

Exercise developed for 'Regional Knowledge Exchange: Operationalizing and Financing National REDD+ Strategies: from Programming and Financing Implementation to Results-based Payments',
Bangkok, 10-12 Oct. 2017

***Cost-benefit analysis for REDD+ – using economic and other analyses to inform
REDD+ planning***

Developed by UN Environment World Conservation Monitoring Centre (UNEP-WCMC). Contact: Charlotte Hicks, charlotte.hicks@unep-wcmc.org

1. Exercise description / hand-out

Objectives: Learn about tools, processes and potential approaches to costing and budgeting of countries' Investment Plans, and discuss associated opportunities and challenges

Group exercise (60 – 75 min)

1. Introduction to the exercise (5-10 mins). Provide an overview of the exercise, highlighting its objectives and using brief instructions on PPT slides, step-by step.
2. Form groups of 5-8 people and receive materials (base map, pencils, PAMs cards) (5 mins).
Pencils to be used until the final ranking is done.
3. Each group will receives the same map, showing a number of different areas in a landscape, with a short description of what is shown on the map:
 - a set of 6 different areas, each with different forest areas (in ha), different other land areas (in ha) and rates of deforestation (DF) / forest degradation (DG) (% per decade) shown*(NB: the areas are different shapes but all the same size, and the forest type is all basically the same).*
4. Each group then chooses three PAMs cards (at random, e.g. from a hat/bag). The information will include:
 - The type of PAM and its objective/impact (e.g. reduce forest degradation)
 - Its estimated cost (implementation costs, USD per ha)
5. The groups also have a total budget for REDD+ in that landscape (US\$150 million, same for each group). Discuss and decide where you would implement each PAM in the landscape, based on this initial information: trends in forest; PAMs type and cost; and overall budget (20 mins).
(Encourage the groups to use Excel to figure out costs, or to prepare a worksheet if no Excel available. See example below)
6. Each group is now given another type of economic information:

- Estimated values for a co-benefit in a range (High-Medium-Low). For e.g. carbon payment, timber sales, fuelwood, NTFPs, control of soil erosion, tourism & recreation. (The values are 'net present value' per ha over a 25 year period)

Each group chooses one benefit card (at random) and decides whether to use the H, M or L values. Which value do they think is more accurate or credible? They then quickly calculate the potential returns on REDD+ per area, using this new value, and add that to their worksheet.

If there is enough time, more benefits cards can be given out.

How has this changed the prioritization of areas for REDD+? (20 mins)

7. Finally, the groups will receive another map with some non-economic information about the landscape:

- Poverty rates in the landscape, and
- Habitats for endangered species.

They need to decide again if they will change the areas prioritized for REDD+. For example, do you choose areas where a smaller REDD+ benefit would have more impact for a poorer person? Or do you prioritize the larger overall benefit, wherever it occurs? Or do you consider poverty a risk for REDD+ implementation? (15 mins)

8. Now that the group has received all of the information, they need to make their final decision on which PAMs they will implement in which areas, and why. What other factors influenced the decision? This should be recorded in the worksheet, and then finally summarized on the map.

9. Mark the final prioritized areas in red, and note which PAMs will be implemented, as well as the total cost. Each group reports back briefly on their prioritization. What factors played the biggest role in their prioritization of areas for REDD+? What type of information would have been useful to them that was missing? (10 mins)

10. Optional discussion questions:

- What has been your experience of using economic studies in your countries, if any?
- What do you think are the main challenges in using economic studies to inform REDD+ planning?
- Is valid to leave out some potential costs/benefits from the decision-making process when data are not available? What other types of analysis or approaches could be used instead?

2. Materials needed

- Handouts
- Base map with forest areas and DFD rates (A3)
- PAMs cards: mix of 5 PAMs, 3 PAMs per group
- Total budget per group
- Benefit cards with values range (carbon payment, timber sales, fuelwood, NTFPs, control of soil erosion, tourism & recreation)
- Slide or additional printed maps showing poverty rates per area and endangered species habitats
- Tape & one board at front
- Pencils, working paper – red markers for final decision

- Worksheet, or allow groups to prepare one in Excel. Provide a guide to this on one slide in introductory PPT.

3. Example of worksheet

Area	Ha for PAM	PAM & REDD+ objective	PAM cost/ha	Total cost	Return of co-benefit/s
A	2450	ANR, enhance C stocks	12	29,400	477,750
B	7325	Forest certification, reduce degradation	275	2,014,375	1,428,375
B	1565	Community forestry, reduce degradation	175	273,875	305,175
....
			Total

4. PAM cards

<p>Agriculture intensification</p> <p><u>Description:</u> intensification of agricultural practices through improved inputs and practices (conventional and/or sustainable agriculture). May include: access to improved planting material, chemical and/or organic fertilizers, technical assistance on better farming practices, etc)</p> <p><u>Driver(s) targeted:</u> small-scale and large-scale conversion of forests to agriculture</p> <p><u>REDD+ impact:</u> Reducing deforestation, (reducing degradation)</p> <p><u>Implementation costs:</u> US\$250/ha</p> <p><u>Example co-benefits:</u> increased profitability/sustainability of farming; retaining ecosystem services of forests</p> <p><u>Example risks:</u> could also lead to increased deforestation; pollution from agricultural inputs</p> <p>(Note: should not be implemented in isolation, e.g. should be combined with at least land-use planning, and if feasible, green subsidies/loans)</p>	<p>Reduced impact logging</p> <p><u>Description:</u> Improvement of logging practices to reduce environmental impact on forest stands and soils. May involve various activities such as pre-harvest mapping, planning and preparation, capacity building on logging techniques, etc</p> <p><u>Driver(s) targeted:</u> Legal (but unsustainable) logging</p> <p><u>REDD+ impact:</u> Reducing forest degradation</p> <p>Implementation Costs: US\$600ha/ha</p> <p><u>Example co-benefits:</u> less disturbance of wildlife habitat; improved health & safety practices</p> <p><u>Example risks:</u> expansion of area being harvested; exclusion of small-scale enterprises due to costs/technology requirements</p>	<p>Natural regeneration</p> <p><u>Description:</u> Restoration of degraded forests through natural regeneration techniques, e.g. zoning for protection to allow natural regrowth. Depending on the drivers targeted, may involve prevention of uncontrolled fires from agriculture in degraded savannahs, prevention from animal grazing, may include active efforts in terms of enrichment planting, etc</p> <p><u>Driver(s) targeted:</u> Uncontrolled fire, small and large-scale agriculture, logging</p> <p><u>REDD+ impact:</u> Enhancement of forest carbon stocks, (Reducing forest degradation)</p> <p><u>Costs:</u> US\$12/ha</p> <p><u>Example co-benefits:</u> restoration of forest ecosystem services; local employment (e.g. in patrolling)</p> <p><u>Example risks:</u> conflict over forest/land to be restored; use of non-native species for planting</p>
--	--	---

Integrated land use planning:

Description: Optimization of land use through cross-sectoral and multi-stakeholders policy dialogue, with a spatial component. May be undertaken at various complementary levels of territorial governance: from national to subnational (e.g. province), and local levels

Driver(s) targeted: conversion of forests to other land-uses; degradation of forests related to other land uses; barriers to conservation

REDD+ impact: Enabling / Reducing deforestation / Reducing degradation / Conservation of forests

Costs: USD\$350/ha + US\$125,000 for national/provincial level capacity building

Example co-benefits: reduced conflict between sectors; improved biodiversity conservation

Example risks: exclusion of local stakeholders from process; priority given to short-term development opportunities in the landscape

(Remarks: In reality, costs will vary depending on: The administrative level(s) the work is done at; Whether it is a new process implemented across all sectors (i.e. total costs) or about mainstreaming forests into existing processes (i.e. incremental costs only)

Greening of subsidies/loans

Description: Inclusion of sustainability criteria in the conditions to access subsidies or loans, in existing or new schemes

Driver(s) targeted: conversion of forest to small & large-scale agriculture,

REDD+ impact: Enabling / Reducing deforestation, Reducing forest deforestation, Enhancement of forest carbon stocks

Implementation costs: US\$750,000 to develop standards/build capacity at national level, pilot and roll out

Example co-benefits: attracts green investment; ecosystem services from retained forest

Example risks: corruption between banks, farmers, local government; 'green washing'

(Note: no or very limited direct incremental costs for the government, though "opportunity costs" and political economy issues are involved)

5. Co-benefit cards

<p>Results-based payments</p> <p>Monetary payment per ha (for CO₂e emissions reduced / sequestered, NPV per ha)</p> <p>High: \$2750 Medium:\$1375 Low: \$365</p> 	<p>Timber sales</p> <p>Value of timber sustainably harvested from landscape (NPV/ha)</p> <p>High: \$344 Medium:\$278 Low: \$185</p> 
<p>Non-timber forest products</p> <p>Value of NTFPs (e.g. mushrooms, bamboo, honey) sustainably harvested from landscape (NPV/ha)</p> <p>High: \$5750 Medium:\$3250 Low: \$1905</p> 	<p>Tourism and recreation</p> <p>Value of ecotourism in forest areas (NPV/ha)</p> <p>High: \$225 Medium:\$103 Low: \$35</p> 
<p>Water regulating services</p> <p>Estimated economic value of flood and drought mitigation by forests (NPV/ha)</p> <p>High: \$2200 Medium: \$1565 Low: \$895</p> 	<p>Soil services</p> <p>Estimated economic value of reduction of soil erosion & sedimentation by forests (NPV/ha)</p> <p>High: \$185 Medium: \$130 Low: \$85</p> 

6. Maps

PROPOSED DISTRICTS FOR REDD+ IMPLEMENTATION

This map shows 6 districts that have been selected for potential REDD+ implementation. Each district is the same size, even though they are different shapes. The current forest area is shown in ha, while the rate of deforestation or forest degradation over the past 10 years is shown as a percentage.



