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Conversations about Conservation Agriculture (CA): Opportunities for Scaling Up!



Delegates at the Regional Conservation Agriculture Symposium, 8-10 February 2011

The Food, Agricultural and Natural Resources Policy Analysis Network (FANRPAN) co-hosted a Regional Conservation Agricultural Symposium together with the Food and Agricultural Organisation (FAO), the African Conservation Tillage Network (ACT) and the New Partnership for Africa's Development (NEPAD). The event took place on the 8-10 February 2011 in Johannesburg - South Africa.

The symposium was an initiative of the Southern Africa Conservation Agriculture Regional Working Group (CARWG). CARWG identified the need to bring together practitioners to share and debate existing knowledge, and explore ways to strengthen information and evidence generation.

The objectives of the CA Symposium were to share and document information on the social and economic impacts of CA technologies in the region; to share and document experiences on CA scale up approaches and impacts and to identify key areas for research and development and explore institutional and policy innovations for Conservation Agriculture scale up.

Approximately 130 delegates from different countries and from different sectors attended the symposium. These were: Angola; Lesotho; Madagascar; Malawi; Mozambique; Namibia; South Africa; Zambia and Zimbabwe. The sectors which were represented included the Southern Africa Confederation of Agriculture Unions (SACAU), three national farmer organisations (CFU-Zambia, KZN- No Till Club, National Farmers Union of South Africa), eight NGOs (CARE, CRS, CHOPPA, GRM, RESCOPE, Peace Parks Foundation, KATC), 11 Research Organizations (ICRAF; CIMMYT; ICRISAT; CIAT; ARC-South Africa; Institute for Poverty; Land & Agrarian Studies-South Africa; Department of Research-Zimbabwe); 14 Universities and agricultural colleges from nine countries (Botswana; Namibia; Netherlands; Norway; Swaziland; South Africa; USA; Zambia; Zimbabwe), USAID/OFDA; Royal Norwegian Government; FAO; ACT; FANRPAN; COMESA and NEPAD.

Conservation Agriculture is a way of managing agro-ecosystems to achieve higher, sustained productivity, increased profits and food security while enhancing the environment.

CA centres on the following three principles:

- Minimum soil disturbance
- Soil covering with organic residues or cover crops and
- Mixing and rotating crops.

Countries such as Lesotho, Zambia and Swaziland are a few exceptions where CA has been included in government policies.

Synergy: Climate Change and Conservation Agriculture in southern Africa

The Global community faces many challenges from climate changes, with most scenarios indicating higher temperatures and more erratic rainfall in many parts of the world that will impact on anthropogenic development pathways and ecosystem integrity.

The following impacts of climate change in sub-Saharan Africa are anticipated, although the list is by no means exhaustive:

- Decreased rainfall, increased temperature and evaporation in dry areas.
- Frequent drought spells leading to severe water shortage and increased risk of ecosystem failures.
- Change in planting dates of annual food crops.
- Increased fungal outbreaks and insect infestations due to changes in temperature and humidity
- Decline in crop and livestock production
- Further declines in economic development.

It is recommended that future development initiatives must look at how interventions are required across scales, from small fields to rural and urban communities, watersheds, catchments and ultimately whole river basins, with a focus on increasing the productivity of both 'green', 'blue and 'grey' water use. It is recommended that there should be an adoption of improved crop, soil and water management practices, such as CA, even under climate change. This will result in higher yields than smallholder farmers are currently achieving under their low input systems. There should also be an institutionalisation of participatory approaches in both research and extension agencies.

The Socio-economic Impacts of CA in southern Africa

Anecdotal evidence and secondary data analysis indicate that significant CA practice exists in Zambia, Zimbabwe and South Africa. In Zambia and Zimbabwe, introduction of CA technology in the smallholder farming sector has primarily been through donor programmes aimed at improving food security and livelihoods status of vulnerable households. In some areas NGOs purposely target families with HIV/AIDS in an attempt to reduce some of the negative impacts of the epidemic.

The practice of CA in southern Africa has resulted in significant yield gains. In 2008/09 cropping season maize yield recorded in Zambia and Zimbabwe were 3,000 kg/ha and 1,780 kg/ha, respectively. These maize yield gains were 42% and 105% higher than conventional draft tillage for Zambia and Zimbabwe, re-



A climate change adaptation initiative in Namibia

spectively. Results of gross margin analysis show that conservation agriculture is more viable than conventional draft tillage practice.

The ripper system has been demonstrated to be more efficient in producing maize, costing US\$0.13/kg in Zimbabwe compared to US\$0.18/kg using the conventional draft tillage system. In terms of returns per unit labour, the ripper had the highest returns to labour invested in maize production. Commercial farmers who practise conservation agriculture in South Africa have reported significant increases in farm productivity and profits compared to the period they were practising conventional tillage. CA has also benefited commercial farmers by significantly reducing farm operational costs.

CA can have a greater impact at a socio-economic level if there is a production of more appropriate implements to reduce the labour demands, particularly for land preparation and weeding in hand-based systems; Also, if there is promotion of equipment such as jab planters and light weight hoes for women. It is also recommended that there is use of herbicides and the subsequent training on application methods of farmers for future conservation agriculture initiatives.

Policy environment

Current policy discussions largely ignore farmers' roles in shaping processes of policy change. Farmers are however key to implementing policies within agriculture-related sectors, and are an important source of information and influence as local champions in the policy environment.

Current CA policy environment in southern Africa

A quick survey of CA policies in six southern African countries shows significant room for expansion and growth. Rapid assessment of the CA policy environments in Angola, Malawi, Madagascar, Mozambique, Namibia and South Africa illustrates the burning need for approaches and facilities to get the practice and science of CA onto policy agendas. Of the six countries surveyed, only one (South Africa) has a stand-alone CA policy, three (Madagascar, Mozambique and Namibia) have support policies and one (Angola) has no CA policy.

Policy measures to promote CA in the region

With limited progress towards national CA policies in southern Africa, much remains to be done and all strategic stakeholders have roles to play. The following are

recommendations to move CA closer to take-off and to get the maximum pay-off:

- A comprehensive review of CA is necessary—this includes assumptions; approaches and adaptation since CA's germination;
- Successes and failures of CA need to be analysed, distilled, and translated into viable policy options;
- To be viable, policy options should encompass the cross or multi-sectoral nature of CA.
- To be viable, policy options should also be able to differentiate between different types of farmers and corresponding potential benefits—targeting; and
- Gender aspects of CA must be unpacked and publicized.

Country	Stand Alone CA	Support Policy	Sector
Angola	No clear policy	No clear policy	None
Madagascar	No clear policy	Yes	Agriculture
Malawi	No clear policy	National policy strategy	Agriculture
Mozambique	No clear policy	Yes	Agriculture
Namibia	No clear policy	National policy strategy	Agriculture
South Africa	Yes	No	Agriculture

Table 1: CA Policy: Stand- alone policy, support policy, and sector

The following are resolutions taken at the CA Symposium:

1. There is a critical need for action to scale-up CA in the region as CA can contribute to food security, poverty alleviation and environmental sustainability.
2. The up-scaling of CA needs to be led and driven by farmers and farmers' needs.
3. CA should take a broader integrated systems approach to be more relevant to famers.
4. There should be increased emphasis on capacity building and training with a focus on farmers, extension and other change agents necessary for effective up-scaling.
5. CA up-scaling requires on-farm, participatory action research for adaptation to farmers' needs.
6. Public-private partnerships and efficient value chains are necessary to achieve CA scaling up.
7. CA practitioners and stakeholders must engage in coordination and information sharing platforms and

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- networks to ensure effective support to CA scaling up.
8. Governments are encouraged to develop and implement policies that support the up-scaling of CA.

Way forward

1. The Conservative Agriculture Regional Working Group (CARWG) will review their work plans, taking into consideration the outcomes of the symposium.

2. FANRPAN will generate advisory notes for sharing with policy makers in the region and COMESA will present outcomes of the symposium to the COMESA Technical Committee on Environment and Agriculture.
3. Publishing of a synthesis report on key issues emerging and strategies for the way forward for scaling-up CA.
4. Publishing of technical proceedings containing papers and posters presented at the symposium.

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About FANRPAN

The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is an autonomous regional stakeholder driven policy research, analysis and implementation network that was formally established in the Southern Africa Development Community (SADC) in 1997. FANRPAN was borne out of the need by SADC governments who felt that comprehensive policies and strategies were required to resuscitate agriculture. FANRPAN is mandated to work in all SADC countries and currently has activities in 14 Southern African countries namely Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

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