

WOCAT – to bring together and strengthen the SLM community through KM

Regional Workshop to kick-start implementation of plans and establishment of Communities of Practice

14th November 2019 – Rabat Morocco

Tatenda Lemann

WOCAT Secretariat, Centre for Development and Environment, University of Bern, Switzerland

Agenda:

- Introduction WOCAT
- Explore the WOCAT Global Database

*Tatenda
Group*

Coffee brake

- Interests and needs in a SLM CoP
- Wrap up

*Group
Group*



WOCAT is...



...a **global network** of specialists working in the field of **SLM**

...a framework for **Knowledge Management** and **Decision Support** for SLM



WOCAT's **mission**

... is to support *innovation and decision-making in SLM*

maintain global, open
SLM network



harmonize and
further develop
tools and methods
with partners

WOCAT



provide open access
**global SLM data
repository**



**build capacities at
local, regional and
national level**

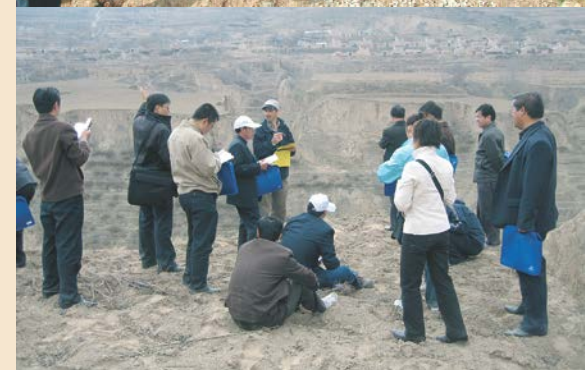
with the **underlying principles of:**

- ❖ neutrality
- ❖ inclusiveness
- ❖ linking local land user to national/ global policy level

Main target groups

- **SLM specialists at the field level**, incl. technical staff, extension workers, agricultural advisors, project implementers
- **SLM specialists at the (sub-)national level**, incl. planners, project designers, decision makers, and researchers
- **SLM specialists at the regional and global level**, incl. international programme planners, and donors

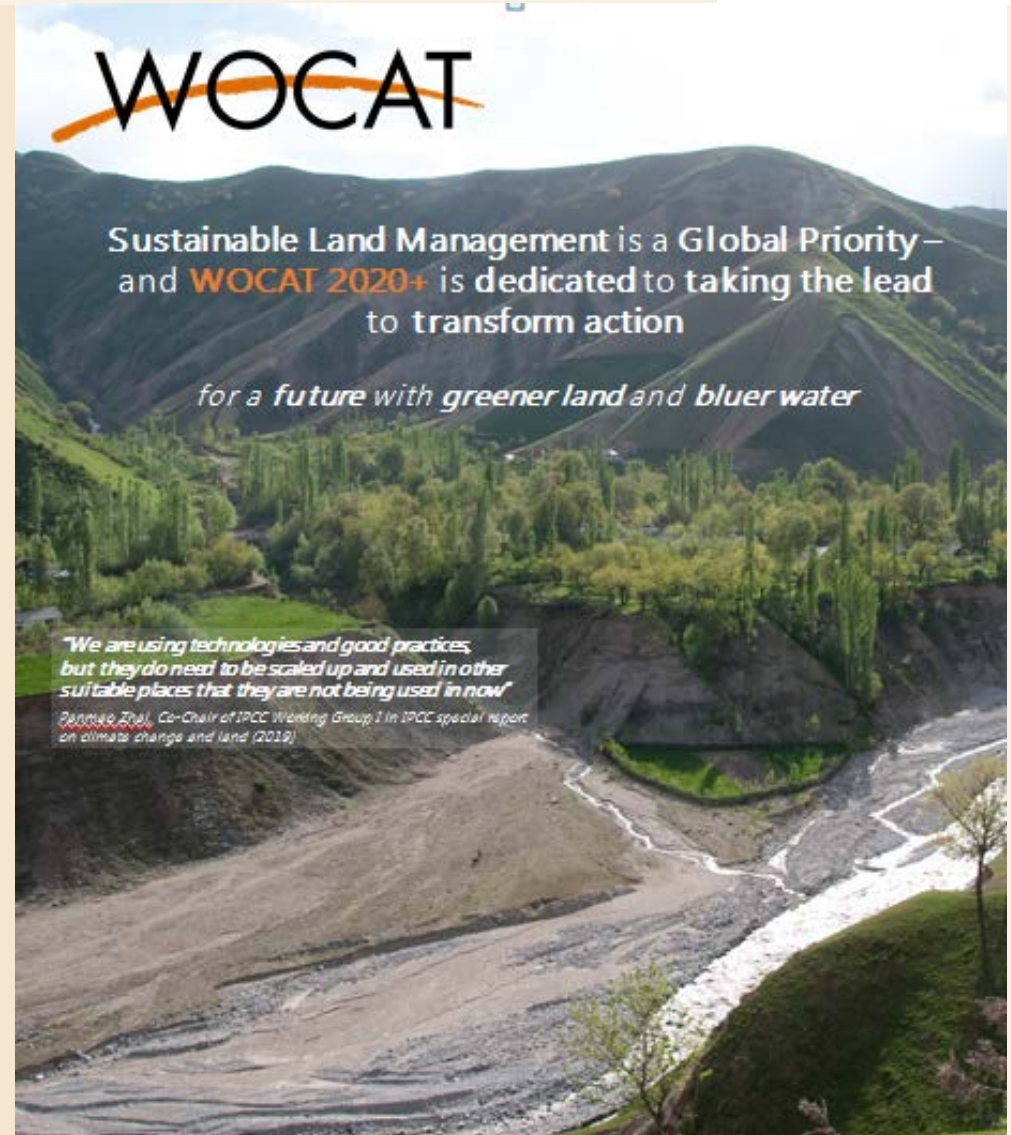
Ultimate target group & beneficiaries:
land users and **public** benefitting from more secure ecosystem services




WOCAT Network



- Established in 1992
- New set-up in 2014 with 8 consortium partners
- New WOCAT 2020+ initiative in preparation



A wide-angle landscape photograph showing a valley with a river. The river flows through a valley floor, surrounded by lush green trees and vegetation. In the background, there are large, rugged mountains with some snow-capped peaks under a cloudy sky. The foreground shows a steep, eroded bank on the left side of the river.

WOCAT 2020+ aims to be a leading platform of expertise and a major transformative force in supporting countries and institutions around the world to scale up SLM, achieve LDN, and foster related SDGs addressed by the three UN conventions.

UNCCD recognition *primary recommended database*



April 2014:

‘Primary recommended database for the SLM best practices reporting’

Supporting the 196 members in the reporting of good SLM practices

WOCAT SLM DATABASE

Home Search SLM Data Add SLM data My SLM Data

Login English Spanish French

WOCAT UNCCD United Nations Convention to Combat Desertification

the Global Database on Sustainable Land Management
is the primary recommended database by UNCCD

Search SLM data Add SLM data

Search SLM Data All SLM Data Search

SLM Technologies
An SLM Technology is a land management practice that controls land degradation and enhances productivity and/ or other ecosystem services.
[View all](#)

SLM Approaches
An SLM Approach defines the ways and means used to implement an SLM Technology, including the stakeholders involved and their roles.
[View all](#)

SLM Maps
An SLM Map analyses and depicts the spatial distribution of SLM and land degradation processes, causes, and impacts.
[View all](#)

United Nations Convention to Combat Desertification Knowledge Hub

Home Knowledge Products and Pillars The Science-Policy Interface Topics

Knowledge Products and Pillars Best practices in sustainable land management UNCCD- WOCAT partnership on SLM

Knowledge Products and Pillars

- Global Land Outlook
- Guide to the scientific conceptual framework for LDN
- The UNCCD Capacity Building Marketplace
- Best practices in sustainable land management
 - SLM in different land use contexts
 - Identifying SLM technologies
 - Examples of SLM best practices
 - Why SLM matters
 - Adopting SLM at the national level
 - What you can do now
 - The Science-Policy Interface

About the UNCCD- WOCAT partnership

To disseminate sustainable land management (SLM) best practices, the UNCCD Secretariat is working alongside the World Overview of Conservation Approaches and Technologies (WOCAT) to provide a database where specialists can share their best practice technologies.

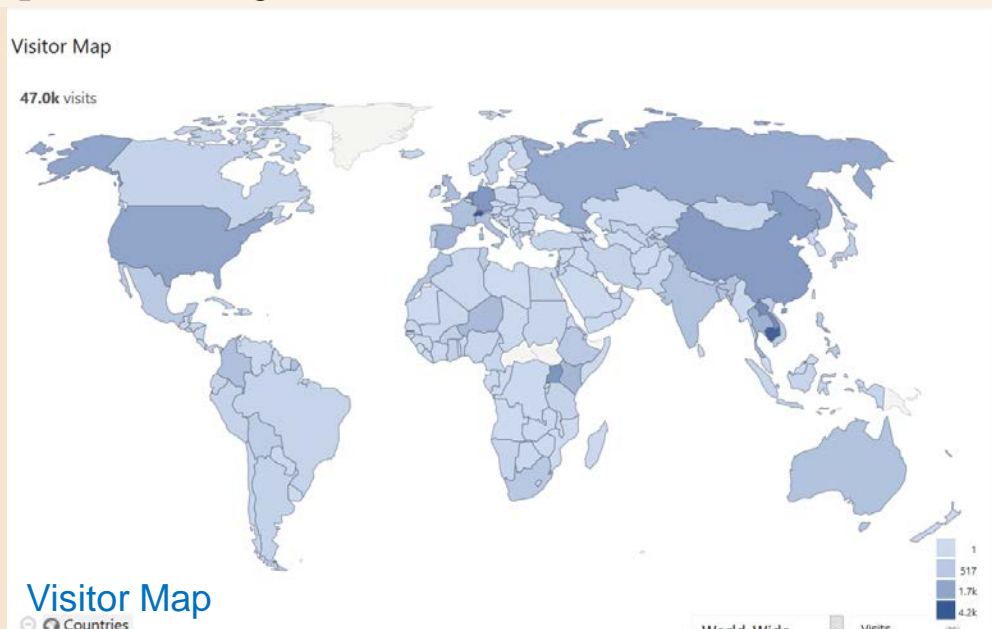
What is WOCAT?

WOCAT was established in 1992 as a global network of SLM specialists and has more than 2000 registered users, over 60 participating institutions, and around 30 national and regional initiatives. It connects SLM specialists with experts that provide tools and methods for identifying fields of action and enables users to share knowledge of land-resource management.

An agreement between UNCCD and WOCAT was signed on 15 April 2014. UNCCD identified WOCAT as a primary recommended database for best practices on SLM technologies.

The official recognition of UNCCD gives WOCAT a mandate to support the 194 signatory countries in recording their SLM best practices and using the SLM knowledge of stakeholders worldwide – from land users to decision-makers – to improve local land management.

UNCCD recognition *primary recommended database*



Key Numbers

(5 Sept. 2019)

- **1990** SLM Practices published from **131** countries by **402** users.
 - 1082 SLM Technologies
 - 465 SLM Approaches
 - 443 UNCCD PRAIS Practices
- **49** new practices drafted in the past 90 days.
- **60966** visits from **195** different countries since launch in August 2016.

UNCCD recognition *primary recommended database*



WOCAT SLM DATABASE

Home Search SLM Data Add SLM data My SLM Data

Country: Morocco

Advanced filter for SLM Technologies

Country: Tunisia

Country: Sudan

Country: Moldova, Republic of

Country: Algeria

Your search results (50)

Your search results (35)

Your search results (4)

Your search results (5)

Your search results (0)
No results found.

WOCAT's global position

WOCAT was essential in moving away from LD focus towards SLM, **defining SLM and its measures**, now globally used and referenced to

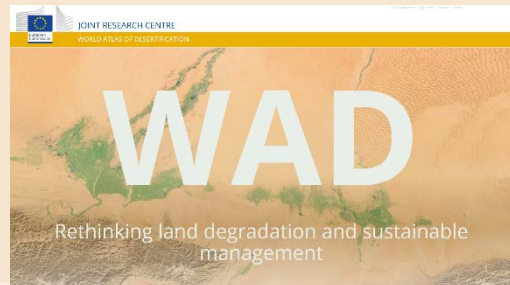
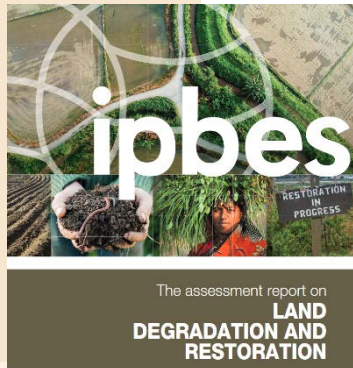
E.g. in UNCCD SPI report: 89 mentions, use of definitions and links to SLM practices in database

E.g. in IPBES LD and restoration assessment, 22 mentions

E.g. EU JRC - World Atlas of Desertification

A detailed catalogue of sustainable land management approaches and technologies is available on the World Overview of Conservation Approaches and Technologies (WOCAT) website: <https://qcat.wocat.net/en/wocat/> and in WOCAT publications (e.g., Liniger & Critchley, 2007). In **Table 6.1**, we present a set of land management strategies or response options illustrating the approaches and technologies outlined above.

2000). The Sustainable Development Goal Target 15.3 has adopted three indices (CBD, 2016), while UNCCD uses 11 (Orr, 2011), WOCAT uses 57 (Liniger *et al.*, 2008), and GLADA uses 132 (Nachtergaele & Licona-Manzur, 2008).



Sustainable Land Management contribution to successful land-based climate change adaptation and mitigation

BOX 4:

Five major land use types definition according to WOCAT (adapted from WOCAT 2002)

Cropland: annual cropping, perennial cropping, tree and shrub cropping.

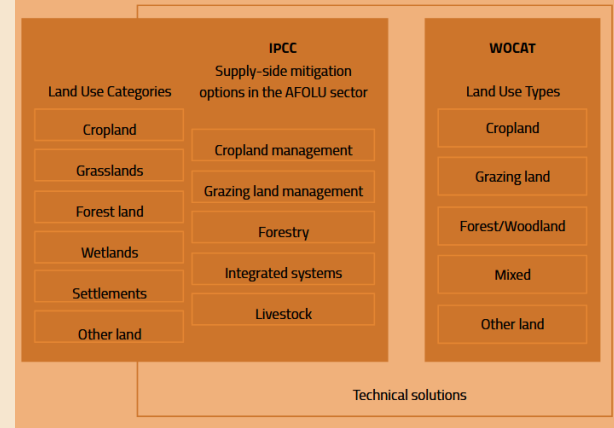
Grassland: extensive and intensive grazing lands.

Forest/woodland: natural forest, forest plantations, other.

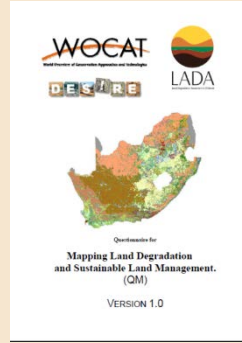
Mixed: agroforestry (cropland and forest), agro-pastoralism (cropland and grazing land), agro-silvo-pastoralism (cropland, grazing land and forest), silvo-pastoralism (forest and grazing land), other.

Other land: mines and extractive industries, settlements, roads, infrastructure network, others (wastelands, deserts, glaciers).

The following figure illustrates different land use types and categories that are documented in the literature and existing data bases and platforms in land use.



WOCAT tools and methods



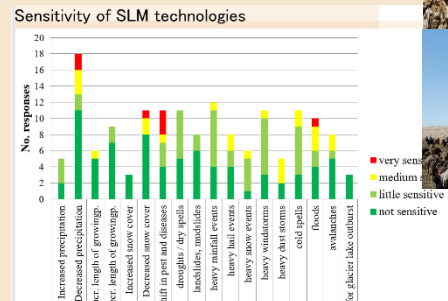
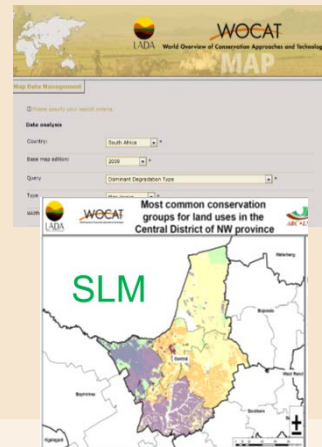
documentation, evaluation and dissemination of good practices

spatial assessment

global issues (climate change)

decision support

scaling up and adoption of SLM

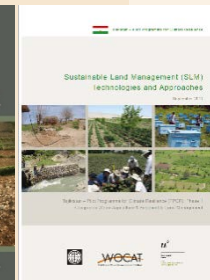
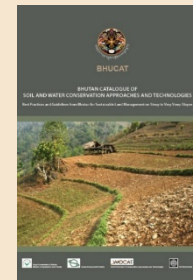
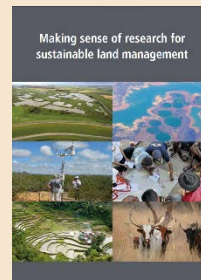


Solid & easily accessible WOCAT knowledge products

WOCAT and its partners have produced...

... a global online database system databases on *SLM Technologies*, *SLM Approaches*, and *SLM Mapping* including more than 1000 case studies and maps from over 50 countries.

... global, regional, national books, factsheets and brochures: overview books, inventories of practices, guidelines for different users in different formats



... SLM videos: a voice to land users implementing SLM in their fields.

... Tablet application: promotion and education



Questionnaires and Database

for documentation and evaluation of SLM practices



Questionnaires on SLM Technologies, Approaches & Mapping

Documenting information from and with land users

WOCAT Technologies QT 16 Specification

2.4.3.2 Establishment and maintenance methods for vegetation

Initial establishment

activity (in sequence)	source of energy*
1 Digging holes	M
2 Cutting /digging out of planting material	M
3 Transplanting	M
4 Transplanting	M
5	

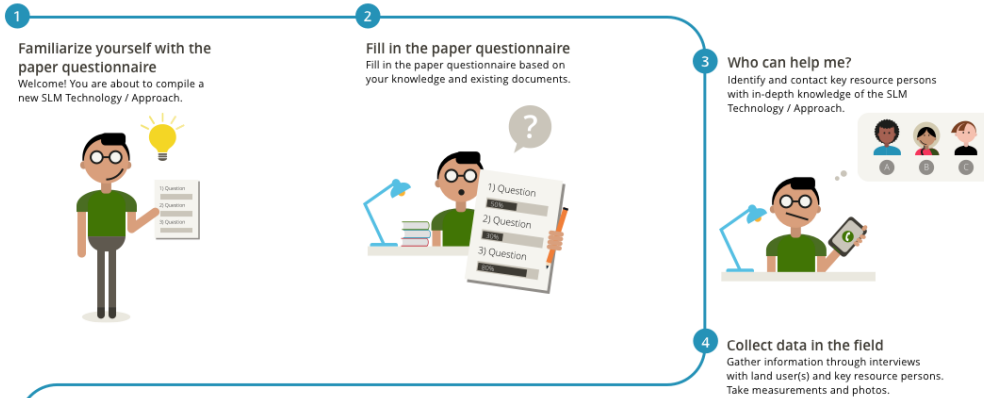
Entering data in questionnaire



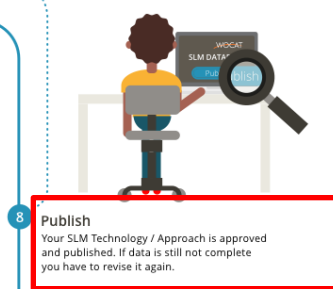
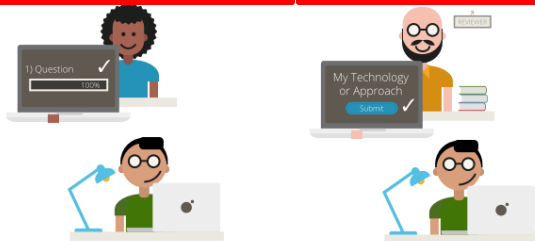
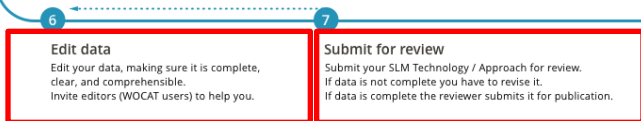
Entering data in database



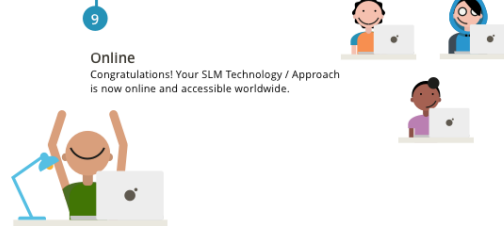
Data available online



1 invite editors 2 send to reviewer



3 WOCAT Secretariat → final review



Standardized tools & harmonized products key for Knowledge Management and Decision Support



SLM Technology / Approach Summary

- Automatically generated
- In all languages
- Used for best practices compilations; learning materials for extension services etc.



Highly Diversified Cropping
Kakawate as live trellis 'basing'

DESCRIPTION
Gliciridia sepium locally known as 'basing' is a leguminous tree used as a live trellis for Kakawate (Theobroma cacao) in the highly diversified cropping system. The Kakawate is trained to grow on the trellis and supported by the tree. The technology has been a practice adopted and implemented to be grown, making their market more accessible and increasing their income. Over the years, its effectiveness as

Where?

CLASSIFICATION OF THE TECHNOLOGY

Main purpose
 improve production
 reduce, prevent, restore land degradation
 conserve ecosystem
 protect a watershed/ downstream
 preserve/improve biodiversity
 reduce risk of disasters
 adapt to climate change/ extreme
 mitigate climate change and/or
 create beneficial economic impact
 create beneficial social impact

Purpose related to land degradation
 prevent land degradation
 restore/rehabilitate severely degraded land
 adapt to land degradation risk
 not applicable

SLM group
 agroforestry
 improved ground/vegetation cover
 integrated soil fertility management

TECHNICAL DRAWING
 Technical specifications
 Kakawate cuttings are planted with around 3 meters high for every 3.6 x 4 meters, beans, cucumber, lettuce a

What? How?

ESTABLISHMENT AND MAINTENANCE
 Calculation of inputs and costs
 Costs are calculated per hectare
 Currency used for cost calculation
 Exchange rate (to USD) 1 USD = 64.66 PHP
 Average wage cost of hired labor 100.00 PHP/day
 Establishment activities
 1. Clearing of the area (Timber/fruit trees)
 2. Planting of kakawate cuttings
 3. Installation of metal wire and plant
 4. Planting of annual crop: tomato
 5. Planting of annual crop: cucumber
 6. Planting of annual crop: chayote

Access to services and infrastructure
 health
 education
 technical assistance
 employment (e.g. off-farm)
 markets
 energy
 roads and transport
 drinking water and sanitation
 financial services

Establishment inputs and costs (p)
 Specify input
Labour
 Manual labour: Weeding
 Manual labour: Planting
 Manual labour: Fertilizer Application
 Manual labour: Harvesting and Hoop
Plant material
 Kakawate cuttings (cuttings are also Tomato @ 100grams per can Cucumber @ 100grams per can Chayote trellis are abundant in the Fertilizers and biofocides
 Inorganic fertilizer: Urea
 Organic fertilizer: chicken dung
 Pesticide
 Construction material
 Metal wire (can be used for a long time)
Total costs for establishment of 1 ha

Maintenance activities
 1. Weeding (Timing/ frequency: As needed)
 2. Trimming of kakawate (Timing/ frequency: As needed)
 3. Application of organic fertilizer
 4. Application of organic fertilizer
 5. Spraying of pesticide (Timing/ frequency: As needed)

Socio-cultural impacts
 food security/ self-sufficiency
 SLM/ land degradation knowledge

Land use	Specifications on climate
Cropland - Annual cropping Main crops: (cash and food crops): tauate, beans, tomato, rabbaan lettuce	Specifications on climate Average annual rainfall in mm: 1500.0 Rainfall is evenly distributed throughout the year
NATURAL ENVIRONMENT	
Average annual rainfall	
< 200 mm	<input type="checkbox"/>
251-500 mm	<input checked="" type="checkbox"/>
501-750 mm	<input type="checkbox"/>
751-1,000 mm	<input type="checkbox"/>
1,001-1,500 mm	<input checked="" type="checkbox"/>
1,501-2,000 mm	<input type="checkbox"/>
2,001-3,000 mm	<input type="checkbox"/>
3,001-4,000 mm	<input type="checkbox"/>
> 4,000 mm	<input type="checkbox"/>
Slope	
flat (0-2%)	<input type="checkbox"/>
low (3-10%)	<input checked="" type="checkbox"/>
moderate (11-25%)	<input type="checkbox"/>
steep (26-50%)	<input type="checkbox"/>
very steep (> 50%)	<input type="checkbox"/>
Soil depth	
very shallow (0-20 cm)	<input type="checkbox"/>
shallow (21-50 cm)	<input checked="" type="checkbox"/>
moderately deep (51-80 cm)	<input type="checkbox"/>
deep (81-120 cm)	<input type="checkbox"/>
very deep (> 120 cm)	<input type="checkbox"/>
Groundwater table	
on surface	<input type="checkbox"/>
< 1 m	<input type="checkbox"/>
1-5 m	<input checked="" type="checkbox"/>
5-10 m	<input type="checkbox"/>
> 10 m	<input type="checkbox"/>
Species diversity	
high	<input checked="" type="checkbox"/>
medium	<input type="checkbox"/>
low	<input type="checkbox"/>
CHARACTERISTICS OF LAND USERS AND USERS	
Market orientation	
subsistence (self-supply)	<input type="checkbox"/>
mixed (subsistence/ commercial)	<input checked="" type="checkbox"/>
commercial/ market	<input type="checkbox"/>
COST-BENEFIT ANALYSIS	
Benefits compared with establishment costs	
Short-term returns	very negative <input type="checkbox"/> negative <input type="checkbox"/> neutral <input checked="" type="checkbox"/> positive <input type="checkbox"/> very positive <input type="checkbox"/>
Long-term returns	very negative <input type="checkbox"/> negative <input type="checkbox"/> neutral <input checked="" type="checkbox"/> positive <input type="checkbox"/> very positive <input type="checkbox"/>
Benefits compared with maintenance costs	
Short-term returns	very negative <input type="checkbox"/> negative <input type="checkbox"/> neutral <input checked="" type="checkbox"/> positive <input type="checkbox"/> very positive <input type="checkbox"/>
Long-term returns	very negative <input type="checkbox"/> negative <input type="checkbox"/> neutral <input checked="" type="checkbox"/> positive <input type="checkbox"/> very positive <input type="checkbox"/>
CLIMATE CHANGE	
ADDITION AND ADAPTATION	
Percentage of land users in the area who have adopted the Technology	
single listed experimental	<input type="checkbox"/>
1-10%	<input type="checkbox"/>
10-50%	<input checked="" type="checkbox"/>
> 50%	<input type="checkbox"/>
more than 50%	<input type="checkbox"/>
Number of households and/ or area covered	
Almost all of local farmers practice the technology	<input checked="" type="checkbox"/>
Has the Technology been modified recently to adapt to changing conditions?	
Yes	<input type="checkbox"/>
No	<input checked="" type="checkbox"/>
To which changing conditions?	
climate change/ extremes	<input type="checkbox"/>
changing markets	<input type="checkbox"/>
labour availability (e.g. due to migration)	<input type="checkbox"/>
CONCLUSIONS AND LESSONS LEARNED	
Strengths: land user's view	
(1) Increase farm income (2) Diets from produce (3) Easiness to establish, no need for technical knowledge to establish (4) Inexpensive (5) Organic farming	
Weaknesses/ disadvantages/ risks: land user's view	
(1) Pest infestation (1) Pesticide application	
Strengths: compiler's or other key resource person's view	
(1) Low production cost (2) Easiness to maintain (3) Effective erosion control measure (4) Increase farm yield and income (5) Diets from farm produce (6) Easiness to transfer	
Weaknesses/ disadvantages/ risks: compiler's or other key resource person's view	
(1) The technology is very good in terms of erosion control and improving lives of farmers in the community, but there is a risk of pest infestation if not well known for the whole country. (1) The WOCAT database as an excellent information tool for medium to large scale dissemination of this kind of technology, not only within Philippines but all over the world. These would highlight practices of the local farmers situated in remote areas in terms of managing the land productively and sustainably.	

Ecological impacts
 soil moisture: decreased improved increased
 soil cover: reduced improved increased
 soil loss: increased reduced not applicable
 soil compaction: increased reduced not applicable
 soil organic matter/ below ground C: decreased improved increased
 vegetation cover: decreased improved increased
 pest/disease control: increased reduced not applicable
 landslides/ debris flows: increased reduced not applicable
 erosion of carbon and greenhouse gases: increased reduced not applicable

Off site impacts
 downstream flooding (undesired): increased reduced not applicable

CLIMATE CHANGE

ADDITION AND ADAPTATION

Percentage of land users in the area who have adopted the Technology

single listed experimental
 1-10%
 10-50%
 50-90%
 90-100%

Of all those who have adopted the Technology, how many have done so without receiving material incentives?

0-10%
 10-50%
 50-90%
 90-100%

CONCLUSIONS AND LESSONS LEARNED

Strengths: land user's view

- (1) Increase farm income
- (2) Diets from produce
- (3) Easiness to establish, no need for technical knowledge to establish
- (4) Inexpensive
- (5) Organic farming

Weaknesses/ disadvantages/ risks: land user's view

- (1) Pest infestation
- (1) Pesticide application

Strengths: compiler's or other key resource person's view

- (1) Low production cost
- (2) Easiness to maintain
- (3) Effective erosion control measure
- (4) Increase farm yield and income
- (5) Diets from farm produce
- (6) Easiness to transfer

REFERENCES

Compiler
 Philippine Overview of Conservation Approaches and Technologies (philcatsecretariat@gmail.com)

Date of documentation: March 11, 2017

Resource persons
 Cirle Umilia - land user
 Calisto Dalia Rina - SLM specialist
 Baldwin Pine (balwinp@gmail.com) - Soil Specialist / GIS Specialist
 Janar Razad - Engineer
 Maricar Torres - Engineer
 Arles Tayao - Engineer

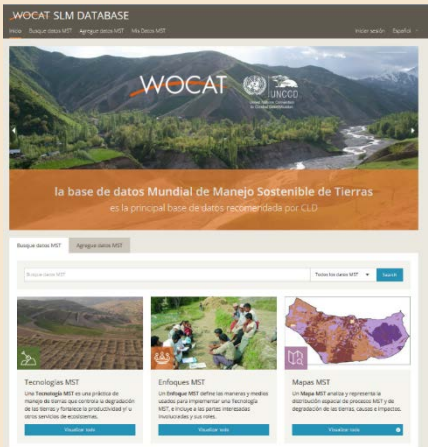
Full description in the WOCAT database
https://gcat.wocat.net/en/wocat/technologies/view/technologies_1930/

Linked SLM data
 n.a.

Documentation was facilitated by
 Institution
 • Bureau of Soils and Water Management (Bureau of Soils and Water Management) - Philippines Project

Reviser/
 Umilia Goemper (gulla.goemper@fcdi.unib.ch)

Last update: April 11, 2017



SLM Technology



WOCAT Definition:

« ***agronomic, vegetative, structural and/or management measures that prevent and control land degradation and enhance productivity in the field*** »



SLM Technologies: examples

No-till technology



Terrasse



Stabilisation de terrasses en bordure d'oued avec des peupliers



Le système d'Agroforesterie pour la protection des terres et l'amélioration des revenus des exploitants dans les zones montagneuses



Criteria for identification & delineation of a Technology

An SLM Technology should cover a **homogeneous set of natural** (bio-physical) and **human** (socio-economic) **conditions**, hence should not be applied to dissimilar e.g.:

- climatic zones (humid, subhumid, semi-arid, arid)
- land use types (cropland, grazing land, forest, etc.)
- slope categories
- or conditions of land tenure
- ...



Who should fill the questionnaires?

A team of **SLM specialists** – including land users – with different backgrounds and experience, who are familiar with the details of the technology/ approach (technical, financial, socio-economic)

... making use of existing documents and seek advice from other SLM specialists and land users as much as possible.

→ If you intend to fill the questionnaire from the desk, there is a tendency to fill the questionnaire according to our preconceptions which are not always correct.



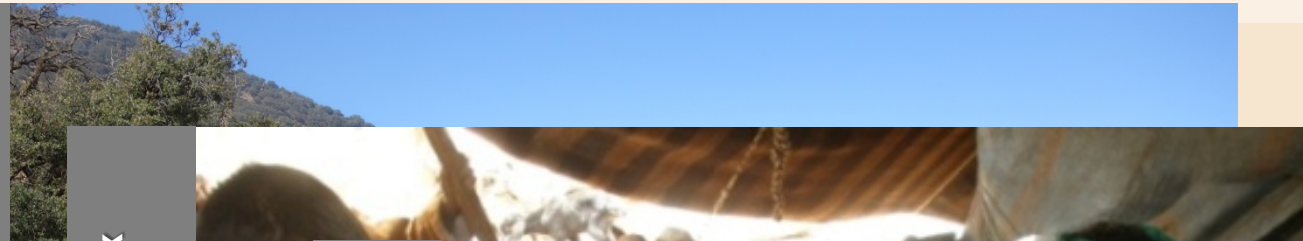
WOCAT Definition:

« ways and means of support that help introduce, implement, adapt and apply SLM technologies on the ground; provide an enabling environment »



SLM Approach: examples

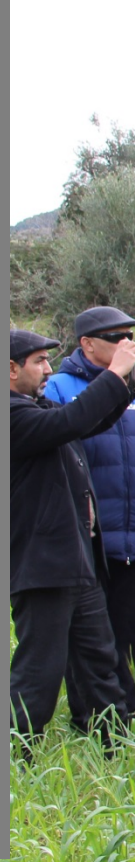
Protection du forêt par une famille des nomades



Organisation Traditionnel de gestion des eaux d'irrigation au niveau de Qcer Tatiouine



Projet de développement des zones montagneuses



Un réseau informel pour l'implémentation de l'agriculture de conservation



MAPPING LD & SLM

WOCAT SLM DATABASE

Home Search SLM Data Add SLM data My SLM Data Login English Spanish French

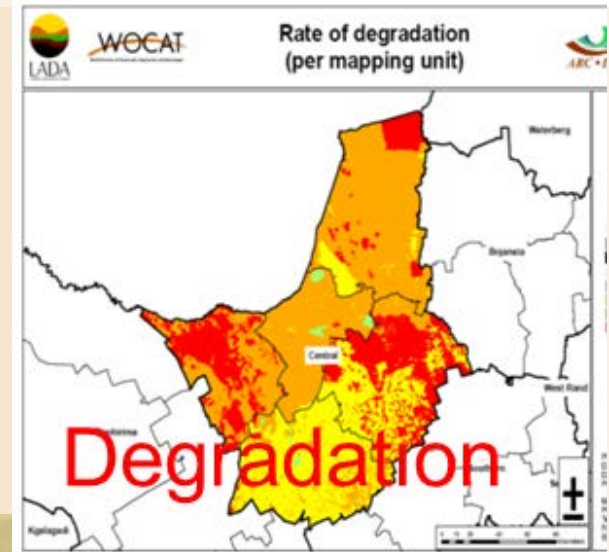
WOCAT UNCCD United Nations Convention to Combat Desertification

the Global Database on Sustainable Land Management
is the primary recommended database by UNCCD

World Overview of Conservation Approaches and Technologies

Questionnaire for
Mapping Land Degradation
and Sustainable Land Management.
(QM)

VERSION 1.0



Search SLM data Add SLM data

Search SLM Data All SLM Data Search

SLM Technologies
An SLM Technology is a land management practice that controls land degradation and enhances productivity and/or other ecosystem services.

SLM Approaches
An SLM Approach defines the ways and means used to implement an SLM Technology, including the stakeholders involved and their roles.

SLM Maps
An SLM Map analyses and depicts the spatial distribution of SLM and land degradation processes, causes, and impacts.

World Overview of Conservation Approaches and Technologies

Map Data Management

Please specify your search criteria.

Data analysis

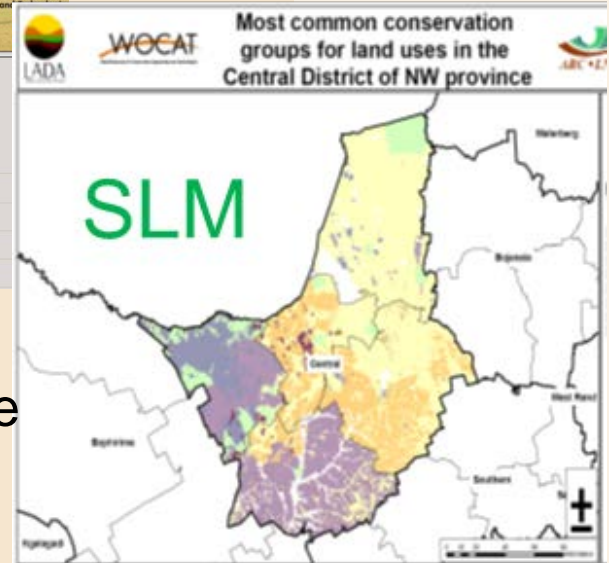
Country: South Africa

Base map edition: 2009

Query: Dominant Degradation Type

Type: Map image

Width (pixels):



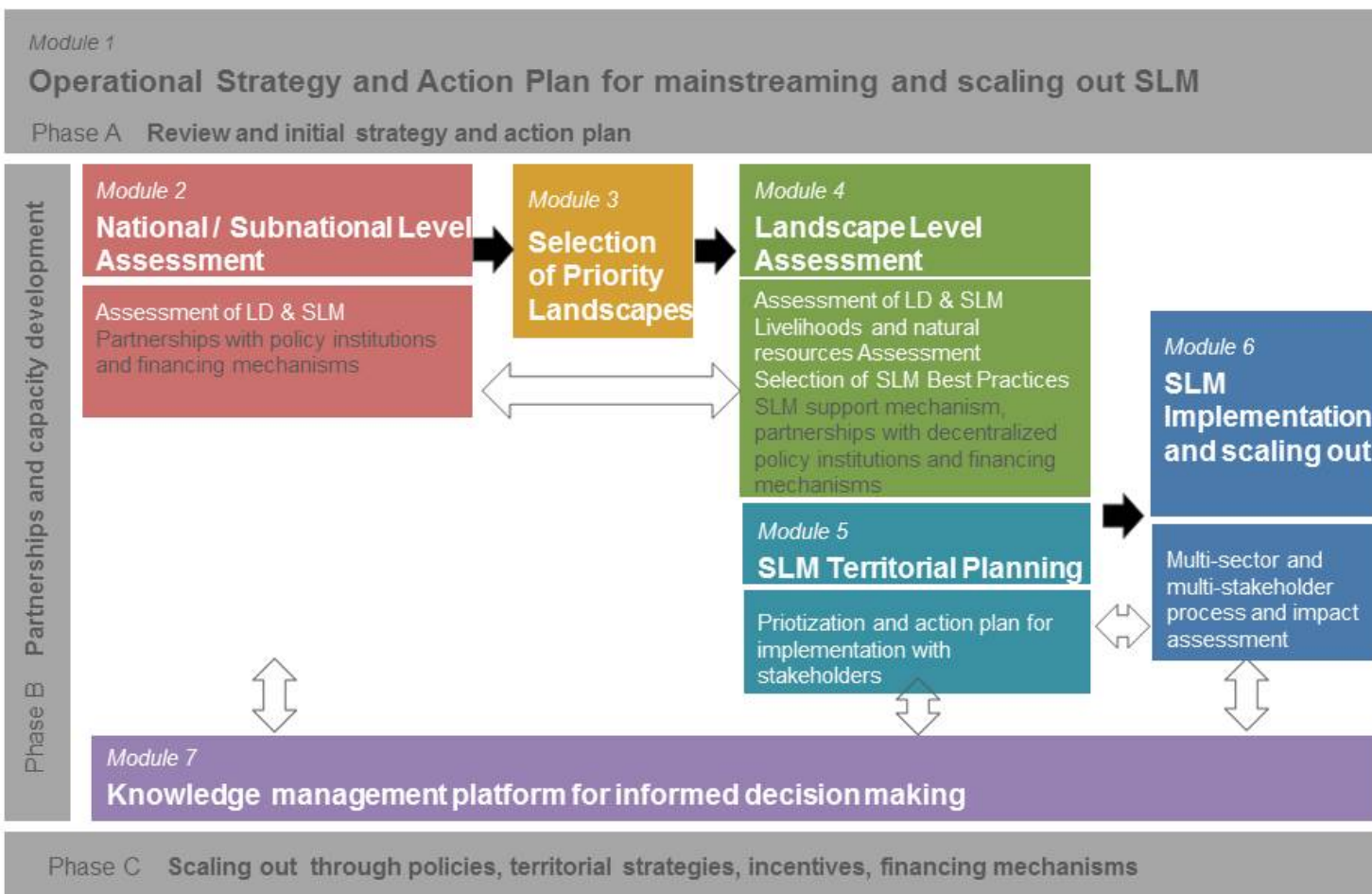
Monitoring SDG:

Target 2.4 (area under productive and sustainable agriculture) &

Target 15.3 (land degradation neutrality)

Integrating knowledge in a Decision Support process

Decision Support Framework for SLM mainstreaming and scaling out



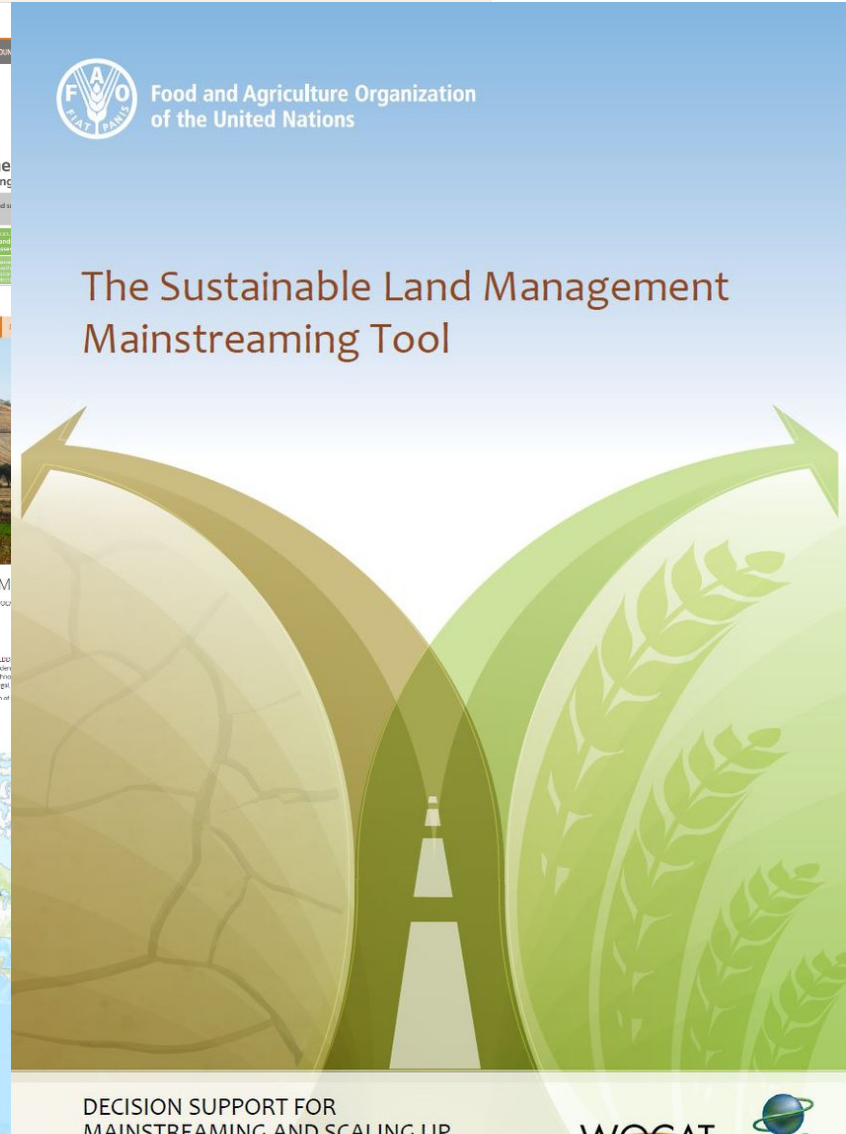
GEF/FAO project in 15 countries

WOCAT as implementing partner

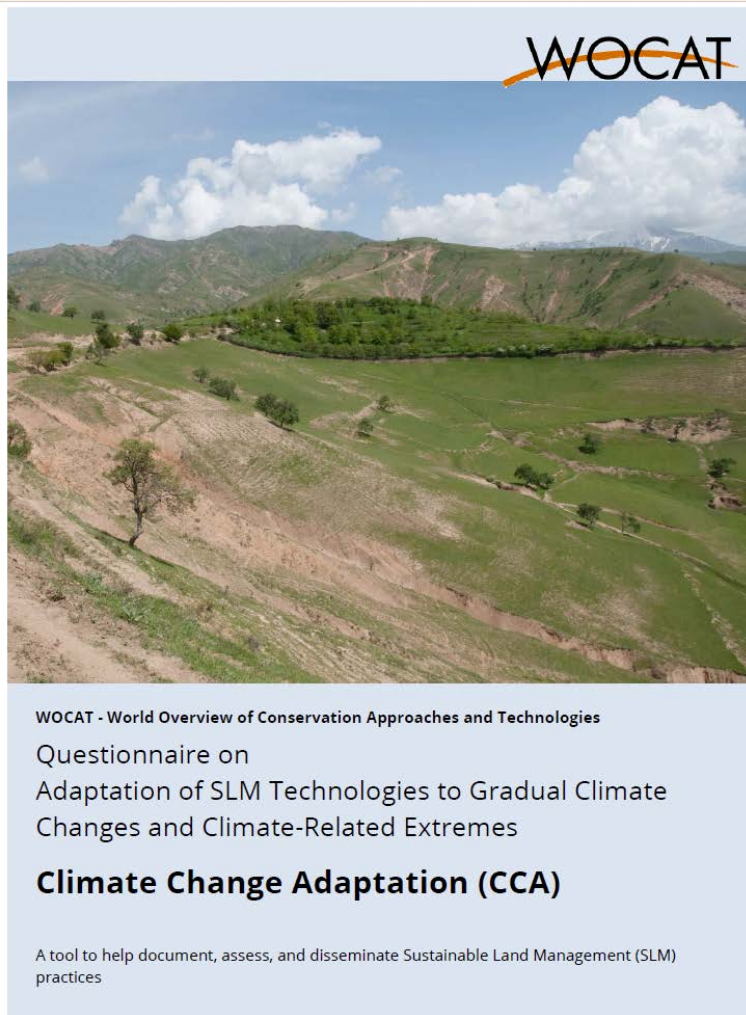
DS tools in new WOCAT website

- available online
- user-friendly guidance through DS process
- new guidelines and manuals
- different entry points
- different levels

- 2019 New Mainstreaming tool



Associated modules



WOCAT

WOCAT - World Overview of Conservation Approaches and Technologies

Questionnaire on
Adaptation of SLM Technologies to Gradual Climate
Changes and Climate-Related Extremes

Climate Change Adaptation (CCA)

A tool to help document, assess, and disseminate Sustainable Land Management (SLM)
practices

assess whether SLM Technologies are or can be further adapted to gradual climate changes and climate-related extremes.



WOCAT

WOCAT - World Overview of Conservation Approaches and Technologies

Questionnaire on
Watershed Management

A tool to document and assess land management practices and surface runoff

Version: 2016

assess land management / LM practices interrelations and their sum of impacts on ESS (mainly runoff)

Link between WOCAT and the Carbon Benefit Project (CBP) Tools



- ✓ A new version of **WOCAT** Questionnaire on SLM Technologies is online → with more drop down answers (adapted from IPCC) which can be linked with the CBP tools (www.carbonbenefitsproject.org)
- ✓ The **API** of the WOCAT database will be linked with the CBP simple- and detailed assessment → **Until the end of 2019**
- ✓ **Approx. 60%** of the questions in the CBP Tool (Simple Assessment) can be answered automatically with the import of SLM Technology data from the WOCAT database.
- ✓ It allows WOCAT users to import a WOCAT SLM Technology entry into the CBP system to carry out a **GHG assessment** of their Technology.
- ✓ This makes a very **powerful tool kit** reducing the burden on users and will ultimately provide a database of GHG friendly land management technologies available globally.

Link between WOCAT and the Carbon Benefit Project (CBP)



How to use the linkage?

as of 2020



1. Fill in the **WOCAT** questionnaire on SLM Technologies



2. Automatic data transfer from WOCAT to CBP



Output of WOCAT questionnaire on SLM Technologies

Carbon-enrichment of tropical agricultural soil with organic matter (Brazil)

Enriquecimento de carbono em solo de lavoura com matéria orgânica (Brazil)

DESCRIPTION

Carbon-enrichment of tropical agricultural soils with locally available organic matter in the Cerrado agricultural landscape, Brazil, in the Carbiol Project viable land management strategies were explored to optimize the level of carbon in soil and water, helping to maintain and/or improve ecosystem functions, under changing climatic conditions in the Southern Amazon and the Brazilian Cerrado. In the framework of this project, on-farm experiments were performed to enrich tropical agricultural soils in the medium term, with different types of organic matter (OM). In the experiment the effect of different types of OM amendments on soil carbon and macro-nutrients (N, P, and K), soil physical properties (water-holding capacity) and crop yield (soy biomass and grain production) were assessed. The amendments applied are locally available, and are either free (being waste materials) or considered cost-efficient. The objective of this on-going experiment is to compare the impact of (i) the quality and quantity of OM applied, (ii) and the application methods (directly on the soil surface or incorporation by harrow) on soil chemical and physical properties. It is hypothesized that the addition of OM can enhance crop yields and, potentially, soil biodiversity. The effects of the different OM types, amounts and application methods were evaluated after one, two and three years. From the results, the aim is to provide recommendations for the development of soil OM-enrichment schemes and carbon-friendly landscape management programs for farmers' energy level across zones.

LOCATION

Location: Campo Verde, Mato Grosso, Brazil

No. of Technology sites analyzed:
Geo-reference of selected sites
-55.0415, -16.17247

Spread of the Technology:
Date of implementation: less than 10 years ago (precisely)

Type of introduction
through land users' innovation as part of a traditional system (> 50 years)
during experiments/ research
through research/ external interventions

STATISTICAL CONSIDERATIONS

Average annual rainfall: 2125.0 mm

Agro-Climate zone: Sub-humid

Landforms: Plateaus

Slope: 0%

Soil texture: Very clayey

Soil depth: 0-10 cm: Very clayey, 10-20 cm: Very clayey, 20-30 cm: Very clayey, 30-40 cm: Very clayey, 40-50 cm: Very clayey, 50-60 cm: Very clayey, 60-70 cm: Very clayey, 70-80 cm: Very clayey, 80-90 cm: Very clayey, 90-100 cm: Very clayey

Soil water table: 0-10 cm: Very clayey, 10-20 cm: Very clayey, 20-30 cm: Very clayey, 30-40 cm: Very clayey, 40-50 cm: Very clayey, 50-60 cm: Very clayey, 60-70 cm: Very clayey, 70-80 cm: Very clayey, 80-90 cm: Very clayey, 90-100 cm: Very clayey

Soil water table: 0-10 cm: Very clayey, 10-20 cm: Very clayey, 20-30 cm: Very clayey, 30-40 cm: Very clayey, 40-50 cm: Very clayey, 50-60 cm: Very clayey, 60-70 cm: Very clayey, 70-80 cm: Very clayey, 80-90 cm: Very clayey, 90-100 cm: Very clayey

MAINTENANCE INPUTS AND COSTS

Calculation of inputs and costs:
- Corn: 1000 kg/ha
- Fertilizer: 100 kg/ha
- Average wage cost of manual labor per day: 2.00

MAINTENANCE INPUTS AND COSTS

Input	Unit	Quantity	Cost per unit (BRL)	Total cost per ha (BRL)	% of costs borne by farmers
labor	hr	1.0	5.0	5.00	100%
machinery use	hr	1.0	15.0	15.00	100%
total cost for maintenance of the Technology				20.00	100%

DECISIONS BY PRACTICER/SOURCE CATEGORIES

Source category	Source sub-category	Without Project (Baseline scenario)			With Project (Project scenario)			Incremental difference (Project scenario minus baseline scenario)		
		CO ₂ e	CO ₂ e/yr	Uncertainty (%)	CO ₂ e	CO ₂ e/yr	Uncertainty (%)	CO ₂ e	CO ₂ e/yr	Uncertainty (%)
Soil Carbon Stocks	Mineral Soils*	13488	2248	24	101					
	Organic Soils	0	0	0	0					
Total Soil Carbon Stocks		13488	2248	24	101					
Total Greenhouse Gas Emissions		-291369	-48061	72	-308					



3. Answer the remaining questions of the **CBP tools** (approx. 60% filled with data from WOCAT)



4. Automatic integration of the GHG assessment into the WOCAT output

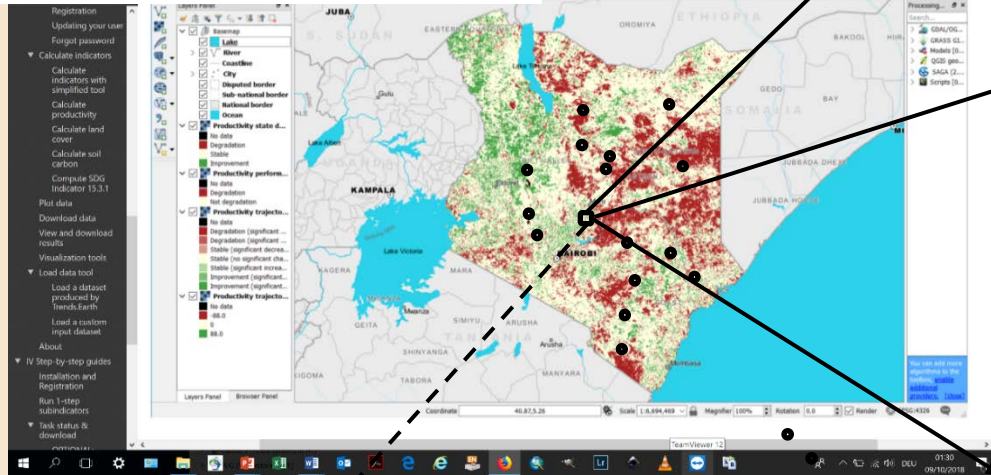
GHG assessment from the CBP tools

Tools 4 LDN: Monitoring LDN linking local / national / global



(1) National

TRENDS.EARTH
tracking land change



(4) Local - Landscape

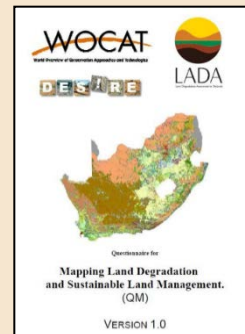
Add. Data e.g. Collect Earth (FAO)

(2) Local



Carbon Benefits Project

(3) Local



(5) National-Landscape

LADA-WOCAT mapping combined with data from (1), (2), (3), (4),...

Other linkages / modules (planned or under development)

- ✓ Linkage with other Mobile Apps like SQAPP (www.isqaper-is.eu) or FarmBetter (www.farmbetter.io)
- ✓ Offline Mobile App of the WOACT Technology Questionnaire (DS-SLM Thailand)
- ✓ Linkage with GeOC
- ✓ New project on SLM criteria and indicators for innovative financing mechanisms and private sector investment
- ✓ Visualization of WOCAT database..

To remember : WOCAT offers...



...a global open Network of sustainable land management experts and practitioners



...a series of standardized tools and methods for KM and DS in SLM



...an open access global knowledge base with good practices in SLM, LD and SLM maps, different books, guidelines, etc.



...support for projects and institutions to build their capacity in the assessment of land degradation and the evaluation of potential SLM solutions at different levels

WOCAT is not an institution that is implementing its own projects but is there to assist stakeholders if there is a need and an interest



Exercise on WOCAT Database



WOCAT SLM DATABASE

Home Search SLM Data Add SLM data My SLM Data

Search

Country: Select or type a country name

Project: Select or type a project name

Institution: Select or type a name





+ Add Filter

[Add or edit filters](#)

SLM Data: SLM Technologies

i Only data declared as public are visible.

Your search results (1082)

	Contour Trench Bund [Afghanistan] Contour trench bund applied on contour lines of moderate slope to trap run-off to improve soil fertility and water infiltration. Compiler: Aqila Haidery 04/12/2016 8:12 a.m. EM
	Community bakery [Afghanistan] A sustainable option for bread baking and reducing shrub consumption. Compiler: Aqila Haidery 01/05/2013 9:25 a.m. EM
	Stone wall [Afghanistan] Contour stone walls constructed on moderate to steep slopes to retain water and sediment. Compiler: Aqila Haidery 02/16/2016 6:59 a.m. EM
	Cultivation of Hing (<i>Ferula assa-foetida</i>) in the watershed [Afghanistan]

<https://qcat.wocat.net>

Interests and needs in a SLM CoP

What elements to develop (Wenger-Trayner, 2015):

Domain the definition of the area of shared inquiry and the key issues

Community the relationships among members and the sense of belonging

Practice the body of knowledge, methods, stories, cases, tools, documents



Wenger-Trayner (2015)

? For the Group work: **Which stakeholder group do you belong to** ?

Interests and needs in a SLM CoP

Task 1: Domain

- ❑ Discuss within your stakeholder group the Domain of one or different SLM CoP (15min)

e.g. **scale** (global, regional, national) or **specific conditions** (climatic zones, land use types, land tenure, other)

→ *Please use one card for each point*

- ❑ Present your specifications of the SLM CoP (each group 2min)



Wenger-Trayner (2015)

Interests and needs in a SLM CoP

Task 2: Community

- ❑ Discuss within your stakeholder group what you expect from a Community of Practices (15min)

e.g. Physical exchange?
Learning routs with other countries?
Trainings and capacity building?
Online exchange on good practices?
Thematic working groups?
Other?

→ *Please use one card for each point*

- ❑ Present your expectations of the SLM CoP (each group 2min)



Wenger-Trayner (2015)

Interests and needs in a SLM CoP

Task 3: Practice

- Discuss within your stakeholder group the role of the new WOCAT 2020+ initiative in a SLM CoP

→ Please write *core elements* on *green cards*
and *gaps* on *yellow cards*

- Final Plenary Discussion and further procedure
(each group 2min)



Wenger-Trayner (2015)

find  **on:**

World Overview of Conservation Approaches and Technologies

www.wocat.net

qcat.wocat.net

www.facebook.com/wocatnet

thank you!

tatenda.lemann@cde.unibe.ch