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Costs and Benefits Analysis of REDD+ Implementation in Cambodia

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Workshop Report

*A workshop convened as part of Cambodia's
REDD+ Programme*

Tuesday 21st October 2014, Phnom Penh, Cambodia

The United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) is the specialist biodiversity assessment centre of the United Nations Environment Programme (UNEP), the world's foremost intergovernmental environmental organisation. The Centre has been in operation for over 30 years, combining scientific research with practical policy advice.

The workshop was organised by the Cambodia National REDD+ Programme and REDD+ Taskforce Secretariat, in collaboration with the UN-REDD Programme. Initiated in 2011, Cambodia's National UN-REDD Programme focuses on effective management of the REDD+ Readiness process and stakeholder engagement, development of the National REDD+ Strategy and Implementation framework, improved capacity to manage REDD+ at sub-national levels, and design of a monitoring system. Formed in 2010, Cambodia's multi-agency REDD+ Taskforce coordinates REDD+ related activities at the national level. It is facilitated and coordinated by the Forestry Administration and includes members from the Ministry of Environment and Ministry of Land Management, Urban Planning and Construction.

The UN-REDD Programme is the United Nations Collaborative Initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries. The Programme was launched in 2008 and builds on the convening role and technical expertise of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). The UN-REDD Programme supports nationally-led REDD+ processes and promotes the informed and meaningful involvement of all stakeholders, including Indigenous Peoples and other forest-dependent communities, in national and international REDD+ implementation.

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Should readers wish to comment on this document, they are encouraged to get in touch via:

Mr Hong Kimhean, National Consultant to the REDD+ Taskforce Secretariat, email: kimhean-hong@hotmail.com

Ms Charlotte Hicks, UNEP-WCMC, email: charlotte.hicks@unep-wcmc.org

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Acknowledgements:

With thanks for comments and input from the participants of the workshop, including representatives of government agencies, international organisations and non-government organisations. Thanks also to the Cambodia REDD Taskforce Secretariat and technical advisors for their review of this report, as well as to Dr Ralph Blaney, UNEP-WCMC, for his comments and advice.



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Executive Summary

The 'Costs and Benefits Analysis of REDD+ Implementation in Cambodia' workshop was held on the 21 October 2014 in Phnom Penh, Cambodia. The workshop was part of a project that supports the implementation of the UN-REDD Cambodia National Programme, through helping to develop and trial REDD+ cost-benefits and spatial analyses to inform REDD+ planning.

The workshop involved more than thirty participants from government agencies, international organizations and non-government organizations involved in REDD+ readiness and implementation in Cambodia. The participants examined components of a cost-benefit spreadsheet tool being developed to support the exploration of the costs and benefits of REDD+ implementation in Cambodia. The tool considers opportunity costs, implementation costs and transaction costs of REDD+ options, as well as the benefits that REDD+ may generate.

Through group work and discussion, the workshop participants made recommendations for changes to the spreadsheet tool, and highlighted a number of challenges, such as translating costs and benefits into values per hectare. The key recommendations, which will guide further revision of the spreadsheet, include the following:

- More data on specific tasks and costs should be collected from relevant institutions, and multiple institutions where possible (to triangulate).
- Costs related to specific tasks should be more detailed.
- Citations and data in the spreadsheet should be updated.
- Costs for some specific tasks can be calculated per hectare, while not for others.
- Calculation of costs should take into account different management structures/requirements.
- The methodology of the calculations should be further clarified/defined.

In general, the participants considered the spreadsheet to be a valuable resource. A final draft of the spreadsheet tool is expected to be ready for further review in the first quarter of 2015.

1. Introduction

The 'Costs and Benefits Analysis of REDD+ Implementation in Cambodia' workshop was held on 21 October 2014 in Phnom Penh, Cambodia. The workshop was chaired by H.E Dr Chea Sam Ang, Deputy Director of the Forestry Administration and Director of the Cambodia National REDD+ Programme, and facilitated by Khun Vathana, Head of Cambodia's REDD+ Taskforce Secretariat (RTS), Charlotte Hicks (United Nations Environment Programme World Conservation Monitoring Centre, UNEP-WCMC) and Mr Hong Kimhean, a national consultant. Thirty-two participants (six female, not including facilitator) attended the workshop (See Annex 1 for a list of participants).

The workshop was part of a project that supports the implementation of the UN-REDD Cambodia National Programme, through helping to develop and trial REDD+ cost-benefits and spatial analyses to inform REDD+ planning. This project involves presenting the values of forests under different management regimes, along with estimates of the costs of implementing REDD+ options versus other land use options. This information will also be used to develop and trial a REDD+ costs and benefits GIS spatial analysis tool for Cambodia.

The workshop participants examined components of a cost-benefit spreadsheet tool being developed to support the exploration of the costs and benefits of REDD+ implementation in Cambodia. The tool considers opportunity costs, implementation costs and transaction costs of REDD+ options, as well as the benefits that REDD+ may generate (see Box 1 below for more detail). The data within the tool has been gathered from available sources and tailored to circumstances in Cambodia. The specific strategies considered to date in the tool include community-based sustainable management of forest, management of protected areas, forest restoration and reforestation and sustainable management of forests for forestry.

The workshop presented progress made on the tool, and with the participants then identified recommendations for changes, including improved sources for cost data. Discussion also highlighted a number of challenges, such as translating costs and benefits into values per hectare – some tasks translate better to such calculations than others. Next steps include refining the cost-benefit spreadsheet tool on the basis of the workshop recommendations.

2. Workshop objectives

1. Present the spreadsheet tool for assessing costs and benefits of REDD+ implementation in Cambodia.
2. Elicit feedback on the spreadsheet tool, the REDD+ strategy options included, and the preliminary data used.
3. Raise awareness on the utility of cost-benefit analysis for REDD+ planning.

3. Summary of workshop topics

3.1 Presentations

The workshop began with an opening speech from the Chair, H.E Dr Chea Sam Ang, Deputy Director of the Forestry Administration and Director of the National REDD+ Programme, welcoming participants to the meeting.



Group 1, consisting of policy-makers from a number of different sectors, was tasked to consider the most significant drivers of deforestation as well as the national REDD+ strategy options included in the spreadsheet. They were asked whether there were any further options from the Cambodia national REDD+ strategy that should be included in the spreadsheet tool.

Group 2, that included participants with knowledge on data availability, were asked to review implementation costs, transaction costs, opportunity costs and benefits in the spreadsheet. The group was to assess the accuracy of the spreadsheet figures, identify any missing figures, and recommend further data sources.

Group 3 focused on community-based sustainable forestry, one of the strategy options included in the spreadsheet tool. The group considered the inclusion of specific interventions and tasks within this option and their corresponding benefits and implementation costs.

Group 4 considered protected area management, another of the tool's strategy options, and the need for revisions in the interventions and tasks included as well as in the preliminary cost and benefit data for the intervention.

Group 5 was tasked with examining the third strategy option within the tool, that of forest restoration and reforestation, and the potential for revisions in interventions, tasks and the preliminary cost and benefit data.

The results and recommendations from the break-out groups are presented below, organised thematically.

A) Strategy options for REDD+

In general, there were few revisions proposed for the strategy options included in the spreadsheet tool. The participants commented on the following aspects related to the specific interventions, and drivers of land-use change:

- The importance of including relevant risks associated with interventions or specific tasks in the spreadsheet tool was highlighted.
- Economic growth, population growth and agricultural expansion were deemed the most significant drivers of deforestation in the past 25 years.

B) Opportunity costs

- More specific tasks for opportunity costs should be added in the spreadsheet:
 - Oil palm and cashew nuts data, from the Department of Industrial Crops of the Ministry of Agriculture, Forestry and Fisheries (MAFF);
 - Rice data, from the Department of Rice Crops (MAFF), agricultural census statistics;
 - Charcoal data, from Ministry of Industry and Handicrafts/Ministry of Mines and Energy.
- More crops, including cassava, pepper and coffee, should be added to the opportunity costs.

- Zoning (identification of) the potential areas in PAs for management should be mentioned in the spreadsheet.
- The specific task of “support monitoring on court judgment over forest crimes” should be mentioned.
- The costs for patrolling is very low (US\$2.88/ha). It should be increased to \$10-\$20/ha/year.
- Data for costs and elements of developing management plans may be available from the Central Cardamom Protected Forest (CCPF), and for the Seima and Oddar Meanchey projects.

C.3. Forest Restoration and reforestation

- Revisions of some of the interventions and specific tasks were suggested:
 - The spreadsheet should be revised for the specific task of “seedling production”. This normally requires 1,700 seedlings per hectare, with a cost of US\$0.5/seedling (in the case of afforestation, with no possibility for assisted natural regeneration).
 - The frequency of “production of television spot on forest restoration” (one of the specific tasks included in project documents that were examined for the tool), should still be included, but revised to 2 times over 5 years, instead of every year.
 - The costs for reforestation in the spreadsheet is very low (US\$800/ha). Currently, the cost of reforestation for indigenous species is US\$1,450/ha (from seedling production to completion of planting).
 - Costs for maintenance of planted seedling should be mentioned in the spreadsheet (under the reforestation intervention). The costs are normally calculated at least for 5 years after plantation.

C.4. Sustainable management of forests (forestry)

- Recommendations for some of the interventions and specific tasks included:
 - For the intervention of improved silvicultural techniques, more specific tasks should be added, including reforestation and “integrated crab-shrimp aquaculture”.
 - Two more interventions should be added under this strategy option. One is public awareness, in which several specific tasks, such as training, extension, campaigns, signboards and billboards should be included. Another is co-management, in which management tasks of the three agencies (FA, Fisheries Administration (FiA) and Ministry of Environment (MoE)), should be mentioned.
 - For the intervention of demarcation, registration of forest land titling, a specific task of “demarcation for mangrove forest” should be added, in which the cost of around 400 poles is required.
 - The costs for certification of forest products might be available from the Ministry of Commerce.
- Citations/sources of data for the spreadsheet should be updated. Some references date back to 2005, meaning that costs for specific tasks are probably inappropriate for the present.
- Cost for different communities are often different. As costs depend on management structures (e.g. CF, CPA, CFi), the calculation should be focused on different styles of management of communities.

Annex 1: Participants list

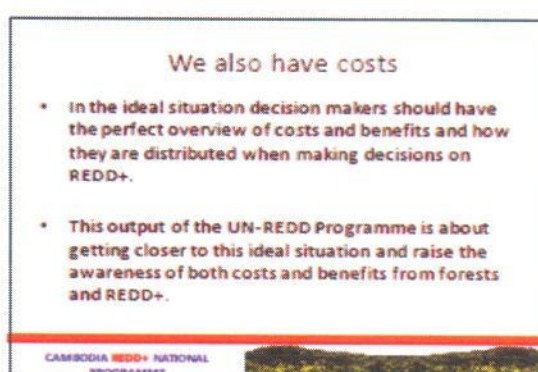
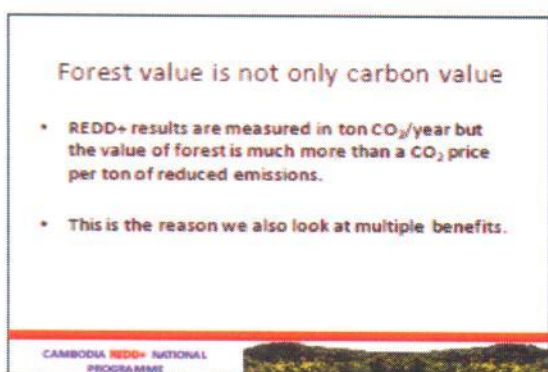
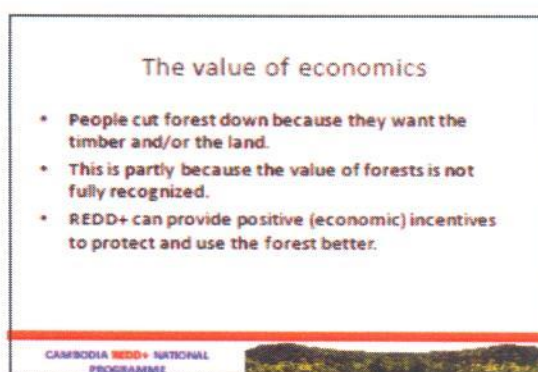
Name	Organisation
H.E. Chea Sam Ang	Chair of RTS/ Deputy Director, Forestry Administration (FA)
Khun Vathana	Head of RTS
Uon Sam Ol	Deputy Director, (Dept. of Forest Plantation Development and Private Forest (DPP), FA
Lim Bunna	Deputy Head, Dept. of Administration, Planning and Finance (DAP), FA
Long Ratannakoma	Deputy Director, Dept. of Forestry and Community Forestry (DFC), FA
Ches Sopheap	Office Manager, FA (F)
Chouth Titsophea	Dept. of Wildlife Protection and Biodiversity Conservation, FA
Ly Suthea	Officer, Fisheries Administration (FiA)
Touch Srey Pou Pisey	Officer, FiA (F)
Seng Leang	Dept. of Fisheries Conservation (DFC), FiA
Kim Sokha	Head of Division, DFC, FiA
Sokha Sophorn	General Department of Administration for Nature Protection and Conservation (GDANCP), Ministry of Environment (MoE)
Seng Rattanak	Deputy Chief Office, GDANCP/MoE
Tan Chan Tara	Head Office, General Dept. of Agriculture/MAFF
Sok They	Deputy Director, Ministry of Economics and Finance (MEF)
Seab Kimsrim	Officer, Institute of Forest and Wildlife Research and Development
Oum Rackmony	Officer, Ministry of Land Management, Urban Planning and Construction
Man Buntharith	Chief Officer, Ministry of Industry (Mol)
Sum Clual	Officer, Mol
Hang Kimleang	Director, Ministry of Mines and Energy (MME)
Alex Diment	Technical Advisor, Wildlife Conservation Society (WCS)
Hort Sokun	Manager, Wildlife Alliance
Naomi Matsue	Technical Advisor, FA/JICA (F)
Moeko Saito-Jensen	Programme Analyst, UNDP/UN-REDD (F)
Anupam Bhatia	Technical Advisor, UNDP/UN-REDD
Lun Kimhy	Programme Coordinator, RTS
Bun Racy	FiA/RTS
Pan Thida	Finance & Procurement Officer, RTS (F)
La Vaha	National Consultant, FAO/UN-REDD
Teng Huort	Project Assistant, FCPF/UNDP
Duk Sireivathana	Administrative Assistant, RTS (F)
Hong Kimhean	National Consultant, FA
Charlotte Hicks	Programme Officer, UNEP-WCMC (F)

be a spreadsheet tool that has been developed based on identified priorities and on certain assumptions that need to be validated by you. Once the spreadsheet has been finalized the second phase will be the preparation of the GIS planning tool.

I am confident that this workshop will make an important contribution to our understanding of the costs and benefits of REDD+ planning and contribute to the development a cost-effective and sustainable REDD+ program in Cambodia.

Thank you, and I wish you productive discussions.

2.B. Overview of workshop objectives, Mr Khun Vathana




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3. Quantifying the costs
Types of costs:

3.1. Opportunity

3.2. Transaction & Institutional

- national consultation
- reference levels
- scheme planning
- feasibility assessment



3.3. Implementation

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3. Quantifying the costs
Types of costs:

3.1 Opportunity

3.2 Transaction & Institutional

3.3. Implementation

- monitoring
- reforestation,
- land use planning
- forest protection
- administration....



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4. REDD+... why think beyond carbon?
Multiple benefits from forests:

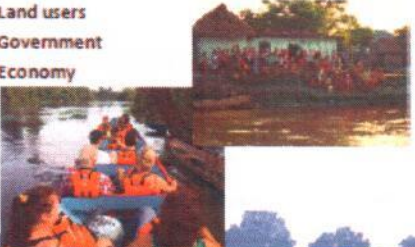
- ⇒ Water purification = clean drinking water
- ⇒ Wild foods = vegetable, fruits, seeds, animals, honey...
- ⇒ Sites for nature-based tourism = source of income/employment
- ⇒ Soil erosion prevention = reduced sedimentation of dams
- ⇒ Improved crop productions = bigger yield for crops bordering forests
- ⇒ Local climate improvement = shade from sun, shelter from winds
- ⇒ Traditional healing plants = alternative source of medicines
- ⇒ Cultural and spiritual values = preservation of special places
- ⇒ Water flow regulation = reduced downstream flooding
- ⇒ Selective harvesting of biomass = leaves/flowers, resins, brushwood
- ⇒ etc...

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5. Distributional analysis

Benefit to who?

- Land users
- Government
- Economy



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Thank you very much

6. Transaction costs

- Transaction costs estimated from variety of data sources

Source	Year	Value (USD)	Category
UNEP-WCMC (2010) - Cambodia REDD+ Implementation Costs	2010	10,000	Carbon
UNEP-WCMC (2011) - Cambodia REDD+ Implementation Costs	2011	15,000	Carbon
UNEP-WCMC (2012) - Cambodia REDD+ Implementation Costs	2012	20,000	Carbon
UNEP-WCMC (2013) - Cambodia REDD+ Implementation Costs	2013	25,000	Carbon
UNEP-WCMC (2014) - Cambodia REDD+ Implementation Costs	2014	30,000	Carbon
UNEP-WCMC (2015) - Cambodia REDD+ Implementation Costs	2015	35,000	Carbon
UNEP-WCMC (2016) - Cambodia REDD+ Implementation Costs	2016	40,000	Carbon
UNEP-WCMC (2017) - Cambodia REDD+ Implementation Costs	2017	45,000	Carbon
UNEP-WCMC (2018) - Cambodia REDD+ Implementation Costs	2018	50,000	Carbon
UNEP-WCMC (2019) - Cambodia REDD+ Implementation Costs	2019	55,000	Carbon
UNEP-WCMC (2020) - Cambodia REDD+ Implementation Costs	2020	60,000	Carbon

7. Benefits

- Tangible benefits, such as NTFPs, tourism income and carbon payments (carbon price can be changed)

Benefit Type	Year	Value (USD)
NTFPs	2010	10,000
	2011	12,000
Tourism	2010	15,000
	2011	18,000
Carbon	2010	20,000
	2011	25,000
Total	2010	45,000
	2011	55,000

8. Costs and benefits comparison

- Compare the costs with the benefits to see in what circumstances there is a net gain.

Item	Cost (USD)	Benefit (USD)	Net Gain (USD)
Carbon	10,000	15,000	5,000
NTFPs	15,000	20,000	5,000
Tourism	20,000	25,000	5,000
Total	45,000	60,000	15,000

9. Next steps

- Input required today to refine the model.
- Final spreadsheet and accompanying report to be presented by December.

Thank you!

ralph.blaney@unep-wcmc.org
charlotte.hicks@unep-wcmc.org

Key question for report-back:
 What is the most important issue to be addressed in the spreadsheet that your group looked at?

ព្រះរាជាណាចក្រកម្ពុជា
Kingdom of Cambodia
ជាតិ សាសនា ព្រះមហាក្សត្រ
Nation Religion and King

កំណត់បង្ហាញរឿង (Activity Note)

កម្មវត្ថុ (Objective):	សុំពិនិត្យ និងអនុញ្ញាត បកប្រែរបាយការណ៍កិច្ចប្រជុំពិភាក្សាស្តីពីចំណាយ និងផលប្រយោជន៍ដេបូក (Report of meeting on Costs and benefits of REDD+)
យោង(Reference):	- ផែនការថវិកាកម្មវិធី UN-REDD; Output: 2.2 ការវាយតម្លៃពហុប្រយោជន៍នៃព្រៃឈើ (UNEP fund)

ការប្រញាប់ (Urgent)

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<input type="checkbox"/> CTA <input type="checkbox"/> MRV	<input type="checkbox"/> ឯកសារ <input type="checkbox"/> ជូនជ្រាប <input type="checkbox"/> សម្រេច	

យោបល់មន្ត្រីជំនាញ (Comment/Activity Note by Technical Staff)

កិច្ចប្រជុំពិភាក្សាស្តីពីចំណាយ និងផលប្រយោជន៍ដេបូក បានធ្វើនៅថ្ងៃទី២១ ខែតុលា ឆ្នាំ២០១៤ នៅសណ្ឋាគារសូហ្វីតែល ភូមិត្រា ភ្នំពេញ។ របាយការណ៍នៃកិច្ចប្រជុំនេះបានរៀបចំជាភាសាអង់គ្លេស (ដូចបានភ្ជាប់ជូន) ។

យោបល់: របាយការណ៍នេះមានព័ត៌មានសំខាន់ៗស្តីពី ចំណាយ និងផលប្រយោជន៍ដេបូក និងការងារបន្តដែលត្រូវធ្វើដើម្បីបង្កើត ឧបករណ៍វិភាគសម្រាប់ជួយដល់ការសម្រេចចិត្តក្នុងការធ្វើផែនការដេបូក។ ដោយសាររបាយការណ៍ដើមជាភាសាអង់គ្លេស ដូច្នេះលេខាធិការដ្ឋានសូមការអនុញ្ញាតបកប្រែ ដើម្បីបង្កើនការយល់ដឹងឲ្យបានទូលាយដល់អ្នកអានជាភាសាជាតិ។

ដូច្នេះសូម D/HRTS និង D/NPD មេត្តាពិនិត្យ និងអនុញ្ញាតបកប្រែរបាយការណ៍កិច្ចប្រជុំខាងលើដោយអនុគ្រោះ។

ថ្ងៃទី០៥ ខែកុម្ភៈ ឆ្នាំ២០១៥ លន់ គឹមហ៊ី, អ្នកសម្របសម្រួលកម្មវិធី

យោបល់អនុប្រធានលេខាធិការដ្ឋាន
(Comment by Deputy Chair of CRST)

- បានពិនិត្យ + ឯកសារ
- បានអនុញ្ញាត បកប្រែ របាយការណ៍
និងផលប្រយោជន៍ដេបូក
លេខាធិការ
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០១-០២-១៥

យោបល់ប្រធានលេខាធិការដ្ឋាន
(Comment by Chair of CRST)

បានអនុញ្ញាត បកប្រែ របាយការណ៍
និងផលប្រយោជន៍ដេបូក
លេខាធិការ
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១២-០២-២០១៥

យោបល់អនុប្រធានកម្មវិធីជាតិ UN-REDD កម្ពុជា
(Comment by Deputy National Programme Director)

បានពិនិត្យ + ឯកសារ
[Signature]
16/02/2015

យោបល់ប្រធានកម្មវិធីជាតិ UN-REDD កម្ពុជា
(Comment by National Programme Director)

[Signature]
18/2