



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)

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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”



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?
- 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?



Aligned with national efforts related to SDGs



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**)?



CURRICULUM 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. Liniget Haispeler, CDE 2. Ms. Nicole Harari, CDE 3. Dr. Isabella Providoli, CDE 4. Dr. Karl Herweg, CDE 5. Dr. Arne Zimmerman, CDE 6. Mr. Sohan Kim, RUA 7. Mr. Sophia Tim, RUA
Subject	: Sustainable Land Management for Sustainable Development
Credits	: 3 Credits (2/1) = 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 contribute to sustainable development in view of the three UN conventions (UNCED, UNFCCC, UNCBD) and the SDGs.

Joint development of SD-SLM curriculum

Which competences have to be built?



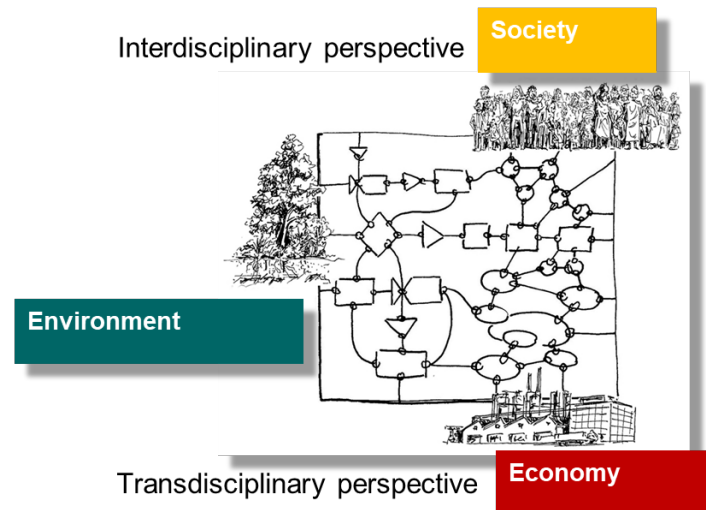
Photo: I Providoli

- **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

Chapter 4: Mapping land degradation and SLM by using different tools

2.2 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

Chapter 5: Decision-support tools for SLM and assessment of ecosystem services

2.3 5.1 The role of knowledge-based decision making for up-scaling SLM practices and decision-support tools for SLM

2.4 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

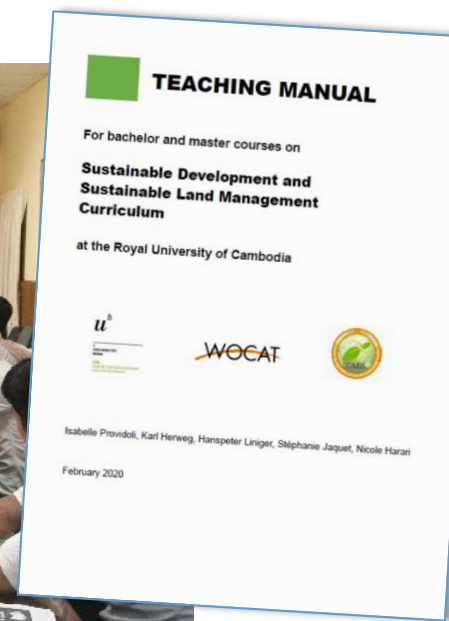
2.8.2 Economic valuation of ecosystem services

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



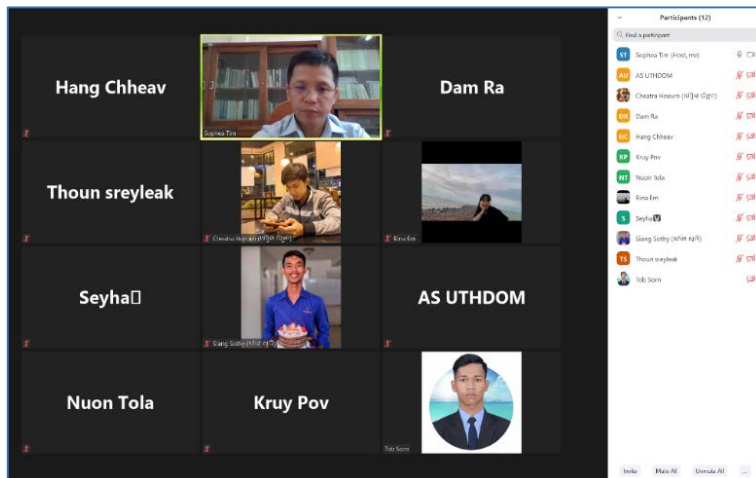
Pilot teaching

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>

