



World Overview of Conservation Approaches and Technologies

The Global Network on Sustainable Land Management

28.5.2024

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About WOCAT

The World Overview of Conservation Approaches and Technologies (WOCAT) is a **global Network established in 1992**.

WOCAT supports the compilation, documentation, evaluation, sharing, dissemination, and application of **sustainable land management (SLM) knowledge**.

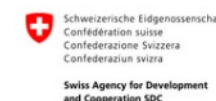
In 2014, WOCAT's growth and ongoing improvement culminated in being **officially recognized by the UNCCD** as the primary recommended Global SLM Database for best SLM practices.

<https://www.wocat.net/en/about>

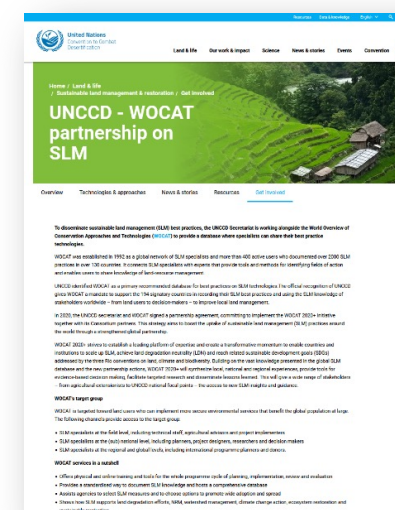
Consortium Partners



Funding Partners

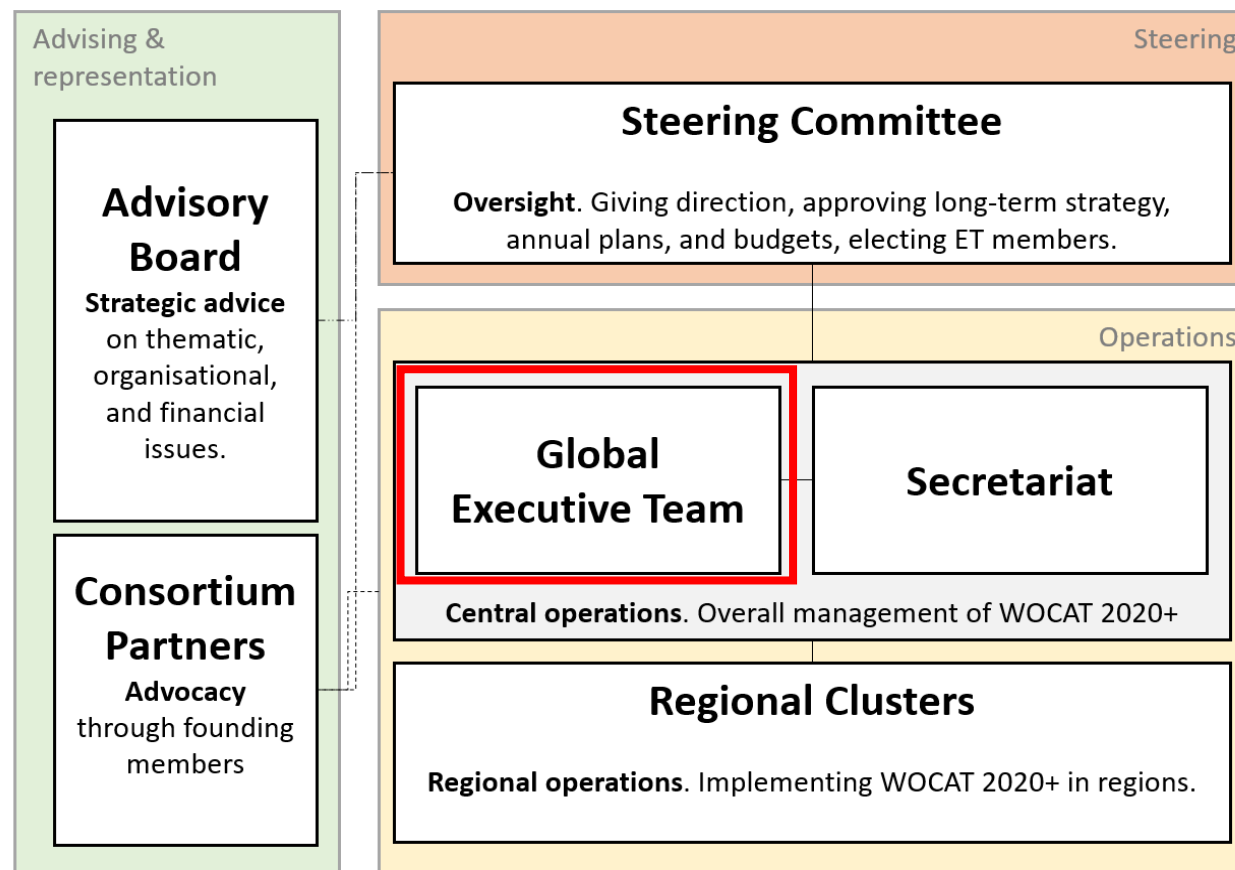


UNCCD knowledge Partner



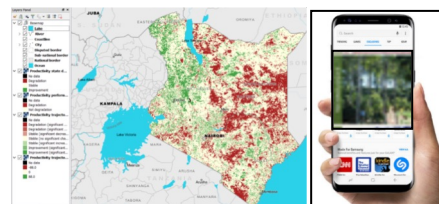
About WOCAT: Organizational structure

Global Executive Team



About WOCAT

WOCAT supports *innovation and decision-making in SLM* by:



maintain global, open
SLM network



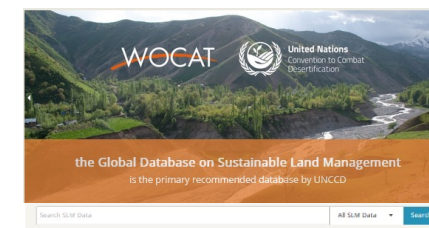
harmonize and
further develop
tools and methods
with partners



provide open access
global SLM data
repository



build capacities at
local, regional and
national level



Target groups

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

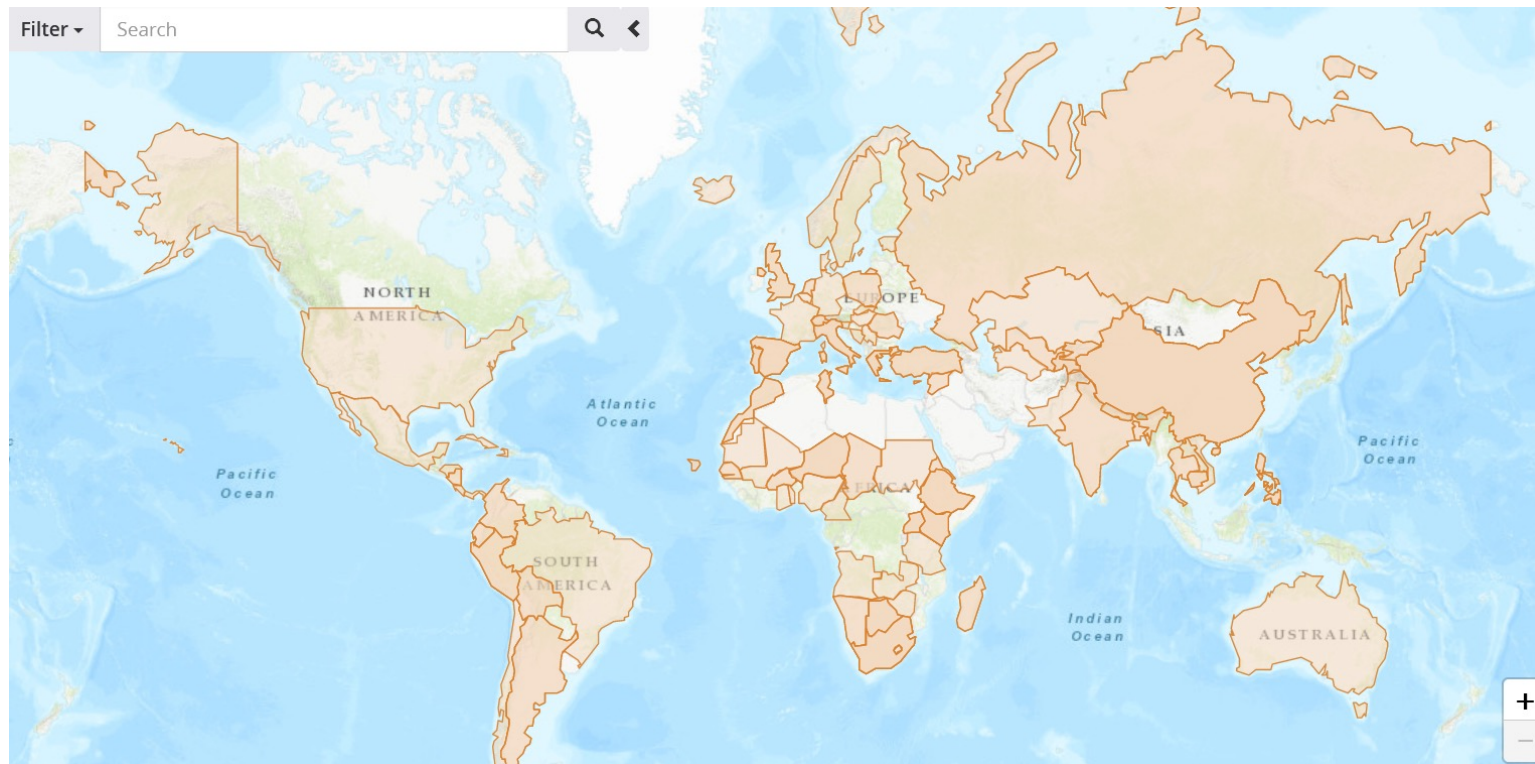
Target beneficiaries and ultimate beneficiaries:

Land users and the public benefit from more secure ecosystem services.



WOCAT collaborations: The Global SLM Network

At national and regional level, WOCAT collaborates with **projects and programmes – through international agencies, government actors and non-government actors (NGOs, CSOs, research org.)**. WOCAT tools and methods are included in specific projects, mainstreamed in programmes, and may become part of a national strategy.

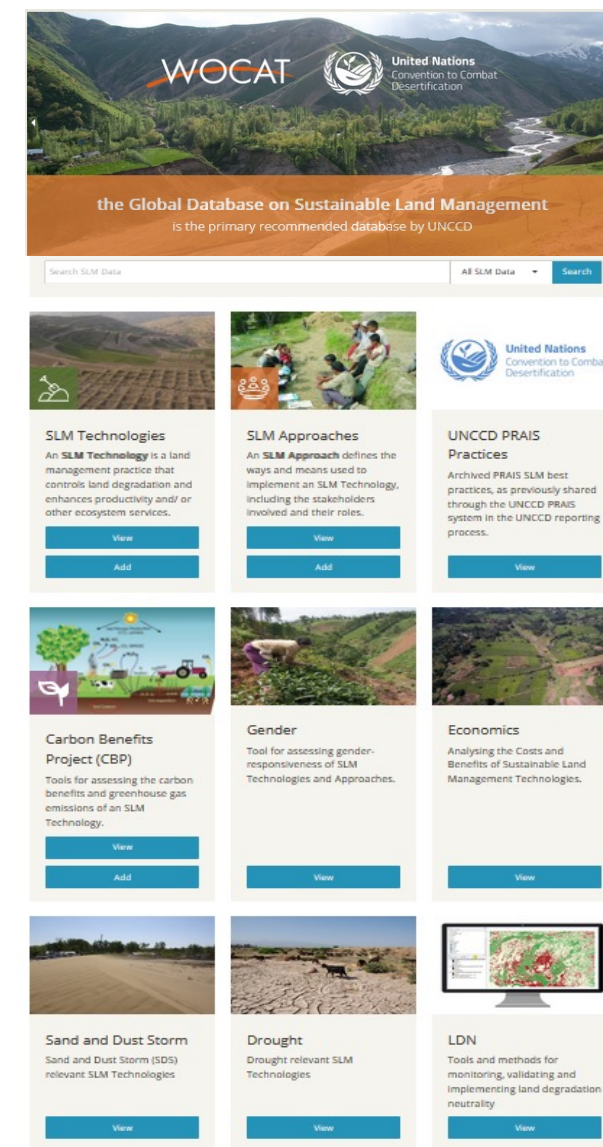
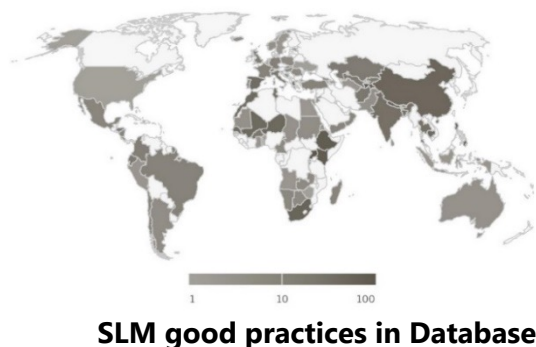


WOCAT Global Database

Main features

- ✓ **free upload and worldwide sharing** of countries' good SLM practices in English, Spanish, French, Russian, Chinese, Portuguese and other languages
- ✓ **free access** to 2200+ reviewed, proven, field-tested SLM practices from over 130 countries
- ✓ **standardized summary** of all Technologies and Approaches can be downloaded in various languages
- ✓ **database filter** to find relevant SLM practices for specific landscapes, land uses etc.
- ✓ possibility to integrate national SLM good practices in national/project/global platforms **through API**

UNCCD parties and other reporting agencies are encouraged to enter and share SLM best practices in the WOCAT SLM Database, and report in PRAIS under "Implementation Framework"/"Actions on the ground" (section 7.4.1 of the PRAIS reporting manual)

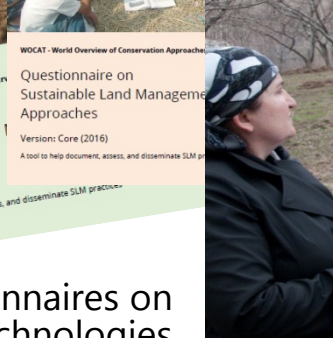
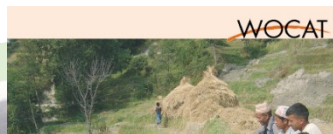


<https://qcat.wocat.net>

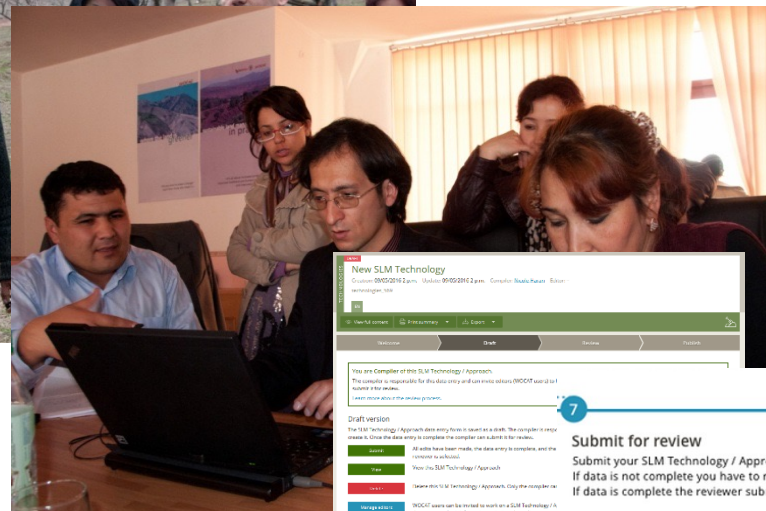
Global WOCAT SLM Database – process



Questionnaires on SLM Technologies and Approaches



Documenting information from and with land users, entering in Questionnaires



Entering data in Database



Review process




Data available online

WOCAT Global SLM Database

WOCAT SLM DATABASE

Home Search SLM Data Add SLM data My SLM Data Visualize SLM Data 8335 Nicole Harari English




WOCAT United Nations Convention to Combat Desertification

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

WOCAT Global SLM Database


Information for UNCCD Parties



Key Numbers


- 2434 SLM Practices published from 136 countries by 472 users.
- 1438 SLM Technologies
- 545 SLM Approaches
- 442 UNCCD PRAIS Practices
- 101 new practices published in the past 90 days.

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



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

View



UNCCD PRAIS Practices
Archived PRAIS SLM best practices, as previously shared through the UNCCD PRAIS system in the UNCCD reporting process.

WOCAT SLM DATABASE

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Search All SLM Data

Country: Select or type a country name Project: Select or type a project name Institution: Select or type a name Language: Select or type a language name


Advanced filter for: SLM Technologies SLM Approaches Search

Only data declared as public are visible.


Your search results (2425)




Watershed Associations (WSA) and Natural Resource Management Committees ... [Afghanistan]
Two Watershed Associations (WSA), in Chaker and Nahrstan watershed areas respectively, are registered at the national level with the Ministry of Agriculture Irrigation and Livestock (MAIL) and at the regional level with the Department of Agriculture. Both associations are strong, active, dynamic, and have the capacity to coordinate and support ...
Compiler: Bettina Wolfram 08/15/2016 3:06 p.m.




Community-based Natural Resource Management [Afghanistan]
An approach to community participation in the sustainable management of natural resources
Compiler: Aqila Haidary 02/09/2016 midnight




Community-Based Watershed Management [Afghanistan]
Sustainable implementation of watershed management through appropriate SLM technologies, formation of organizational structures and capacity building of stakeholders
Compiler: Aqila Haidary 02/11/2016 midnight




Improved livestock shed for better health and productivity [Afghanistan]
Existing livestock sheds can be improved through interior and exterior refurbishing, and door and window installation. More favourable indoor conditions benefit animal health and the quality of animal products.
Compiler: Bettina Wolfram 10/27/2016 9:44 p.m.



Contour hedgerows of alfalfa in annual cropland [Afghanistan]
Hedgerows are vegetative strips of perennial grasses, shrubs or legumes - such as alfalfa - located along contours across a slope. These vegetative strips form a barrier to halt soil erosion and improve soil fertility. Hedgerows of alfalfa also provide quality animal fodder for a period of 5-10 years.
Compiler: Bettina Wolfram 10/27/2016 9:36 p.m.



Gully treatment [Afghanistan]
Small check dams made of stone, together with planting of trees, slow water flow and reduce further erosion in a gully, leading to its restoration.
Compiler: Bettina Wolfram 08/13/2016 2:53 p.m.



Rotational grazing to restore degraded pastures [Afghanistan]
A plan for rotational grazing has been developed to control pasture use and prevent overgrazing of rehabilitated pastures.
Compiler: Bettina Wolfram 10/27/2016 9:40 p.m.

WOCAT Global SLM Database

SLM group

- ☐ natural and semi-natural forest management (61)
- ☐ forest plantation management (50)
- ☐ agroforestry (161)
- ☐ windbreak/ shelterbelt (63)
- ☐ area closure (stop use, support restoration) (65)
- ☐ rotational systems (crop rotation, fallows, shifting cultivation) (118)
- ☐ pastoralism and grazing land management (120)
- ☐ integrated crop-livestock management (103)
- ☐ improved ground/ vegetation cover (370)
- ☐ minimal soil disturbance (116)
- ☐ integrated soil fertility management (227)
- ☐ cross-slope measure (266)
- ☐ integrated pest and disease management (incl. organic agriculture) (66)
- ☐ improved plant varieties/ animal breeds (77)
- ☒ **water harvesting (147)**
 - ☐ irrigation management (incl. water supply, drainage) (161)
 - ☐ water diversion and drainage (89)
 - ☐ surface water management (spring, river, lakes, sea) (95)
 - ☐ ground water management (31)
 - ☐ wetland protection/ management (26)
 - ☐ waste management/ waste water management (24)
 - ☐ energy efficiency technologies (29)
 - ☐ beekeeping, aquaculture, poultry, rabbit farming, silkworm farming, etc. (23)
 - ☐ home gardens (40)
 - ☐ ecosystem-based disaster risk reduction (61)

[Add or edit filters](#)

WOCAT SLM DATABASE
Home
Search SLM Data
Add SLM data
My SLM Data
Visualize SLM Data
8335
Nicole Harari
English

Search
SLM Technologies
Country
Select or type a country name
Project
Select or type a project name
Institution
Select or type a name
Language
Select or type a language name
Search

SLM Data: SLM Technologies
SLM group: water harvesting
New Search

Only data declared as public are visible.

Your search results (147)

Roof rain water harvesting [Afghanistan]
Stone masonry reservoir linked with roof rain water through a pipe scheme to provide safe drinking/low cost water supply in the remote areas.
Compiler: Aqlia Haidery 05/30/2016 9:26 a.m.
EN

Kanda [Afghanistan]
A traditional underground water tank carved out of rocks to collect rainfall and snow water and reduce evaporation losses.
Compiler: Aqlia Haidery 11/17/2014 6:34 a.m.
EN

Multipurpose Earthen Dam [Bangladesh]
Artificial earthen dam constructed in the narrow valley of the hills for water harvesting, aquaculture, house hold uses and irrigation.
Compiler: Sankar Paul 11/03/2010 4:50 p.m.
EN

Labour perpendicular à la pente et gestion des ... [Benin]
Le labour perpendicular à la pente consiste à labourer suivant la courbe de niveau pour freiner le ruissellement et réduire le risque de l'érosion et de la dégradation du sol.
Compiler: Gatien AGBOKOUN CHRISTOPHE 03/13/2023 1:32 a.m.
FR EN

Springshed Revival through Trenches and Checkdams [Bhutan]
Springshed revival through trenches and check dams is associated with a nature-based solution approach to reviving more than 20 springsheds. These were widened with the occasional construction of check dams to prevent rill erosion from the newly revived spring waters.
Compiler: Karma Wangdi 07/14/2023 7:29 a.m.
EN

Low-Cost Plastic-Lined Water Harvesting Pond [Bhutan]
Low-cost plastic-lined water harvesting ponds collect and store rain and overland flow water for agricultural and domestic purposes in the dry season. They are both economic and efficient.
Compiler: Nima Dolma Tamang 07/06/2023 5:03 p.m.
EN

Roof rainwater harvesting system [Botswana]
Roof rainwater catchment system using galvanised iron roof material, feeding underground water tank.
Compiler: Julius Athopheng 11/15/2010 12:40 p.m.
EN FR

- automatically generated
- in all (available) languages (English, Russian, French, Spanish, Khmer, ...)
- used for good practices compilations; learning materials for e.g. extension services; global, regional, national knowledge products, etc.

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- used for good practices compilations; learning materials for e.g. extension services; global, regional, national knowledge products, etc.

TECHNOLOGIES

Highly Diversified Cropping in Live Trellis System [Philippines]

Creation: 03/11/2017 7:16 a.m. Update: 09/05/2019 3:48 p.m. Compiler: [Philippine Overview of Conservation Approaches and Technologies](#)

Reviewers: [Alexandra Gavilano](#), [Ursula Gaemperli](#)

Kakawate as live trellis "balag"

technologies_1930 - Philippines

EN

Print summary

See history

Full summary as PDF

Full summary as PDF for print

Full summary in the browser

Full summary (unformatted)

Completeness: 82%

[illegible]

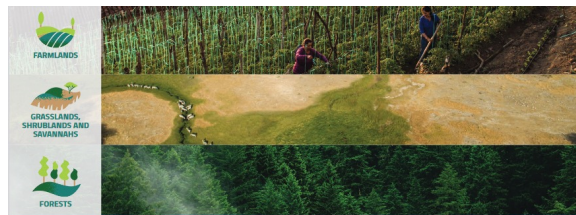
A map of Africa showing the distribution of 100+ green and orange location pins across various countries, indicating the presence of the studied species. The pins are concentrated in the Sahel region (Mali, Niger, Nigeria, Chad) and East Africa (Ethiopia, Sudan, South Sudan, Somalia, Kenya, Tanzania, Uganda, Rwanda, Burundi, DRC, Angola, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Lesotho, Eswatini). Other countries like Morocco, Algeria, Libya, Egypt, Israel, Jordan, Syria, Lebanon, Iraq, Saudi Arabia, Yemen, Oman, and Mauritania also have pins. The map includes labels for major bodies of water (Mediterranean Sea, Red Sea, Gulf of Aden, Gulf of Guinea, South Atlantic Ocean) and neighboring countries (Morocco, Algeria, Libya, Egypt, Israel, Jordan, Syria, Lebanon, Iraq, Saudi Arabia, Yemen, Oman, Mauritania, Mali, Niger, Nigeria, Chad, Sudan, South Sudan, Somalia, Ethiopia, Kenya, Tanzania, Uganda, Rwanda, Burundi, DRC, Angola, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, Namibia, South Africa, Lesotho, Eswatini).

SLM Technologies and Approaches documentation in WOCAT Database



How is the knowledge used? some examples

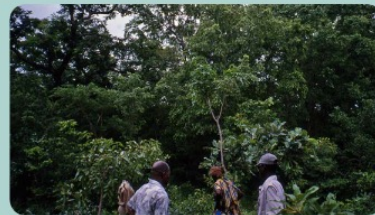
Globally: Good practices knowledge, Guidelines, learning and sharing events, capacity building



GOOD PRACTICES IN FORESTS

Sacred groves, Ghana

Sacred groves comprise islands of original forest, protected by the traditional authorities through a system of taboos and restrictions. It is believed they are home to ancestral spirits. In the Yiworga area of Northern Ghana, a sacred grove of around 14 ha is even richer in biodiversity than natural forest of the area. Limited use is allowed: beehives are permitted and medicinal herbs are harvested. There are parallels in other countries. In Ethiopia, many churches are surrounded by islands of pristine forest remnants. Localized environmental benefits are apparent, but importantly sacred groves – and similar protected forest remnants – act as seed banks of indigenous species.



Sacred groves in northern Ghana are islands of rich, indigenous biodiversity providing in-situ seed banks.

https://qcat.wocat.net/en/unccd/view/unccd_175/



"We will have abundant cattle because the samata trees will increase." Mrs Bienvenue Razanamalala (pointing), President of the local Women's Association.

Propagation of a forest fodder tree, Madagascar

Euphorbia stenoclada or "samata" is an indigenous constituent of Madagascar's unique and threatened "spiny forest". Here, forest ecosystem degradation is of global significance because of the high level of endemic species. Samata is vulnerable to habitat loss and increasing privatization of land. This directly impacts on livelihoods, as livestock are dependent on samata (amongst other species) for long periods of the year. Propagation through growing cuttings in nurseries, planting them out and protecting them – and training land users – is benefitting local communities because the long-term provision of supplementary fodder is then guaranteed, reducing pressure on natural vegetation.

<https://qcat.wocat.net/en/summary/48427as.html>
<https://vimeo.com/222340296>



Camp of Arab camel herders during their seasonal migration Project Almy Al Alla

Securing the mobility of pastoralism through consultation and access to water sources (Chad)

Project Almy Al Alla

DESCRIPTION

Securing the mobility of pastoralism through access to water sources (open wells and ponds in pastoral areas) and marking the livestock routes for transhumance: the case of the project Almy Al Alla in Chad and its consultative approach. Livestock keeping is one of the main economic resources in Chad (in support of 40% of the population and 18% of the GDP, Ministry of Livestock, General census). Pastoralism in the country is based on the mobility of herds in a context of irregular precipitation and variable forage resources in time and space, and benefits from complementary relationships between the different ecological zones. In Chad, herds are taken in regular movements with the seasons between the Sahelian and the Sudanese grazing areas. The former are nutritious but limited in quantity, while the latter are more abundant but of lower quality, and not accessible until the herds are chased after the harvest (livestock evaluation projects on pastoral water sources, IFD, 2013). Thus, pastoral livestock keeping is founded on mobility and rangeland management, and on building complementary relationships and trade around farming systems and cultivated areas. The pastoralist systems are economically competitive (limited use of food inputs), and occur in marginal land which is characterized by conflicts, riots and a high level of insecurity (Conference of N'Djamena: "Pastoral livestock keeping: a sustainable contribution to development and security in Saharan and Sahelian regions"). In the pastoral zone of Chad, where access to water is limited, the management and control of water sources by a social group in practice also leads to the monitoring and control of the use of grazing land which becomes available when water is present.

The project Almy Al Alla (2004-2016), developed by a partnership between the AFD and the Ministry of Water of Chad, operated in two regions of central Chad. The project Almy Al Alla was based on an entry 'development', concurrently with a process to consult and involve past agencies. The project has improved approaches of preceding initiatives: concerted action and identification of water sources derived from the dialogue between users and authorities, and development of the local management of infrastructure and rangeland. The latter consists of an exclusively private management or, instead, an ineffective public management which promotes free access to water sources and grazing land.

The project has enabled to address the following points:

1. Support mobility in pastoralism by enhancing the access to water (rehabilitation and construction of 160 wells; digging of 31 ponds for pastoral use);
2. Maintain or build processes of consultation and restoring security (joint committees for consultation and prevention of conflicts during transhumance);
3. Promote the proper use of water supply structures, in time and space (inhabited and new wells, excavated ponds) by context specific management (strengthening of traditional management systems) and encourage the maintenance of infrastructure.

SRM Technology • Securing the mobility of pastoralism through consultation and access to water sources, Chad



Global actions for sustainable rangelands and pastoralism to achieve Land Degradation Neutrality

A POLICY BRIEF WITH RECOMMENDATIONS FOR THE UNCCD CONFERENCE OF THE PARTIES (COP)

Prepared by the IYRP Rangelands & Land Degradation Neutrality Working Group

March 2024



LOCATION

Location: Although the sites where the technology was applied are at the local scale, the project has considered pastoralism and the relationships between the two regions at the broader landscape scale. Regions of Bahr and of Gambia, Chad.

No. of Technology sites analysed: 100-1,000 sites

Geo-reference of selected sites: 18.13618, 13.2275

18.63324, 12.1736

Spread of the Technology: newly spread over an area approx. 10-100 km²

Date of implementation: 2018

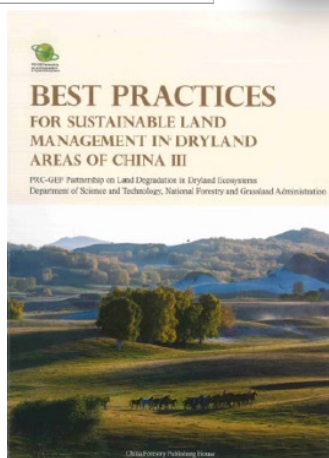
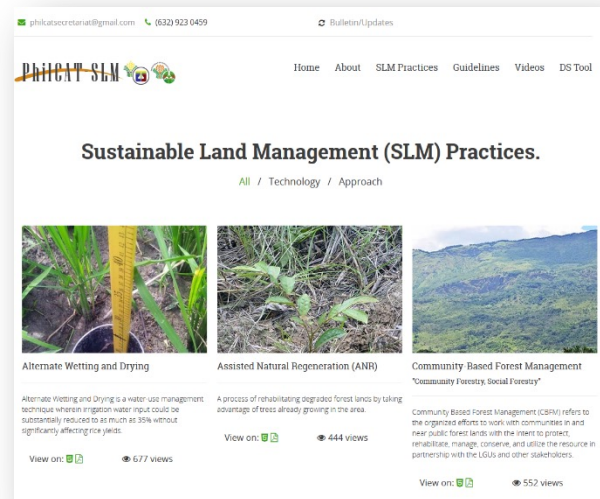
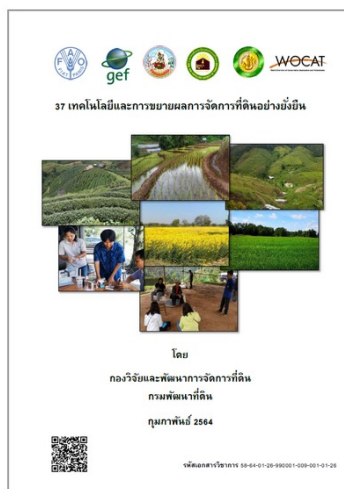
Type of introduction: through land users' innovation as part of a traditional system (> 50 years)

during experimental research through project/ external interventions

SRM Technology • Securing the mobility of pastoralism through consultation and access to water sources, Chad

How is the knowledge used? some examples

Nationally and locally: Reporting, Good practices compilations, learning and sharing events, capacity building, decision support for scaling



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Implementation framework
Action on the Ground

Implementing sustainable land management practices

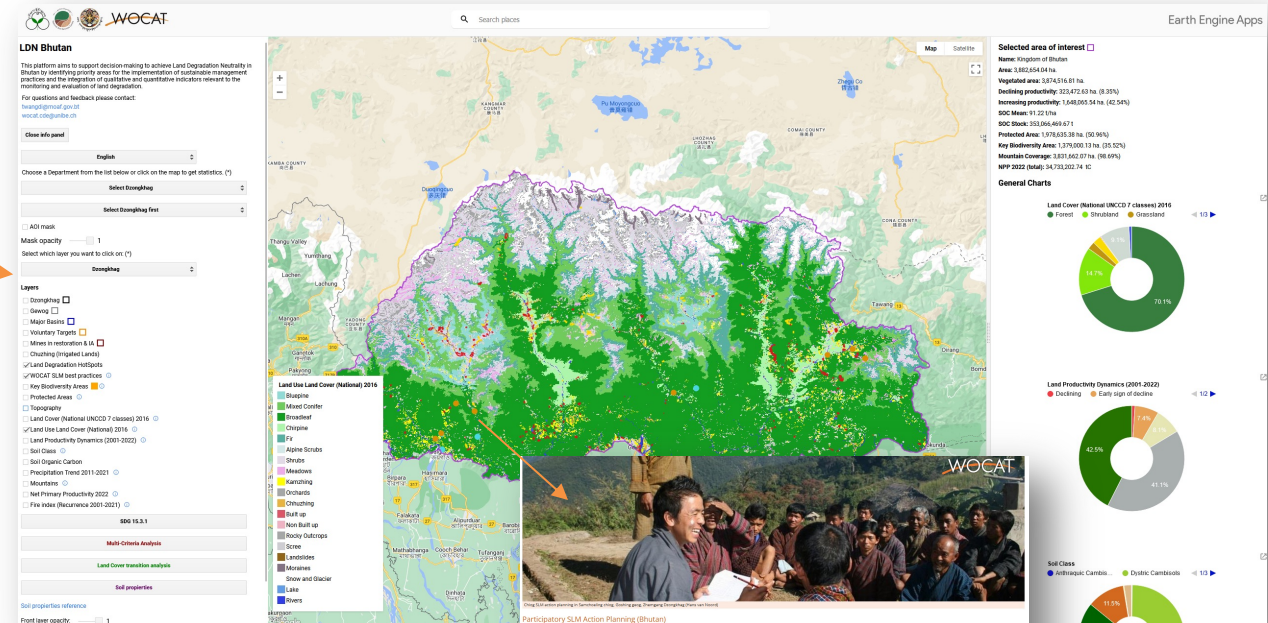
SLM practices	Would like to share experiences on how your country is implementing sustainable land management (SLM) practices to address DLDD?	Yes	No
		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	If yes, what types of SLM practices are being implemented?		
	<div> Pastoralism and grazing land management Post-harvest measures Rotational system (crop rotation, fallows, shifting cultivation) Surface water management (spring, river, lakes, sea) Water diversion and drainage </div>		
Narrative	Provide any complementary information you deem relevant		
	under the WOCAT framework. The project project has documented over 25 best SLM practices (agro-		
Support	Has your country supported other countries in the implementation of SLM practices?	Yes	No
		<input type="checkbox"/>	<input checked="" type="checkbox"/>



How is the knowledge used? some examples

Nationally and locally: Reporting, Good practices compilations, learning and sharing events, capacity building, decision support for scaling

<https://www.nssc.gov.bt/>



Vision

Sustainable management of soil and land resources for productive, diverse and resilient agri - food system and ecosystem services



Mission

To generate and promote appropriate technologies and information for improved soil health, agriculture productivity and ecosystem services



Mandates

Provide continuous assessment of the sustainability of the country's vital agricultural resources – soil and land, through survey, mapping, classification and evaluation.

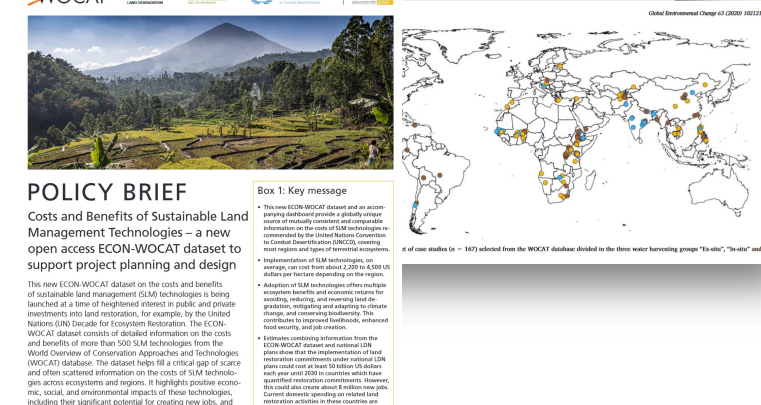
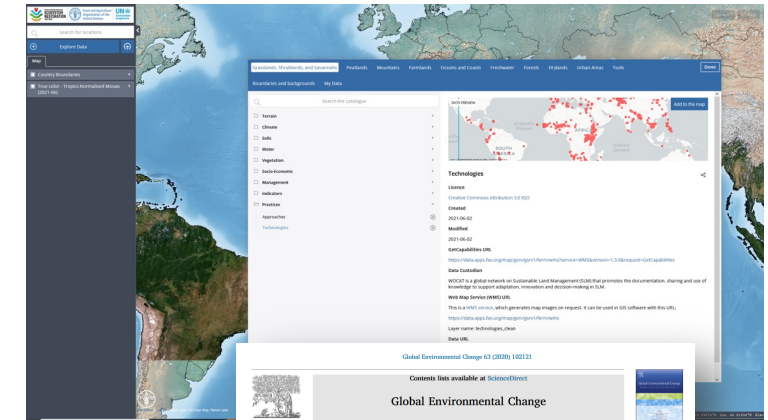
<https://wocatapps.users.earthengine.app/>

Global WOCAT SLM Database – linked platforms



Why is the Database used worldwide?

- **standardized documentation**, supporting **knowledge management, comparison, analysis at different levels**
- **sharing good practices at local, national and global level**
- **open access, integration into own/national platforms/websites** through API
- **automatic integration into global platforms** linked to the WOCAT Database
- dataset made available through API to scientists for **research purposes**
- inclusion of good practices in **global knowledge products** of WOCAT and partners (e.g. with UNCCD) and presented at **global events** (e.g. June 17th DDD)



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Photo: RUA Cambodia