required may prove to be important considerations in the adoption / adaptation process.

Machinery and Equipment

In the majority of the farms where conservation agriculture is practised, fewer operations are executed in the field. For this reason farmers need less equipment and the costs of both labour and fuel are reduced. In addition, the number of implements can be reduced; ploughs and harrows are no longer required. In the case of tractor-powered farming, the size of the tractor can also be reduced: for ploughing a heavier tractor is needed compared to direct seeding and spraying.

Likewise, in animal draught systems, fewer animals are needed, or different types of animals can be used.

Fewer field operations result in less wear and tear of the equipment, which in turn will have a longer life span and the costs for maintenance and repair are reduced considerably.

Carbon Sequestration

CA provide many environmental benefits that may not be of direct interest to the farmer. Here, for example, we are thinking about streams and rivers running free of eroded soil and so not silting up reservoirs or damaging hydro-electric generating turbines. Another major benefit is the reduction of damage done to roads and, indeed marine environments, by reducing runoff and erosion; to say nothing of the costs of domestic water purification. However, CA is currently receiving global focus for its carbon sequestration potential. CA practices that sequester soil organic matter contribute to environmental quality and the development of sustainable agricultural systems. The significance of CA adoption to the amelioration of effects of greenhouse gas emissions on global climate change is now being evaluated. The emergence of carbon credit payments for CA farmers is being considered seriously and could result in a further financial benefit to CA adopters.

Condolence Message



The African Conservation Tillage Network Secretariat regret to announce the death of Mr. Richard Fowler. Mr. Fowler was one of the pioneers that worked very hard to get ACT off the ground and continued to be a very dedicated member as Secretary of the first Steering Committee. He was a role model to his juniors, an inspiration to his peers and a pillar of dependability to his seniors. Even after his retirement he continued to support and promote conservation agriculture in his community. His service will remain invaluable to the organization and his untimely death besides being a blow to his family has also left a big dent in the Organization. While mourning his demise, we also take this opportunity to condole and join his family in mourning. It is our prayer that God will give his family comfort during this difficult time.

INTERNATIONAL CONSERVATION AGRICULTURE TRAINING COURSES

TRAINING AIM

To contribute to building the desired capacity and ability of frontline agricultural extension and research staff in the development and promotion of conservation agriculture (CA) technologies, thereby enhancing their ability to respond to farmers' needs.

TARGET GROUP

Agricultural extension and research staff from the Government, Non-Government and Private sector organizations

COST OF TRAINING

US Dollars 2,500 per participant.

HOW TO APPLY

Online via www.act-africa.org/cacourse/onlineereg.html

Limited chances
available
APPLY NOW

TRAINING SCHEDULE AND VENUES

Location	Date	Application deadline	Training language
Maseru, Lesotho	7 - 16 June 2010	30 th April 2010	English
Ouagadougou, Burkina Faso	9 - 18 Aug 2010	31 st June 2010	French
Lusaka, Zambia	11 - 21 Oct 2010	31 st Aug 2010	English

For more information about the training log on to
www.act-africa.org/cacourse/cacoursebrochure.pdf



African Conservation
Tillage Network

*"Learn with the Conservation
Agriculture experts"*

P.O BOX 10375-00100, Nairobi, Kenya
Tel: +254 20 4444252, Fax: +254 20 4451391,
Email: cacourse@act-africa.org, Web: www.act-africa.org

Read more on
www.act-africa.org



World Congress on
Conservation Agriculture
26-29 September 2011
Brisbane Australia



Australia, host for the 5th WCCA and 3rd FSD, welcomes scientists and practitioners to Brisbane to discuss current and future developments of sustainable agriculture next year.

The co-location of WCCA and FSD provides a great opportunity to explore the application of conservation agriculture practices and principles in a systems context. The common objective is the design of more productive, economic, and sustainable farming systems to meet the challenges of expanding population, global change, and environmental degradation.

Conference program options and tours will cater for different interest groups, and take advantage of Brisbane's proximity to intensive, extensive and sub-tropical farming, as well as to world leading research groups and facilities.

Read more on
www.wcca2011.org

EUROPEAN CONGRESS ON CONSERVATION AGRICULTURE

TOWARDS AGRO-ENVIRONMENTAL CLIMATE AND ENERGETIC SUSTAINABILITY

ASSEMBLY HALL OF THE
SPANISH NATIONAL RESEARCH COUNCIL
MADRID. SPAIN
4-7/10/2010



Read more on
www.congresoeuropeoac.eu/images/stories/files/first%20announcementnet.pdf



The professional Alliance for Conservation Agriculture (PACA) has released the latest issue No. 13 which can be read or downloaded from:

<http://www.conserveagri.org/>



ANIMAL TRACTION NETWORK FOR EASTERN AND SOUTHERN AFRICA

Sponsored by the Southern Africa Development Community (SADC) Food, Agriculture and Natural Resources (FANR) Directorate Project on Implementation and Coordination of Agricultural Research and Training (ICART) with funds from the European Union.

CALL FOR ABSTRACTS AND PAPERS

The Animal Traction Network of Eastern and Southern Africa (ATNESA) is organizing a conference to be held in Arusha, Tanzania, from 21st to 24th July, 2010. The theme of the conference will be: **SUSTAINABLE FARMING AND CLIMATE CHANGE: Animal Power in Conservation Agriculture**. ATNESA is calling for papers to be discussed at the conference. The topics should be centered on or reflect the use of animal power in Conservation Agriculture. Reference should be made specifically to the SADC region

DATES

Abstract submission by 15 May 2010

Full papers selected: To be submitted by 30 June 2010

The contact addresses for further information are:

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Format for a full paper:

1. Font size 12 pt Times Roman, double-spaced
2. Should have names of authors and their affiliations, an abstract, introduction (which may take the form of a literature review), research methodology or methods, results and discussion, policy implications, conclusions and recommendations, acknowledgments and references.
3. Maximum pages not exceeding 15 including references, tables and figures
4. Presentation not to exceed 15 minutes, using PowerPoint and employing more pictures, tables and diagrams than words.

A limited number of papers selected will be fully sponsored by the organizing committee. However, there is an opportunity for self sponsored papers that qualify. You are welcome to submit. You are also welcome to bring posters for display, but should advise us in advance of the space this would require so that, if space is not available, we can let you know before you pack !

NOTICE BOARD
Change and Natural
Resource use in
Eastern Africa

The Ecological Society for Eastern Africa hosts its 3rd Regional Scientific Conference 19th -21st May, 2010

*Read more on
www.ecsea.org*

NOTICE BOARD
Sponsorships
in Conservation
Agriculture

Sponsorship for studies in Conservation Agriculture under the (SCAP) project in West and Central Africa

*Read more on
www.act-africa.org/scap/sponsorship*



UNIVERSITY
OF WYOMING
New Thinking

Graduate Research Assistantship: Soil Science, Agronomy, Agricultural Economics

Description

The university of Wyoming seeks highly motivated applicants for graduate research assistantship in the Departments of Renewable Resources, plants sciences, and Agricultural & Applied Economics.

Successful applicants will conduct research on agronomic or socioeconomic aspects of conservation agriculture in small-holders production systems of Kenya and Uganda. Degree options include an MS or PhD in soils science [under Dr. Jay Norton's supervision], an MS or PhD IN Agronomy [under Dr. Urszula Norton], or an MS in Agricultural Economics [under Dr. Dannele Peck].

Qualifications:

The successful applicant must hold a bachelor's degree [to pursue an MS] or a master's degree [to pursue a PhD] from an accredited institution, and be eligible for admission to the degree program of interest [see departmental Website for details]. Preference will be given to applicants with training/ experience in both economics and agronomy/ soils; in-depth knowledge of small-holders agriculture in sub-saharan Africa; strong quantitative and communication skills, and a strong work ethic. Highly qualified students with others relevant training/ experience will also be considered. Residents of Kenya and Uganda are strongly encouraged to apply.

Compensation:

The successful candidate will receive a full waiver of tuition and fees [including health insurance] and a monthly stipend [approximately \$1,250/ month for MS students and \$1,750/month for PhD students] for up to four semesters and one summer [for MS students] or eight semesters and three summers [for PhD students]. The students must be enrolled full-time in their respective department, and meet departmental expectations in both coursework and research each semester to continue receiving support.

Application:

To apply, please email the following [preferable as one PDF file] to Dr. Jay Norton at jnorton4@uwyo.edu: [1] a letter of interest that describes your professional goals [including the degree you would like to pursue] and highlights your unique qualifications; [2] a resume [including GPA, and GRE scores if available]; and [3] contact information, including email addresses, for three academic or professional references.

Review of applications will begin immediately. This announcement will remain open until suitable applicants are hired. Positions will begin in the summer or fall of 2010.

For additional information, see the following websites or feel free to contact us.

http://uwadmnweb.uwyo.edu/UWplant/faculty/U_Norton.asp

http://uwadmnweb.uwyo.edu/UW_RENEWABLE/Faculty/Norton.htm

[Http://agecon.uwyo.edu/agecon/aboutus/facultystaff/Peck.htm](http://agecon.uwyo.edu/agecon/aboutus/facultystaff/Peck.htm)

Zambia study tour by Tanzanian Extension officers

Twenty four extension officers from Tanzania representing both government and non-governmental organizations (NGO) visited conservation farming sites in the Western conservation Farming sites in the Western and Central regions of Zambia between February 1 and 7, 2010.

The study trip was organized and coordinated by African Conservation Tillage Initiative (ACT) with financial support from Common Market for Eastern and Southern Africa (COMESA). The main objective of the trip was to learn and share experiences among practitioners of Conservation Farming and conservation agriculture in Zambia, the project which is managed by Conservation Farming Unit (CFU) of Zambia which played a big role as host to this study mission. Innovative systems introduced by the CFU to suit the local Zambian conditions were noted as being:

- a) Preparation of planting basins using Chaka hoe. The basins were prepared very early before onset of rains at a spacing of about one meter apart and row by 90 cm between rows. This enabled timely planting soon after onset of first rains to maximize capture of rainfall and concentrate with precision use of manure and fertilizer closer to the plant roots.
- b) Preparation of planting furrows using the Magoye ox-ripper for farmers who are in the animal traction based farming systems. GART have continued to improve the ripper design for more efficient draught power utilization.
- c) Introduction of Musangu (*Faidherbia Albida*) tree for soil fertility maintenance. CFU are promoting Musangu tree, through training and support to accessing of seeds and seedlings, after some years of gathering suitable information on the tree including long term research at the Glenfield Conservation Agriculture Farm. The efforts are being fruit and farmers have started to plant the trees in their farms.

The Tanzanian extension officers noted that unlike the CA in Tanzania, CFU mostly used pure stands of main crops with little intercropping with other (cover) crops. While the yields of the individual legume and cereal crops are maximized this way, it was felt an undersown or relayed crop is another crop and the overall biomass for soil cover and fertility maintenance could be increased.



Arusha Farmer Shows the Way to CA

Case Study



Case study from Karatu-Arusha, Tanzania.
Farmer: Mzee Swalehe of Mwangaza Farmer Field School in Karatu-Arusha,

Degraded Soils

Back in 2007, Mzee Swalehe started practicing conservation agriculture on already soil exhausted land with remarkable poor soil fertility, he started by ripping and then he planted Wheat then instead of harrowing, Mzee Swalehe could only do chiselling before he planted, as per Mzee Swalehe ripping successfully broke the hardpan layer which is so common to farms under conventional practice. He started practicing CA with assistance of training and extension support from the Conservation Agriculture for Sustainable Agriculture and Rural Development (CA-SARDII) project, which is supported by German Trust Fund, the project is implemented in partnership with Food and Agriculture (FAO), African Conservation Tillage Network (ACT), Government of Tanzania and Kenya through Selian Agricultural Research Institute (SARI-TANZANIA) and Kenya Agricultural Research Institute-KARI-KENYA).

He has observed the CA principles on his farm since 2007 to date, and due to clear observed benefit of the practice he sees no reason of farming conventionally anymore.....Among other benefit Mzee Swalehe he has appreciated includes:

- Insitu water harvesting, which Mzee Swalehe attributes the reduced soil erosion to the well maintained soil cover for his last 3 years as a CA farmer. Mzee Swalehe's farm is well covered by Dolicous Lab lab and Peginon peas
- Increased Wheat production over the last 3 years (from 3bags/acre in 2007 to 24bags/acre by 2009), Mzee Swalehe and his colleagues of Mwangaza FFS has practiced Conservation Agriculture since 2008
- Conservation Agriculture reduces operational timing and costs, thus more time to attend other activities, specifically the use of direct animal drawn planter and hand operated Jab planter reduced the number of farming operations and labour required during planting time.
- He was able to harvest substantial amount of produce (Wheat and Maize) even in years of harsh drought weather as through observation of CA principles he was able harvest the little moisture dropped in his farm.

- Generally Mzee Swalehe appreciates the fact that Conservation Agriculture can produce higher yields (as for his case for Maize and Wheat) compared to conventional farming, however he insists that the high production under CA can be maintained or rise above conventional figures only when the CA system has stabilized over several growing seasons.

Challenges

- Mzee Swalehe could mention mind set change to be a big challenge since most farmers believe without serious turning of the soil there is no farming, something which he has proved otherwise to his fellow farmers in Karatu
- Livestock /Wild life interference.... In order for CA results to be well observed, the farm should be kept out livestock and wildlife interference to be able to properly realize the second and third CA principle (permanent soil cover and crop rotation/association respectively).

