Climate Change, Disaster Risk Reduction and the Role of Education

Sharing project experiences and good practices from addressing climate change and DRR through the education sector

8 June 2021



SDC Climate Change & Environment Network

SDC Network Disaster Risk Reduction

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Today's webinar

Welcome and opening - *Patrick Sieber, Senior Sector Policy Advisor Climate Change & Environment, SDC*

Sharing experience - *moderated by Sabina Handschin, Senior Sector Policy Advisor Education, SDC*

1. **Climate Change and Disaster Risk Reduction in Mongolian Education** - *Zayasaikhan Dugeree, Senior National Programme Officer, SDC Mongolia*
2. **Climate Change Adaptation and Disaster Risk Reducation in Education and the Comprehensive School Safety** - *Kelly Ramsauer, Grants Manager, Save the Children*
3. **Enhancing capacities of the young generation in Cambodia - Addressing issues of food insecurity, land degradation, climate change and disaster risk through education for sustainable development** – *Sophea Tim, Lecturer, Royal University of Agriculture, Cambodia, Isabelle Providoli, Senior Research Scientist, & Nicole Harari, Research Scientist, Centre for Development and Environment, University of Bern*

Q&As and discussion - *moderated by Sabina Handschin, Senior Sector Policy Advisor Education, SDC*

Closing Remarks - *Jacqueline Schmid, Senior Sector Policy Advisor Disaster Risk Reduction, SDC*

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International Cooperation Strategy's Objectives

Environment: Addressing climate change and its averse effects and managing natural resources sustainably

Human Development: Saving lives, ensuring basic services, especially in relation to education and healthcare, and reducing causes of forced and irregular migration

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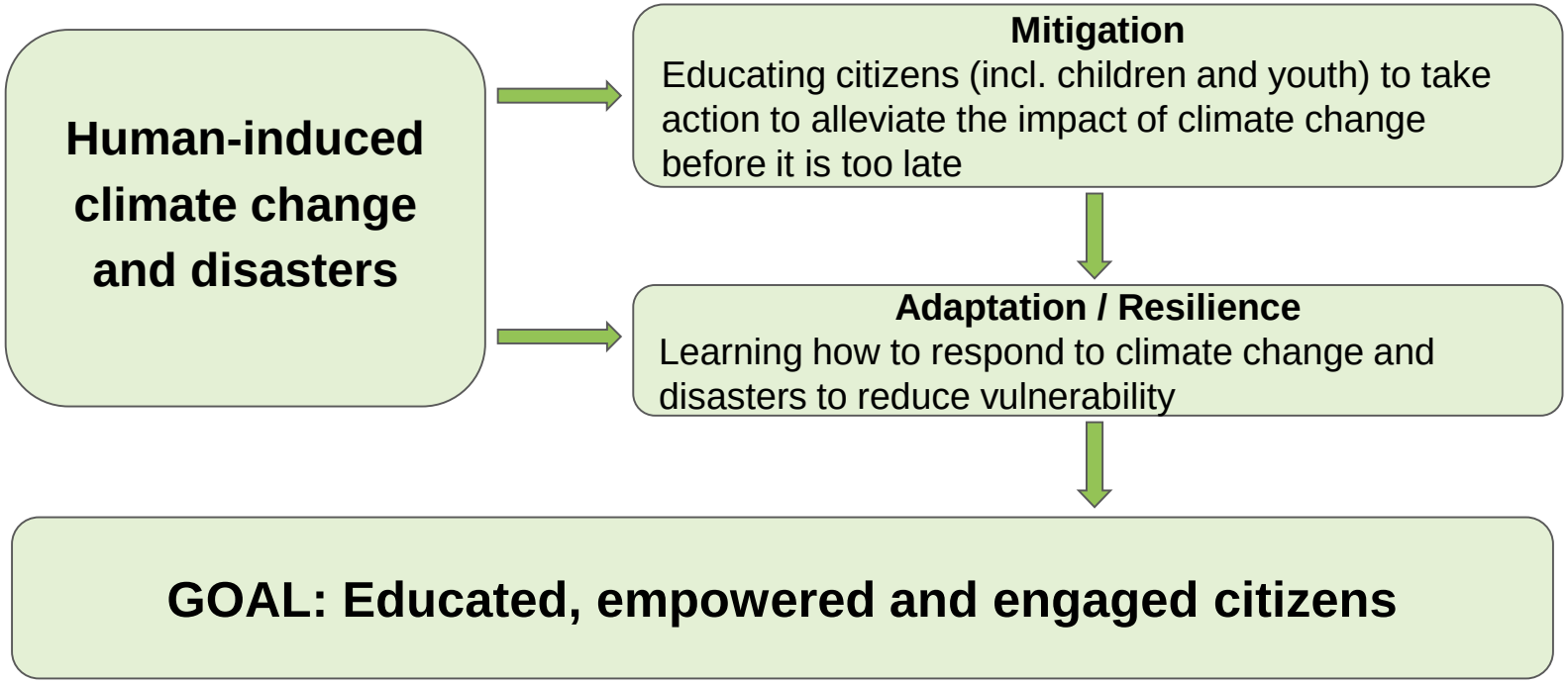
The role of education in addressing climate change and in strengthening disaster preparedness and resilience



GOVERNMENT OF MONGOLIA
MINISTRY OF EDUCATION, AND SCIENCE

GOVERNMENT OF MONGOLIA
MINISTRY OF ENVIRONMENT AND TOURISM

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

CLIMATE CHANGE AND DISASTER RISK REDUCTION IN MONGOLIAN EDUCATION

Zaya Dugeree,
Mita Nangia Goswami,
Shine Erdenebayar
SDC MONGOLIA

Promote an environmentally, socially and economically responsible, equitable, and sustainable future for the people of Mongolia through Education for Sustainable Development.

A HOLISTIC APPROACH

ECONOMIC

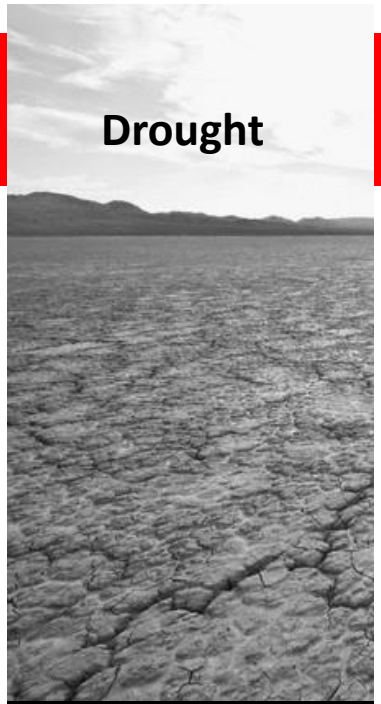
GOVERNANCE

ENVIRONMENT

SOCIETY CULTURE

Vulnerability

Wildfires



Dried lakes and rivers: 1034

Desertification 77.8%

Snow catastrophes

THE FIGHT AGAINST CLIMATE CHANGE BEGINS IN SCHOOL

Chart 1: CCE coverage in science curricula

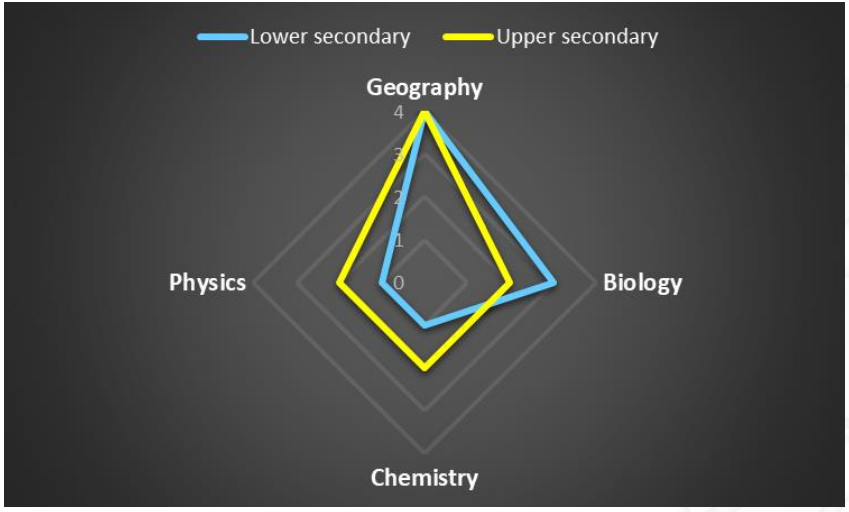
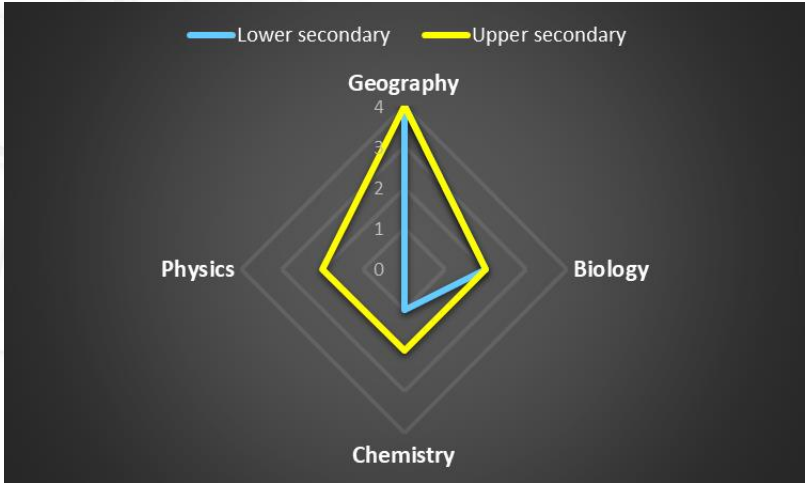
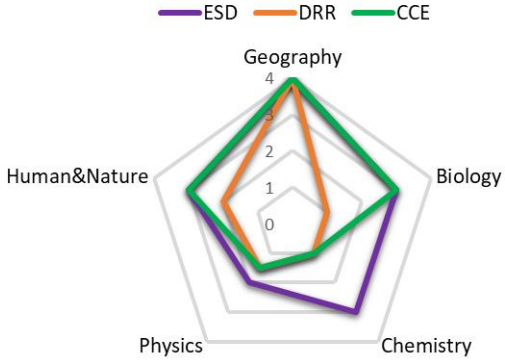


Chart 2: DRR coverage in science related curricula



Integration level of CEE/DRR/ESD into textbooks



Lesson		Grade	Lesson topic	Scientific aspects	ESD
Physics	Lower Secondary	IX	Electricity and power	Electricity and power Electricity and safety Electricity consumption	Adhere to safety rules Electricity consumption and counter
	Upper secondary	XI	Global warming	Heat, temperature, radiation, Heat radiation – greenhouse effect, global warming	Explain the greenhouse effect and its causes by heat radiation
Biology	Lower Secondary	VIII	Learn the ability to refuse to smoke	Harmful effects of secondhand smoke, Respiratory impacts of toxic substances in secondhand smoke	Indirect strategies to promote health and well-being Prevent from drugs
	Upper secondary	X	Forest deforestation and its consequences	Identify the impact of human activities on habitat degradation: Deforestation	Threats to biodiversity: Forest extinction
Chemistry	Lower Secondary	IX	Greenhouse gas	What kind of gas is greenhouse gas? What is the source of greenhouse gases?	Climate change: Global warming and greenhouse gas
	Upper secondary	X	Ammonia plant	Determination of basic conditions of ammonia plant	Sustainable production (low greenhouse gas emissions, low energy consumption, low waste etc.)
Geography	Lower Secondary	VIII	Responsible mining	Positive and negative consequences of mineral exploitation and land degradation	Threats to biodiversity: improper use-overuse and soil reclamation
	Upper secondary	XI	Panama Canal	Defining the relationship between the transport sector and the environment and socio-economics: Panama	Road transport infrastructure needs: economic benefits and low greenhouse gas emissions,

DRR: THE SAFE LIFE SKILLS CURRICULUM

- Strengthening national capacity for earthquake disaster protection and prevention in Mongolia.
- Knowledge, skills, behaviors and attitude is expected to be built at each education level after implementing the Safe Life Skills training curriculum.
- Training of Trainers
- Levels:
  - ECE
  - Primary education
  - Basic education
  - Complete secondary education

NEXT STEPS

- CCE integration into textbooks is more visible in **biology** and **geography**, remains limited in chemistry and physics.
- DRR integration into textbooks has been limited.
- Need for capacity building of teachers.

MOVING AHEAD WE NEED TO REFLECT CCE &DDR

- in the developing curricula.
- in contents of textbooks & in the evaluation system.
- in all subjects

THANK YOU, MERCI

Przewalski’s wild horse

Traditional script

Save the Children

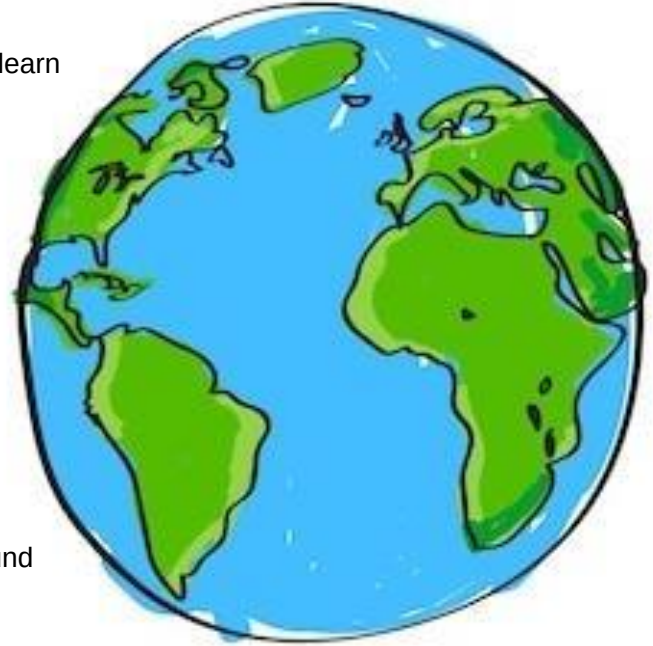
CCA & DRR in Education and the Comprehensive School Safety Framework

Kelly Ramsauer
Save the Children
kelly.ramsauer@savethechildren.ch

- June 8th, 2021 - Climate Change, Disaster Risk Reduction and the Role of Education

The scale of the Problem

Violence, natural and everyday hazards and conflict threaten children's rights to survive, learn and be protected



More than 1 in 3 students aged 13-15 around the world experience bullying

Around 500 attacks on schools were documented in DRC, South Sudan and Yemen in 2017

Nearly 720 million school-aged children live in countries where corporal punishment at school is not fully prohibited

Since 2000, almost 35,000 children around the world have died in schools due to disasters

Data from seven countries in Asia, the Caribbean and sub-Saharan Africa show that one in three girls and one in five boys have experienced sexual violence in school.

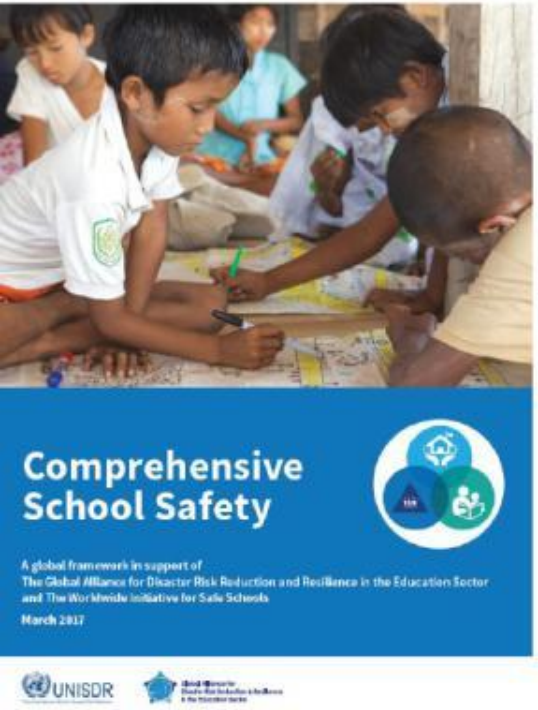
Between 2013-2017, 29 countries experienced military use of schools

1 in 4 girls say they never feel comfortable using school latrines

Disaster Impact on Education

1. Physical impact on students and staff
2. Physical impact on school facilities
3. Educational impact on student attendance, enrolment & achievement
4. Psychosocial impacts on students and staff

THE COMPREHENSIVE SCHOOL SAFETY FRAMEWORK



Goals of CSS

1. Protect students and educators from death, injury, and harm in schools

2. Plan for continuity of education through all expected hazards and threats

3. Safeguard education sector investments

4. Strengthen risk reduction and resilience through education

DRR in Urban Informal Settlements in Bangladesh

Phase 1: 2015-2017 – The pilot

Phase 2: 2018-2023 – Scalable outcomes

Locations: (12 wards)

Main aim

- Increased capacities of urban slum communities
- Enabling policy environment for urban resilience

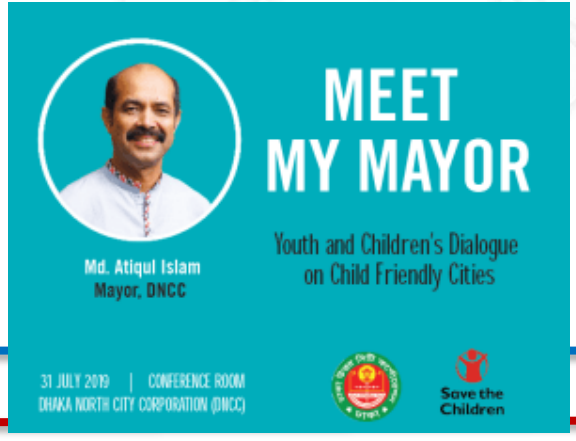
Bangladesh - Key elements

Enhancing capacities for resilience

- Urban community volunteers in slums & schools
- Train & support local disaster management committees
- HVCA assessments of wards

Bangladesh - Key elements

- Enabling policy environment
- Collaborate with & support government needs
- Bring stakeholders together for collective action & coordination
- Participate in the urban INGO forum
- Amplify the voices and needs of children & youth



School Safety in Sichuan, China

Where:

Sichuan Province: Ya'an City

Population size:

90'000'000

Natural hazard:

2008: Great Sichuan earthquake

- Approx. 80,000 people died;
- Over 7,000 schools affected

China - Key elements

- At school level
- Risk and resource mapping (School safety plan)
- Children and Parent committees
- Workshops and training e.g., on first aid, search and rescue, safe evacuation, etc.
- Mock drills

- From Schools to Households
- Family disaster plans activity
- Family disaster plans

- Government authorities & strategic partnerships
- Sichuan Education authorities
- Sichuan Academy of social sciences
- Strategic Partnerships with NGOs for scaling up & reach
- Children centred DRR and comprehensive school safety learning events and symposiums

- THANK YOU

Enhancing capacities of the young generation in Cambodia

Addressing issues of food insecurity, land degradation, climate change and disaster risk through Education for Sustainable Development (ESD)

Isabelle Providoli[1], Sophea Tim[2], Nicole Harari[1], Hanspeter Liniger[1], Karl Herweg[1]

[1]Centre for Development and Environment, University of Bern, Switzerland, [2]Royal University of Agriculture, Cambodia

Climate Change, Disaster Risk Reduction and the Role of Education - Webinar Tuesday, 8 June, 2021

Initial collaboration between CDE and RUA

Established a partnership in 2016 through the IFAD funded project

Scaling-up sustainable land management (SLM) practices by smallholder farmers in Cambodia:

Working with agricultural extension services to identify, assess and disseminate SLM practices"

IFAD
Investing in rural people

WOCAT

Little relevant knowledge at HEI on topics of sustainability:

- SDGs and UN conventions
- Impact of climate change and DRR
- Degradation and sustainable use of natural resources
- Systemic thinking of socio-ecological systems
- …

- No focus on Education for Sustainable Development (ESD)

How can we capacitate the young generation to become future change agents?

- What **competences** do students need to master **to foster sustainable development** in their future jobs?
- How are they able **to address today's and future challenges** of food security, climate change, resource degradation, and poverty?

Aligned with national efforts related to SDGs

- Graduates of RUA assume positions of responsibility in **government, research, teaching, private industry, civil society, …**
- How can we design **effective teaching-learning arrangements at RUA** to build these competences?

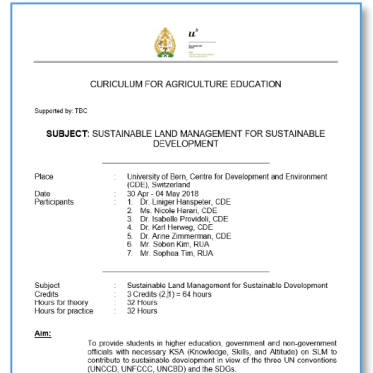
Photo: HP Liniger

Grant opportunity:

"Bringing sustainability science to Cambodia – Develop a Sustainable Development and Sustainable Land Management curriculum at higher education institutions in Cambodia"

- **Collaborative process:** Co-design of curriculum for the RUA and other agriculture-focused higher education institutions in Cambodia.
- **Integrates Education for Sustainable Development (ESD) approaches,** combination of innovative didactics, new teaching-learning arrangements, and **thematic issues of sustainable development**, SLM, climate change, DRR, …

  At the end of the course …
  - … what do they need to know (**academic knowledge**)?
  - … what do they need to be able to do (**professional skills**)?
  - … what should their attitude and values be (**critical awareness**)?


CURICULUM FOR AGRICULTURE EDUCATION

Supported by: TBC

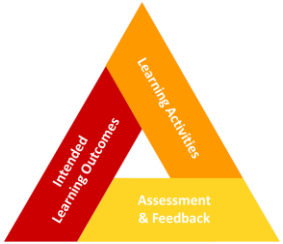
SUBJECT: SUSTAINABLE LAND MANAGEMENT FOR SUSTAINABLE DEVELOPMENT

Place	:	University of Bern, Centre for Development and Environment (CDE), Switzerland
Date	:	30 Apr - 04 May 2018
Participants	:	1. Dr. Liniger Hanspeter, CDE 2. Ms. Nicole Harari, CDE 3. Dr. Isabella Providoli, CDE 4. Dr. Kerl Herweg, CDE 5. Dr. Arne Zimmermann, CDE 6. Mr. Sobun Kim, RUA 7. Mr. Sophea Tim, RUA

Subject	:	Sustainable Land Management for Sustainable Development
Credits	:	3 Credits (2,3) = 64 hours
Hours for theory	:	32 Hours
Hours for practice	:	32 Hours

Aim:

To provide students in higher education, government and non-government officials with necessary KSA (Knowledge, Skills, and Attitude) on SLM to contributo to sustainable development in view of the threo UN conventions (UNCCD, UNFCCC, UNCBD) and the SDGs.



Illustrations: K Herweg

Joint development of SD-SLM curriculum

Which competences have to be built?

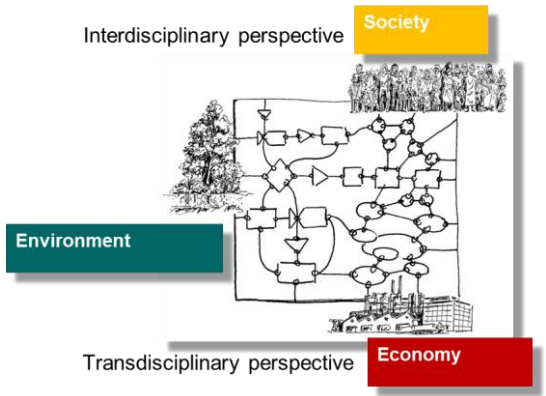
Photo: I Providoli

- **Understand concepts and frameworks** in land degradation (LD), sustainable land management (SLM), climate change adaptation & mitigation, and disaster risk reduction in the context of sustainable development, particularly the SDGs, and relate them to the context in Cambodia.
- **Understand the fundamental principles and functioning of (complex) nature-human interactions**
- **Master tools and methods** to document, assess and evaluate LD and SLM practices at farm and landscape levels
- **Develop potential solutions** for SD challenges jointly with farmers and other actors (multi-perspective knowledge)
- **Monitor impacts** of implemented solutions
- **Communicate adequately** with a broad range of actors
- **Share results** in writing (reports, posters) and orally (presentations)
- Etc.

Topics of the SD-SLM curriculum

6 thematic chapters

- Chapter 1: Introduction to SD, LD and SLM
- Chapter 2: SLM Technologies and Approaches, and Ecosystem Services
- Chapter 3: SLM, Climate Change and DRR
- Chapter 4: Mapping land degradation and SLM by using different tools
- Chapter 5: Decision-support tools for SLM and assessment of ecosystem services
- Chapter 6: Concluding session

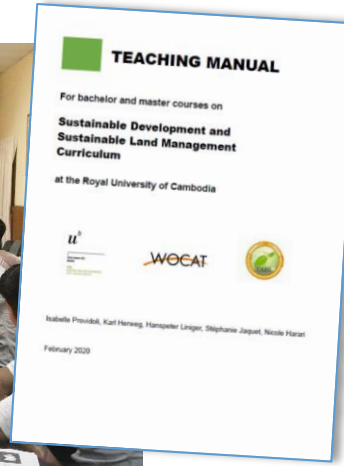


Chapter 1: Introduction to Sustainable Development, Land Degradation and SLM		
1.1	Introduction to Sustainable Development	
	Chapter 2: SLM Technologies and Approaches, and Ecosystem Services	
	2.1	Introduction to SLM Technologies and Approaches
		Chapter 3: SLM, Climate Change and DRR
1.2		3.1 SLM, DRR, CCA and resilient livelihoods
		3.2 SLM and Climate Change Mitigation
	2.2	**Chapter 4: Mapping land degradation and SLM by using different tools**
		4.1 Introduction to LD and SLM Maps in national and global context
1.3		4.2 Introduction to mapping tools including WOCAT, remote sensing for the assessment of ecosystem services, climate change adaptation and mitigation
	2.3	
	2.4	**Chapter 5: Decision-support tools for SLM and assessment of ecosystem services**
		5.1 The role of knowledge-based decision making for up-scaling SLM practices and decision-support tools for SLM
	2.5	
		5.2 WOCAT participatory stakeholder workshop
	2.5.2	Socio-economic impacts (including livelihoods)
	2.6	Cost-benefits analysis
	2.7	SLM related ecosystem services at farm and landscape levels
	2.8	Assessment framework for ecosystem services
	2.8.1	Bio-physical assessment of ecosystem services
	2.8.2	Economic valuation of ecosystem services

High-level Launching of SD-SLM curriculum and Training of Trainers (ToT)

- The **High-level official launching event** of the SD-SLM curriculum held in January 2020 in Phnom Penh
  - 64 participants: policy-level officials, donors, HEI lecturers and researchers

- Followed by a **4.5-days ToT** for 15 RUA's lecturers and researchers, delivered by CDE senior research scientists
  - innovative didactics, new teaching-learning arrangements, and
  - thematic issues of SD-SLM



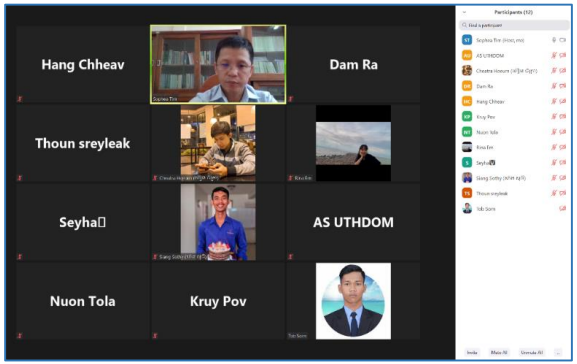
Pilot teaching

1st pilot, May 2020

SD-SLM course at RUA Faculty of Forestry Science, BSc. 3rd Year,
3 Credits, 64 hours

Challenges faced…

- Covid-19 problems
- Lecturer is teaching this course for the first time
- Concept of sustainability is new and abstract for students



2nd pilot, May 2021

SD-SLM course at RUA Faculty of Forestry Science, BSc. 3rd Year,
3 Credits, 64 hours

Improved experience…

- Covid-19 problems, yet virtual class via Zoom is improved due to the better familiarity with it
- Group exercises possible
- More adapting on the content

→ Students presenting group work results on Cambodia SDGs

Outlook

Short-term

- Identify and **address needs for further development and refinement of the course**
- **Joint SD-SLM course** with other relevant BSc Faculties *(Agronomy, Agriculture Engineering, Rural Development, and Land Management and Administration) – interdisciplinary setup.*
- Further collaboration between RUA and CDE **to promote ESD in Cambodia**, and to elaborate **the knowledge base and knowledge packages related to sustainable landscape development further.**

Longer-term

- In the next stage the **course is applied in other agriculture based HEIs** – another ToT will be required
- The **future vision** is that the RUA will become a leading research institution in the field of SD and ESD.

Thank you!

Further information about the project:

https://www.wocat.net/en/projects-and-countries/projects/bringing-sustainability-science-cambodia-education-sustainable-development

Q & A and Discussion

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Closing Remarks

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Thank you for joining !

In case you missed it, check out the joint newsletter on climate change, DRR and the role of education.

Please visit:

- Education Shareweb and its webpage on climate change and DRR
- Climate Change & Environment Shareweb
- Disaster Risk Reduction Shareweb

And get in touch (*contact details are available on each respective Shareweb*).

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