



Discussing the performance of the Magoye Planter with a test farmer in a field planted with the same

Participatory Research and Development (Zâmbia)

on-farm research

DESCRIÇÃO

This is a collaborative process between researchers and farmers for developing and adapting new technologies that focus on incorporating the perspectives and inputs from the farmers into the development process.

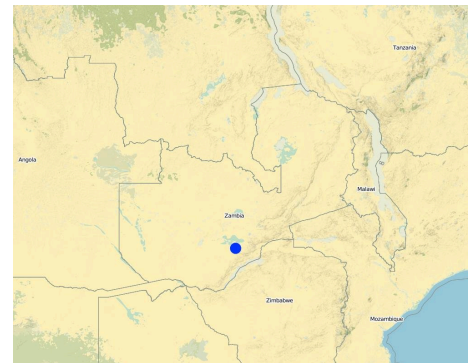
Aims / objectives: (1) To stimulate active farmer participation in the technology development process so that local conditions and perspectives are integrated in the process. (2) Build the capacity of farmers to identify problems and contribute to selecting/improving technology options. (3) Raise farmers' yields in a sustainable manner and ultimately contribute to increased net farm income.

Methods: A series of on-farm experiments are set up to test a range of technology options. These trials are implemented by the farmers so that vital feedback on which technology works and why it does so is collected. Suggestions for improvements are also collected, reviewed and incorporated into new designs or all together new technologies developed. The process is repeated until spontaneous adoption is evident before the technologies are promoted widely.

Stages of implementation: (1) Preparation of trial protocols for technologies to be tested (2) Identification of farmers and mobilization into farmer groups (3) Capacity building and increasing the knowledge base of farmers to effectively participate and contribute to development process. (4) Setting up of on-farm trials (5) Monitoring trials and collecting data/feedback from farmers (6) incorporation of feedback into technology development process and conducting on-station trials (7) technologies adapted or developed and introduced and the process is repeated.

Role of stakeholders: The approach was designed by national specialists where 'best-bet' technologies were pre-selected for testing. The role of GART was that of research and training of trainers. The supervision of the farmers was carried out by government extension workers who were supervised by the researchers and GART field technicians. The farmers implemented the approach and the decision on which technology to adopt was made by them. The land users also participated in evaluating the technologies and made suggestions on possible improvements. The decision on how best to consolidate these suggestions and incorporate them into the technologies was made by the specialists in consultation with the land users.

LOCALIZAÇÃO



Localização: Mazabuka/Magoye, Zambia, Zâmbia

Geo-referência de locais selecionados

- 27.60569, -16.03342

Data de início: 1995

Ano de término: n.a.

Tipo de abordagem

- ☐ Tradicional/Indígena
- ☐ Iniciativa/Inovação local recente
- ☒ Baseado em projeto/programa



Discussing the performance of the Magoye Planter with a test farmer in a field planted with the same. (Arthur Chomba (Box 670577, Mazabuka, Zambia))



Farmers attending a field day (Arthur Chomba (Box 670577, Mazabuka, Zambia))

OBJETIVOS DE APROXIMAÇÃO E AMBIENTE PROPÍCIO

Principais metas / objetivos da abordagem

The Approach focused mainly on SLM with other activities (Increasing agricultural productivity, improving livelihoods)

(1)To stimulate active farmer participation in the technology development process so that local conditions and perspectives are integrated in the process. (2)Build the capacity of farmers to identify problems and contribute to selecting/improving technology options. (3) Raise farmers' yields in a sustainable manner through technology innovation and ultimately contribute to increased net farm income.

The SLM Approach addressed the following problems: Unsustainable farming practices leading to environmental degradation and low agricultural productivity

Condições que permitem a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

Condições que dificultam a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

- **Normas e valores sociais/culturais/religiosos:** The participation of women not as much as that of men Treatment through the SLM Approach: Women headed households were identified and targeting for inclusion in the project
- **Disponibilidade/acesso a recursos e serviços financeiros:** The short cycle of projects and funding that made long-term planning difficult Treatment through the SLM Approach: Collaborate with government structures and extension service to ensure sustainability of the project
- **Quadro institucional:** Weak collaboration between organizations promoting conservation agriculture (CA) leading to mixed messages being delivered to farmers Treatment through the SLM Approach: Formation of the Conservation Farming Association (CAA) to synchronise messages and avoid duplication of efforts
- **Quadro jurídico (posse de terra, direitos de uso da terra e da água):** Lack of secure land tenure leading to hesitancy to invest in long-term conservation efforts Treatment through the SLM Approach: Emphasise the short-term benefits of conservation The existing land ownership, land use rights / water rights moderately hindered the approach implementation Lack of secure land tenure discourages land user from seeking long-term conservation efforts
- **Conhecimento sobre GST, acesso a suporte técnico:** The failure of rural workshops to produce and supply the necessary equipment for the implementation of the approach Treatment through the SLM Approach: Collaboration was initiated with mainstream equipment suppliers
- **Outro:** Low returns from the sale of the staple crop (maize) and hence low returns to farming general Treatment through the SLM Approach: Encourage crop livestock integration and promote crop diversification

PARTICIPAÇÃO E PAPEL DAS PARTES INTERESSADAS ENVOLVIDAS

Partes interessadas envolvidas na abordagem e seus papéis

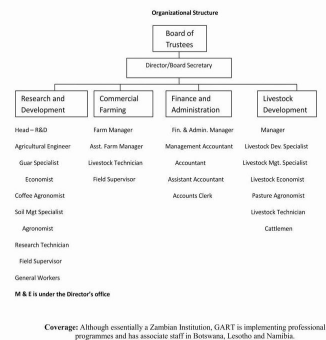
Que partes interessadas/órgãos de implementação estavam envolvidos na abordagem?	Especifique as partes interessadas	Descreva o papel das partes interessadas
Usuários de terra/comunidades locais	Community based organizations for HIV/AIDS affected people	Most of the households are male headed. of the 250 farmers registered in Magoye, only 22 were female headed.
Especialistas em GST/ consultor agrícola	Researchers and government extension	
Pesquisadores	Researchers and government extension	
Governo nacional (planejadores, responsáveis pelas decisões)		Government extension implemented the approach after training from GART. Politicians were lobbied to mainstream CA in govt programmes

Envolvimento do usuários de terra/comunidades locais nas diferentes fases da abordagem

	Nenhum	Passivo	Apoio externo	Participativo	Automobilização	
Iniciação/motivação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Approach initiated by specialists based on interactions with land-users from previous programmes
Planejamento	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Planning was done by specialists although farmers were informed and consulted at every stage
Implementação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Land users implemented the approach with the help of specialists
Monitoramento/avaliação	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Monitoring/evaluation was done by the specialists together with the land users as well as external evaluators
Research	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Research was done by the specialists together with the land users

Fluxograma

Golden Valley Agricultural Research Trust (GART) is an autonomous and self-sustaining Public Private Partnership organization in 1993 created by the Government of Zambia and the Zambia National Farmers Union GART is member of the Zambia National Farmers Union (ZNFU).



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(Mazabuka/Southern Province/Zambia)

Tomada de decisão sobre a seleção da Tecnologia GST

As decisões foram tomadas por

- ☐ Somente usuários da terra (iniciativa própria)
- ☒ Principalmente usuários da terra, apoiados por especialistas em GST
- ☐ todos os atores relevantes, como parte de uma abordagem participativa
- ☐ Principalmente especialistas em GST, após consulta com usuários da terra
- ☐ Somente especialistas em GST
- ☐ Políticos/Líderes

As decisões foram tomadas com base em

- ☐ Avaliação de conhecimento bem documentado de GST (tomada de decisão baseada em evidências)
- ☐ Resultados de pesquisa
- ☐ Experiência pessoal e opiniões (não documentado)

SUPORTE TÉCNICO, REFORÇO DAS CAPACIDADES E GESTÃO DO CONHECIMENTO

As seguintes atividades ou serviços têm sido parte da abordagem

- ☒ Reforço das capacidades/ formação
- ☒ Serviço de consultoria
- ☒ Fortalecimento da instituição (desenvolvimento organizacional)
- ☒ Monitoramento e avaliação
- ☒ Pesquisa

Reforço das capacidades/formação

Foi fornecido treinamento às seguintes partes interessadas

- ☒ Usuários de terra
- ☒ Equipe de campo/consultores

Tipo de formação

- ☐ Em exercício
- ☒ Agricultor para agricultor
- ☒ Áreas de demonstração
- ☒ Reuniões públicas
- ☐ Cursos

Assuntos abordados

soil conservation and soil fertility improvement, how to use the conservation agricultural technologies, crop-livestock integration

Serviço de consultoria

Foi prestado um serviço de consultoria

- ☒ nas áreas dos usuários da terra
- ☐ Em centros permanentes

Name of method used for advisory service: Training of Trainers; Key elements: trainig of goverment extension workers and NGOs promoting of conservation agriculture (CA), on-farm demonstrations, field days

Advisory service is inadequate to ensure the continuation of land conservation activities; There are too few extension workers and there aren't sufficient training manuals

Fortalecimento institucional

As instituições foram fortalecidas / estabelecidas

- ☐ Não
☐ Sim, pouco
☒ Sim, moderadamente
☐ Sim, significativamente

no seguinte nível

- ☒ Local
☐ Regional
☐ Nacional

Descreva instituição, papéis e responsabilidades, membros, etc.

Tipo de apoio

- ☐ Financeiro
☒ Reforço das capacidades/ formação
☒ Equipamento

Mais detalhes

Capacity building of local cooperatives and farmer associations, training of trainers and practical demonstrations

Monitoramento e avaliação

bio-physical aspects were regular monitored by project staff, land users through observations; indicators: Soil properties, moisture conservation bio-physical aspects were ad hoc monitored by project staff through measurements; indicators: soil moisture, soil fertility technical aspects were regular monitored by project staff through observations; indicators: Yield, production area, labour, timeliness technical aspects were None monitored by project staff through measurements; indicators: equipment breakdowns socio-cultural aspects were None monitored by project staff through observations; indicators: Gender, mindset, status economic / production aspects were None monitored through observations; indicators: Yields, labour inputs, costs, income, adoption no. of land users involved aspects were monitored through observations There were several changes in the Approach as a result of monitoring and evaluation: There was more emphasis on on-farm trials as the project went on with more training on weeding techniques and crop-livestock integration There were several changes in the Technology as a result of monitoring and evaluation: The Magoye Ripper (T_ZAM003en) was modified to penetrate deeper and an altogether new technology called the Magoye Planter (Strip Tillage T_ZAM002en) was developed to overcome some of the constraints of the Magoye Ripper.

Pesquisa

As pesquisas trataram dos seguintes tópicos

- ☐ Sociologia
☐ Economia/Marketing
☐ Ecologia
☒ Tecnologia

Research by GART focused on equipment development and adaptation of soil improvement technologies to make Conservation Agriculture (CA) a viable option for animal draft farmers

Research was carried out both on station and on-farm

FINANCIAMENTO E APOIO MATERIAL EXTERNO

Orçamento anual em USD para o componente GST

- ☐ < 2.000
☒ 2.000-10.000
☐ 10.000-100.000
☐ 100.000-1.000.000
☐ > 1.000.000

Precise annual budget: n.a.

Approach costs were met by the following donors: local community / land user(s) (Land preparation by land user(s)): 100.0%

Os seguintes serviços ou incentivos foram fornecidos aos usuários de terras

- ☒ Apoio financeiro/material concedido aos usuários da terra
☒ Subsídios para insumos específicos
☐ Crédito
☐ Outros incentivos ou instrumentos

Apoio financeiro/material concedido aos usuários da terra

Mostly contributions from EU supplemented by finances from commercial activities i.e. commercial crop production and contract research

Parcialmente financiado
Totalmente financiado

Equipamento: Ferramentas

☒

A mão-de-obra dos usuários da terra foi

- ☒ Voluntário
☐ Comida por trabalho
☐ Pago em dinheiro
☐ Recompensado com outras formas de apoio material

ANÁLISE DE IMPACTOS E DECLARAÇÕES FINAIS

Impactos da abordagem

Não
Sim, pouco
Sim, moderadamente
Sim, significativamente

A abordagem auxiliou os usuários da terra a implementar e manter as tecnologias de GST?

☒

The farmers that adopted the Magoye Ripper were ploughing (pulverising) less thereby reducing erosion and loss of organic matter. However, some of the technologies have not been adopted on a wide enough scale to create an impact at community level. Even the farmers that did not adopt the technologies are now more aware of the need for soil conservation.

A abordagem concedeu autonomia aos grupos social e economicamente desfavorecidos?

☒

HIV/AIDS affected families and female headed households were specifically targeted

A abordagem melhorou as questões de posse de terra/diretos do usuário que inibiam a implementação das tecnologias de GST?



Apart from lobbying policy makers, issues of land tenure were beyond the scope of the approach The problem is likely to be overcome in the near future. The problem has been acknowledged by politicians and addressed in the new draft constitution

Did other land users / projects adopt the Approach?



On-farm research has been adopted by the Conservation Farming Unit (CFU) who are the biggest player in promotion of Conservation Agriculture in Zambia. There are not many other research organizations in Zambia

Principal motivação dos usuários da terra para implementar a GST

- ☒ Produção aumentada
- ☒ Lucro (lucrabilidade) aumentado, melhora da relação custo-benefício
- ☐ Degradação do solo reduzida
- ☐ Riscos de desastre reduzido
- ☒ Carga de trabalho reduzida
- ☐ Pagamentos/subsídios
- ☐ normas e regulamentos (multas)/aplicação
- ☐ Prestígio, pressão social/coesão social
- ☐ Afiliação a movimento/projeto/grupo/rede
- ☒ Consciência ambiental
- ☐ Costumes e crenças, moral
- ☐ melhoria dos conhecimentos e aptidões de GST
- ☐ Melhoria estética
- ☐ Atenuação de conflitos

Atividades de sustentabilidade de abordagem

Os usuários da terra podem sustentar o que foi implementado através da Abordagem (sem apoio externo)?

- ☐ Não
- ☒ Sim
- ☐ Incerto

Adoption rates for Conservation Agriculture are still fairly low indicating that the practice is still fairly new and the technologies still need to be adapted and refined to suit local conditions. The farmers still need technical support until the bottlenecks with the practices are addressed and there is evident spontaneous adoption. This all depends on how well research and planners respond to the current challenges.

CONCLUSÕES E EXPERIÊNCIAS ADQUIRIDAS

Pontos fortes: visão do usuário de terra

- Farmers well informed of current developments and technology advancements (How to sustain/ enhance this strength: Training farmers on current developments and technology advancements)

Pontos fortes: a visão do/a compilador/a ou de outra pessoa capacitada

- Farmers organizations strengthened (How to sustain/ enhance this strength: Capacity building)
- There is strong farmer involvement in technology adaptation

(How to sustain/ enhance this strength: Increase the farmers knowledge base to ensure effective participation)

Pontos fracos/desvantagens/riscos: visão do usuário de terra como superar

Pontos fracos/desvantagens/riscos: a visão do/a compilador/a ou de outra pessoa capacitada como superar

- Too little emphasis on knowledge transfer and too much on practical demonstrations and 'how-to' training. Focus more on understanding principles and technology selection

REFERÊNCIAS

Compilador/a
Arthur Chomba

Editores

Revisor
Fabian Ottiger

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Pessoas capacitadas

Arthur Chomba (arthurchomba@yahoo.co.uk) - Especialista em GST
Sharon Ndandula - Especialista em GST
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Sylvester Chingulu - Especialista em GST
Silenga Wamunyima (wamzysilenga@rocketmail.com) - Especialista em GST

Descrição completa no banco de dados do WOCAT

https://qcat.wocat.net/pt/wocat/approaches/view/approaches_2464/

Dados GST vinculados

Technologies: Strip Tillage Conservation Farming https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1187/
Technologies: Conservation Tillage with Magoye Ripper https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1139/
Technologies: Animal Draft Zero-Tillage https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1140/
Technologies: Conservation Tillage with Magoye Ripper https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1139/
Technologies: Strip Tillage Conservation Farming https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1187/
Technologies: Animal Draft Zero-Tillage https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1140/

A documentação foi facilitada por

Instituição

- Golden Valley agricultural research trust (Golden Valley agricultural research trust) - Zâmbia
- Ministry of Agriculture of Zambia (MoA) - Zâmbia

Projeto

- n.a.

Referências-chave

- Impact study on the acceptance of the Magoye Ripper, Piet Stevens, David Samazaka, Ab Wanders, Douglas Moono, 2002 Conservation farming in Zambia, Steven Haggblade, Gelson Tembo, October 2003 Social-economic analysis of conservation agriculture in southern Africa, FAO, 2011 Conservation farming in Zambia, Conservation farming unit (CFU), 2011: GART/free online INDABA Project, Michigan State University/free online FAO/free online cfu@zamnet.zm
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