



# Scaling up climate resilient Sustainable Land Management with farmers, extension, education and policy

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# Promoting participatory documentation of good SLM practices

- **Participatory identification** of farmers with climate resilient SLM practices
- **Documentation and assessment** of SLM practices by RUA researchers with extension and farmers during a one-day farm visit
- Adding SLM data in **Global WOCAT SLM Database**, recommended by UNCCD for reporting on best SLM practices

- Standardized format, open access data, available in English and Khmer
- Application of SLM evidence in decision support process
- Use of evidence in Cambodia UNCCD reporting



*Working Towards Sustainable Land Management (SLM)*  
*A collection of SLM Technologies from Cambodia*

2018

WOCAT SLM DATABASE

Information for UNCCD Parties

Search SLM data

Key Numbers

- 2149 SLM Practices published from 132 countries
- 1288 SLM Technologies
- 462 SLM Approaches
- 448 UNCCD Pratices
- 14 new practices added in the last 90 days
- 109920 views from 188 different countries since launch in August 2014



The farm ponds to alleviate the potential impact of seasonal droughts and for increasing crop cultivation and aquaculture (Cambodia)

**DESCRIPTION**  
 This farm ponds to alleviate the potential impact of seasonal droughts and for increasing crop cultivation and aquaculture (Cambodia) is a best practice in SLM, as previously reported through the UNCCD Pratices system in the UNCCD reporting process.

**LOCATION**  
 This farm ponds to alleviate the potential impact of seasonal droughts and for increasing crop cultivation and aquaculture (Cambodia) is located in Cambodia.

Page 35 of 39

**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 DSD07?	Yes	No
If yes, what types of SLM practices are being implemented? Pastoralism and grazing land management Post-harvest measures Rotational system (crop rotation, fallow, shifting cultivation) Surface water management (spring, river, lake, sea) Water diversion and drainage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Narrative**  
 Provide any complementary information you deem relevant  
 Under the WOCAT framework, the project project has documented over 25 best SLM practices (agro-ecology, water, and soil). The project project has also documented 10 SLM technologies and 10 SLM approaches.

**Support**  
 Has your country supported other countries in the implementation of SLM practices?  
 Yes  No

**LOCATION**  
 This farm ponds to alleviate the potential impact of seasonal droughts and for increasing crop cultivation and aquaculture (Cambodia) is located in Cambodia.

**CONTACT**  
 Name: ...  
 Email: ...  
 Phone: ...

# Monitoring farming systems with farmers

- **Participatory analytical framework and assessment** of integrated farming systems (IFS) farms (SUCRA methodology)
  - Assesses the **impact of the IFS implementation** concerning biophysical and socio-economic factors (5 parts)
  - Identifies the **suitability of IFS practices** for different landscapes
- **Added value** of doing the monitoring on farms and together with farmers
- Process includes **capacity building** components on IFS for researchers as well as for farmers
- **Systemic perspective** of the implementation of IFS is important



# Embedding SLM data and information in education / curricula

Context:

- Curricula of agriculture higher-level education institutions in Cambodia do not teach SLM
- Large part of students go to work for extension, need to build up the right skills

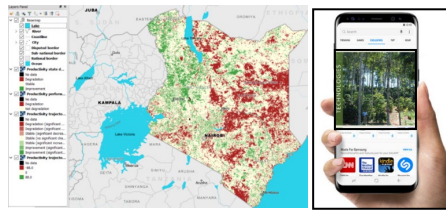
Conclusion:

- **To foster SLM scaling up: future generation needs to be trained on climate-resilient SLM solutions**
- **SLM needs to be integrated as a key topic in education**
- **Education for Sustainable Development (ESD) approaches need to be included into higher education curricula**



# Promote scaling through networks and exchange

## WOCAT – the global network for Sustainable Land Management



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



- global network of SLM experts and practitioners present in over 60 countries which:
  - facilitates knowledge production, exchange and learning
  - promotes standardized tools and open access data
  - Strengthens participation and equity in decision-making processes
  - Support scaling up processes
- WOCAT Regional Clusters are set up to enhance South-South collaboration and sharing of experiences and innovations



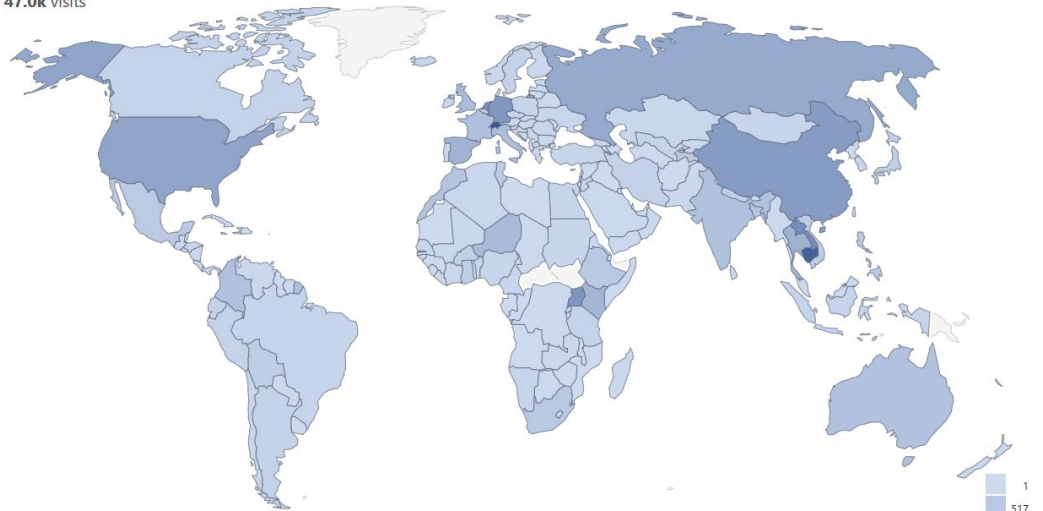
**Thank you!**

# WOCAT Global SLM Database

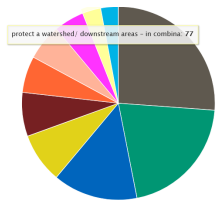
<https://qcat.wocat.net>

## Visitor Map

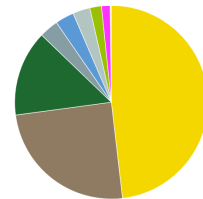
47.0k visits



## Countries

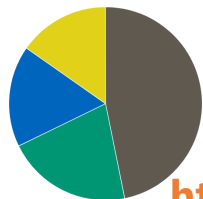


- reduce, prevent, restore land degradation
- improve production
- create beneficial economic impact
- conserve ecosystem
- adapt to climate change/ extremes and its impacts
- preserve/ improve biodiversity
- reduce risk of disasters
- create beneficial social impact
- protect a watershed/ downstream areas - in combina
- mitigate climate change and its impacts



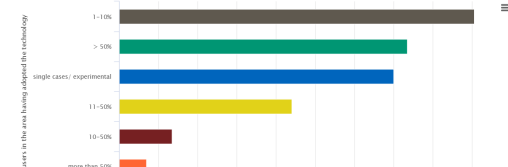
- Cropland
- Grazing land
- Forest/ woodlands
- Settlements, infrastructure
- Waterways, waterbodies, wetlands
- Unproductive land
- Mixed (crops/ grazing/ trees), incl. agroforestry
- Other
- Mines, extractive industries

## Origin / Introduction



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

## Number of users in the area having adopted the technology



<https://explorer.wocat.net> (under development)

WOCAT SLM DATABASE

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

the Global Database on Sustainable Land Management is the primary recommendation

### Key Numbers

- **2146** SLM Practices published from **133** countries by **432** users.
  - 1216 SLM Technologies
  - 481 SLM Approaches
  - 443 UNCCD PRAIS Practices
- **31** new practices drafted in the past 90 days.
- **106985** visits from **198** different countries since launch in August 2016.

#### 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](#)

#### Carbon Benefits Project (CBP)

Tools for assessing the carbon benefits and greenhouse gas emissions of an SLM Technology.

#### Land Degradation / Conservation

Mapping land management, degradation and conservation including driver, state and impacts.

#### CCA Module

The climate change adaptation tool assesses whether a specific SLM Technology is adapted to gradual climate changes and climate-related extremes (natural disasters).

# SLM Technology / Approach Summary

- automatically generated
- in all (available) languages
- used for good practices compilations; learning materials for e.g. extension services; knowledge products, etc.

**CLASSIFICATION OF THE TECHNOLOGY**

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

**NATURAL ENVIRONMENT**

Average annual rainfall: 250-500 mm, 501-750 mm, 751-1,000 mm, 1,001-1,500 mm, 1,501-2,000 mm.

Agro-climatic zone: Humid.

Ecological impacts: soil cover, soil loss, soil compaction, soil organic matter below ground C, vegetation cover, pest/ disease control, landslides/ debris flows, emission of carbon and greenhouse gases.

**Where?**

Soil depth: very shallow (0-20 cm), shallow (21-50 cm), moderately deep (51-80 cm), deep (81-120 cm), very deep (>120 cm).

Groundwater table: on surface, < 5 m, 5-20 m, > 20 m.

Species diversity: high, medium, low.

**CLIMATE CHANGE**

ADOPTION AND ADAPTATION

Percentage of land users in the area who have adopted the Technology: single cases/ experimental (1-10%), 10-50%, more than 50%.

Of all those who have adopted the Technology, how many have done so without receiving material incentives? 0-10%, 10-50%, 50-80%, 90-100%.

**CONCLUSIONS AND LESSONS LEARN**

Strengths/ land user's view: (1) Increase farm income, (2) Diverse farm produce, (3) Easy to establish, no need for technical knowledge to establish, (4) Inexpensive, (5) Organic farming.

Weaknesses/ disadvantages/ risks: land user's view: (1) Pest infestation, (2) Pesticide application.

Strengths/ compiler's or other key resource person's view: (1) Low production cost, (2) Easy to maintain, (3) Effective erosion control measure, (4) Increase farm yield and income, (5) Diverse farm produce, (6) Easy to transfer.

**REFERENCES**

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

Date of documentation: March 11, 2017

Resource persons: Gilda Uriza - land user, Calisto Dela Peña - SLM specialist, Baldemar Fine (balawine@gmail.com) - Soil Specialist / GIS Specialist, Jomar Rasad - Engineer, Mharcas Torres - Engineer, Arles Tayao - Engineer

Full description in the WOCAT database: [https://cat.wocat.net/en/wocat/technologies/view/technologies\\_1930](https://cat.wocat.net/en/wocat/technologies/view/technologies_1930)

Linked SLM data: FAO

Documentation was facilitated by: Bureau of Soils and Water Management (Bureau of Soils and Water Management) - Philippines

Project: Decision Support for Mainstreaming and Scaling out Sustainable Land Management (GEF-FAO / DS-SLM)

Completeness: 82%

**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

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Full summary (unformatted)

Completeness: 82%