



Improving land change simulation capacity to reduce conflict
from competing land demands – Fourth Progress Report

May 2016

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reduce conflict from competing land demands
– Fourth progress report**

Produced by the Institute for Environmental
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Institute for Environmental Studies,
VU University Amsterdam
De Boelelaan 1085,
1081 HV Amsterdam, The Netherlands
T: + 31 20 5989555
E: Info@ivm.vu.nl

Contact for this project:
Jasper van Vliet
T + 31 205983052
E: Jasper.van.vliet@vu.nl

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1. Introduction

This report is the fourth progress report for the Land Use Change Simulation and Training project commissioned by the Asian Development Bank under the Greater Mekong Subregion (GMS) Core Environment Program (CEP). The project aims to build capacity on land use change simulation (LUCS) modeling in the Greater Mekong Subregion, which is expected to support GMS governments in answering a variety of spatial planning questions at strategic planning levels.

This document reports on the tasks and outputs delivered during the period of 1 November 2015 to 30 April 2016 (Chapter 2)

Chapter 3 provides an overview of the resources spent during the aforementioned reporting period, in relation to the entire project budget.

2. Project progress

This section reports on tasks and outputs scheduled for the period of November 2015-April 2015. The reporting of the tasks follows their order in the contract.

Task 1.3 Develop GUI and 1.4 Implement LUCS model

Version 1.3 of the CLUMondo LUCS model was delivered in December 2015. This version can now be downloaded from Core Environment Program's Regional Portal (portal.gms-eoc.org → tools) as well as from the IVM website (<http://www.environmentalgeography.nl>). The model includes all intended functionality, and counts as the final delivery for tasks 1.3 and 1.4, as acknowledged by ADB.

Task 1.6 Fix software bugs

Based on the experience of the project team as well as other users of the CLUMondo LUCS software version 1.3, a list of improvements was agreed with the LUCS software developer. The most important issues that have to be addressed are:

- Adjust the default parameters to reduce the chance for software crashes in an incompletely calibrated application. It should be noted that some parameters cannot be set meaningfully, so running a model that is not calibrated will continue to be prone to crashes.
- Improve the progress indicator. Currently it is difficult to see that the software is actually running, when it is (there is an indicator in the lower right corner). The LUCS software developer will consider the options to improve this (although there are technical limitations that prohibit the indication of the expected time to complete).
- Add a field to provide the units for land system services in the set-up wizard.
- Implement the possibility to copy-paste data into the tables in the software, and also out of these tables again, to facilitate parameter adjustment.
- Improve the neighborhood functionality. The implementation of the neighborhood function in the LUCS software version 1.3 did not function as it should due to a misspecification of the required files.

- Reduce the number of decimals displayed in the results of the regression analysis, in order to facilitate interpretation.
- Improve visualization of suitability maps. Under certain circumstances some suitability maps cannot be shown. This problem has been analyzed to ensure that all suitability maps can be shown at all times.

The deadline for implementing these issues is August 8, 2016. Further issues that become apparent until this date will be taken into account in discussion with the LUCS software developer.

Task 2.4 Translate self-teaching manual in all GMS languages.

The manual that was developed in English for the delivery of the LUCS model software (task 1.5) was revised thoroughly and provided to the National Academic Coordinators as a template for translation. The English text has subsequently been translated into the six languages of the GMS (Chinese, Burmese, lao, khmer, thai, vietnamese), and these translated manuals have been delivered to GMS-EOC as pdf's in a zip-file, all translations will also be made available on the GMS-EOC website. The translated manuals are also available from the CLUMondo website of VU University Amsterdam.

Task 3.3 Conference presentation of GMS applications

The LUCS capacity building expert, in collaboration with EOC, has proposed a session on "Trade-offs and synergies of land-change trajectories in southeast Asia" for the Global Land Project's Open Science Meeting, to be Held in Beijing, 24-27 October 2016. This session has been accepted. Subsequently, the following Abstract has been submitted for presentation in this session:

Projecting land system changes in the Greater Mekong Subregion

Jasper van Vliet, Peter, H., Verburg, and Lothar Linde

Although land change is a global phenomenon, its manifestations differ from one location to the other. We present a land systems characterization and a land system change projection for the Greater Mekong Subregion. The land systems classification is tailored to this region by including specific agricultural systems and mixed systems, including swidden, permanent agriculture, and large scale land acquisitions. The land systems projections are simulated based on different drivers for land products, including urban areas and food production. Moreover, the different land systems allow changes in land use intensity as well as area, depending on the origin of the demand (local communities or international markets), land availability, and land use management. Simulations will be analyzed in terms of forest cover changes as well as food security.

4.2 Provide LUCS input to 2 national planning processes

After consultation with EOC it has been decided that the case studies will be developed for Lao PDR and for Cambodia. The NACs of the respective countries have been informed and are contacting their national institutions to align the LUCS modeling exercise with ongoing policy developments.

An application of Lao PDR has already been developed for the train the trainer workshops. From June 2016 onwards this application will be adjusted in consultation with the National Academic Coordinator for Laos, and the relevant governmental institutions.

The application for Cambodia is under development. As each application starts from a land system maps, we are now in the process of collecting these maps and assembling an initial land systems map. Moreover, the National Academic Coordinator, and coworkers from his home institution have been contacting governmental stakeholders already for the implementation of this in the relevant departments (most likely related to water management).

Both applications will be developed throughout the summer, so that they are available for implementation from the end of this summer onwards. Visits of the LUCS capacity building specialist are planned for this autumn, to guide the implementation, and assist the users in the selected governmental institutions. This planning will allow to report on both applications to during the LUCS network meeting, which is planned early 2017.

3. Resources and project management

The tables below indicate per team member the number of days spent on the respective tasks in this project in the period 1 November 2015 to 30 April 2016, in addition to the time spent in the previous reporting period. The percentages in the bottom row indicate the percentage of time used so far, relative to the total project budget. No costs were made on reimbursable expenses during this reporting period, but the table is still provided for the sake of completeness.

Prof. Dr. Peter Verburg – Team Leader and LUCS modeling expert

Task	Description	Period	Days spent
1.3	Final check and website LUCS model	December 2015	3
1.6	Review list of software improvements	April 2016	1
4.2	Provide feedback on selected case studies	January-April 2016	2
5.2	Report on the previous reporting period	November 2015	2
x	Previous reporting period		39
Total			47 (67%)

Dr. Jasper van Vliet – LUCS Capacity building expert

Task	Description	Period	Days spent
1.3	Complete LUCS software	Dec-15	2
1.6	Fix software bugs (explanation and discussion with Software developer)	March, 12-13 April 2016	3
2.4	Translation software manual	December 2015, March-April 2016	2
3.3	Conference presentation	March, 11 April 2015	2
4.2	Setup data collection, discuss with local partners	Complete period, mostly April	5
5.2	3rd semi-annual progress report	1-13 November 2016	3
x	Previous reporting period		146
Total			161 (81%)

Roel Vanhout – LUCS Software developer

Task	Description	Period	Days spent
1.3	Software development (Fixing issues in UI and model integration, prepare installer)	Nov 1 - 8 2015	2
1.6	Meeting and coordination bugfixes	16 March 2016	1
x	Previous reporting period		85
Total			88 (98%)

Prof. Dr. Li Yongmei – National Academic Coordinator Yunnan province, PR China

Task	Description	Period	Days spent
2.4	Translate LUCS manual	August-Sept 2015	15
X	Previous reporting periods		36
Total			51 (77%)

Dr. Xin Nie – National Academic Coordinator Guangxi Zhuang Autonomous Region, PR China

Task	Description	Period	Days spent
2.4	Translation LUCS self-teaching manual	11-21 Nov 2015 9-12 Feb 2016	14
X	Previous reporting periods		36
Total			50 (76%)

Prof Dr. Yongyut Trisurat – National Academic Coordinator Thailand

Task	Description	Period	Days spent
2.4	Study the CLUMondo manual	November 2015	2
2.4	Translation of the CLUMondo training manual	Dec 2015-Feb 2016	9
2.4	Arrange a meeting to obtain comments	Feb 2016	1
X	Previous reporting period		36
Total			48 (73%)

Dr. Nguyen Thi Van Ha – National Academic Coordinator Vietnam

Task	Description	Period	Days spent
2.4	Translation of the CLUMondo training manual	Feb/March 2016	16
x	Previous reporting periods		33
Total			49 (74%)

Dr. Sarann Ly – National Academic Coordinator Cambodia

Task	Description	Period	Days spent
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2.4	Translation of the LUCS self-teaching manual in Khmer language	Jan-March 2016	10
2.4	Formatting the translated text	Mar-16	2
2.4	Revision of the translation	Mar-16	1
4.2	Development of Case proposal for LUCS model implementation	Nov.- Dec 2015	5
x	Previous reporting period		37
Total			55 (83%)

Dr. Thatheva Saphangtong – National Academic Coordinator Lao PDR

Task	Description	Period	Days spent
2.4	Translation LUCS manual	April 2016	13
4.2	Communication and preparation LUCS case study	March – April 2016	2
x	Previous reporting periods		30
Total			45 (68%)

Dr. San Win – National Academic Coordinator Myanmar

Task	Description	Period	Days spent
2.4	Translation LUCS manual	March 2016	13
x	Previous reporting period		31
Total			44 (64%)

Overview of payment milestones

Payment milestone	Status	Costs	
1 Mobilization report	Claimed	36774	10%
2 Inception report	Claimed	73549	20%
3 Semi-annual report 1	Claimed	36774	10%
4 Semi-annual report 2	Claimed	36774	10%
5 Semi-annual report 3	Claimed	36774	10%
6 Semi-annual report 4	Claim included	36774	10%
7 Approval of LUCS model	Claimed	55162	15%
Total		312581	[USD]

Other resources spent for the project

Invoice	Status	Costs
Kick-off workshop	Claimed	26776.52
Training of Trainer workshop	Claimed	27614.25
Total		54390.77 [USD]

