



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

## Participatory Research and Development (Замбия)

on-farm research

### ОПИСАНИЕ

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.

### МЕСТОПОЛОЖЕНИЕ



**Местоположение:** Mazabuka/Magoye, Zambia, Замбия

**Географическая привязка выбранных участков**

• 27.60569, -16.03342

**Дата ввода в действие:** 1995

**Дата завершения:** н/п

#### Тип Подхода

- ☐ традиционная/ местная система землепользования, используемая коренным населением
- ☐ недавняя местная инициатива/ инновация
- ☒ в рамках проекта/ программы





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))

## ЦЕЛИ ПОДХОДА И БЛАГОПРИЯТНЫЕ УСЛОВИЯ ДЛЯ ЕГО РЕАЛИЗАЦИИ

### Главные цели/ задачи Подхода

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

### Условия, содействующие применению Технологии/ Технологий в рамках Подхода

#### Условия, затрудняющие применение Технологии/ Технологий в рамках Подхода

- **Социальные/ культурные/ религиозные нормы и ценности:** 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
- **Наличие/ доступность финансовых ресурсов и услуг:** 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
- **Институциональные условия:** 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
- **Нормативно-правовая база (землевладение, права на земле- и водопользование):** 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
- **Осведомленность в области УЗП, доступность технической поддержки:** 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
- **Другие:** 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

## УЧАСТИЕ И РАСПРЕДЕЛЕНИЕ РОЛЕЙ ЗАИНТЕРЕСОВАННЫХ СТОРОН

### Заинтересованные стороны, участвующие в реализации Подхода, и их роли

Какие заинтересованные стороны/ организации-исполнители участвовали в реализации Подхода?	Перечислите заинтересованные стороны	Опишите роли заинтересованных сторон
местные земледельцы/ местные сообщества	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.
эксперты по УЗП/ сельскому хозяйству	Researchers and government extension	
ученые-исследователи	Researchers and government extension	
государственные власти (отвечающие за планирование или принятие решений)		Government extension implemented the approach after training from GART. Politicians were lobbied to mainstream CA in govt programmes

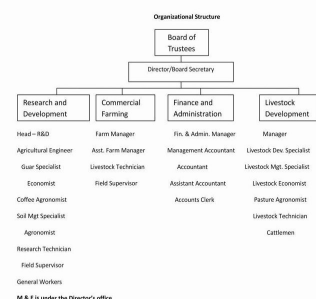
## Участие местных землепользователей/ местных сообществ на разных стадиях реализации Подхода

	нет	пассивное	внешняя	поддержка	интерактивное	самоорганизация
инициирование/ мотивация				✓		
планирование		✓				
выполнение				✓		
мониторинг/ оценка		✓				
Research				✓		

Approach initiated by specialists based on interactions with land-users from previous programmes  
 Planning was done by specialists although farmers were informed and consulted at every stage  
 Land users implemented the approach with the help of specialists  
 Monitoring/evaluation was done by the specialists together with the land users as well as external evaluators  
 Research was done by the specialists together with the land users

## Схема реализации Подхода

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).



Coverage: Although essentially a Zambian Institution, GART is implementing professional programmes and has associate staff in Botswana, Lesotho and Namibia.

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 Province/Zambia)

## Принятие решений по выбору Технологии УЗП

### Решения принимались

- исключительно землепользователи (по собственной инициативе)
- ✓ в основном землепользователи при поддержке специалистов по УЗП
- все участники как часть процесса совместных действий
- преимущественно специалисты по УЗП после консультаций с землепользователями
- исключительно специалисты по УЗП
- политики/ руководители

### Принятие решений было основано на

- анализ подробно описанного опыта и знаний по УЗП (принятие решений на основе подтвержденных фактов)
- результаты исследований
- личный опыт и мнения (незадокументированные)

## ТЕХНИЧЕСКАЯ ПОДДЕРЖКА, ПОВЫШЕНИЕ КОМПЕТЕНЦИЙ И УПРАВЛЕНИЕ ЗНАНИЯМИ

### Следующие мероприятия или работы являлись частью Подхода

- ✓ Повышение компетенций/ обучение
- ✓ Консультационные услуги
- ✓ Институциональная (организационная) поддержка
- ✓ Мониторинг и оценка
- ✓ Научные исследования

## Повышение компетенций/ обучение

### Обучение было предоставлено следующим заинтересованным лицам

- ✓ землепользователи
- ✓ местный персонал/ консультанты

### Тип обучения

- в ходе работы
- ✓ обмен опытом между фермерами
- ✓ опытные участки
- ✓ общие собрания
- курсы

### Рассматриваемые темы

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

## Консультационные услуги

### Консультационные услуги были предоставлены

- ✓ на полях землепользователей
- в постоянно функционирующих центрах

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

## Институциональная поддержка

Какие институциональные структуры были укреплены или вновь созданы

- ☐ нет  
☐ да, немного  
☒ да, умеренно  
☐ да, существенно

на уровне

- ☒ местные  
☐ региональный  
☐ национальный

Опишите организацию, функции и ответственность, членство и т.д.

Тип поддержки

- ☐ финансовая  
☒ повышение компетенций/ обучение  
☒ оборудование

Подробнее

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

## Мониторинг и оценка

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.

## Научные исследования

Научные исследования проводились по следующим темам

- ☐ социология  
☐ экономика / маркетинг  
☐ экология  
☒ технология

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

## ФИНАНСИРОВАНИЕ И ВНЕШНЯЯ МАТЕРИАЛЬНАЯ ПОДДЕРЖКА

Годовой бюджет мероприятий по УЗП в долларах США

- ☐ < 2000  
☒ 2000-10000  
☐ 10000-100000  
☐ 100 000-1 000 000  
☐ > 1 000 000

Precise annual budget: н/п

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

Землепользователям были оказаны/предоставлены следующие услуги или меры стимулирования

- ☒ Финансирование и внешняя материальная поддержка, предоставляемая землепользователям  
☒ Субсидии на отдельные затраты  
☐ Кредитование  
☐ Другие методы или инструменты стимулирования

Финансовая/ материальная поддержка, предоставленная землепользователям

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

профинансированы  
частично  
профинансированы  
полностью

оборудование: инвентарь/ инструменты

Трудозатраты, вложенные землепользователями были

- ☒ добровольный  
☐ в обмен на продукты  
☐ за денежное вознаграждение  
☐ в обмен на другие материальные ресурсы

## АНАЛИЗ ВЛИЯНИЯ И ЗАКЛЮЧИТЕЛЬНЫЕ ПОЛОЖЕНИЯ

Влияние Подхода

нет  
да, немного  
да, умеренно  
да, существенно

Сумел ли Подход помочь землепользователям внедрить и поддерживать технологии УЗП?

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.

Сумел ли Подход расширить возможности социально и экономически уязвимых групп?

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

Сумел ли Подход разрешить правовые проблемы землевладения/ землепользования, препятствующие использованию технологий УЗП?



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

#### Основные причины, побуждающие землепользователей внедрять УЗП

- ☒ рост продуктивности
- ☒ рост прибыли (доходности) и рентабельности
- ☐ снижение деградации земель
- ☐ снижение риска катастрофических погодных явлений
- ☒ снижение объёма работ
- ☐ материальное стимулирование/ субсидии
- ☐ нормативно-правовое регулирование (штрафы)/ контроль
- ☐ престиж, общественное давление/ солидарность
- ☐ причастность к движению/ проекту/ группе/ сети
- ☒ экологическая сознательность
- ☐ традиции и верования, нравственные ценности
- ☐ приобретение знаний и опыта в области УЗП
- ☐ улучшение эстетической привлекательности
- ☐ снижение остроты конфликтов

#### Долгосрочная устойчивость мероприятий в рамках Подхода

Могут ли землепользователи самостоятельно (без внешней поддержки) продолжать применение того, что было реализовано в рамках Подхода?

- ☐ нет
- ☒ да
- ☐ нет уверенности

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.

### ЗАКЛЮЧИТЕЛЬНЫЕ ПОЛОЖЕНИЯ И ИЗВЛЕЧЁННЫЕ УРОКИ

#### Сильные стороны: по мнению землепользователей

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

#### Сильные стороны: по мнению составителя или ответственных специалистов

- 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)

#### Слабые стороны/ недостатки/ риски: по мнению

землепользователей возможные пути преодоления

#### Слабые стороны/ недостатки/ риски: по мнению составителя или ответственных специалистов возможные пути преодоления

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



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**Продолжительность применения Технологии:** 16 января 2013 г. **Последнее обновление:** 26 июня 2017 г.

#### Ответственные специалисты

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#### Полное описание в базе данных ВОКАТ

[https://qcat.wocat.net/ru/wocat/approaches/view/approaches\\_2464/](https://qcat.wocat.net/ru/wocat/approaches/view/approaches_2464/)

#### Связанные данные по УЗП

Technologies: Strip Tillage Conservation Farming [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1187/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1187/)  
Technologies: Conservation Tillage with Magoye Ripper [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1139/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1139/)  
Technologies: Animal Draft Zero-Tillage [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1140/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1140/)  
Technologies: Conservation Tillage with Magoye Ripper [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1139/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1139/)  
Technologies: Strip Tillage Conservation Farming [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1187/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1187/)  
Technologies: Animal Draft Zero-Tillage [https://qcat.wocat.net/ru/wocat/technologies/view/technologies\\_1140/](https://qcat.wocat.net/ru/wocat/technologies/view/technologies_1140/)

#### Документирование осуществлялось при участии

##### Организация

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

##### Проект

- н/п

#### Ключевые ссылки

- 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
- Conservation farming in Zambia, Steven Haggblade, Gelson Tembo, October 2003: INDABA Project, Michigan State University/free online
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