REDD+ Voluntary Finance: Lesson learnt from Voluntary REDD+ Projects in Cambodia

Rational

The Minister of Environment of the Royal Cambodian Government (RGC), His Excellency Dr. Mok Mareth, commented at the 2007 UNFCCC conference in Indonesia about the RGC's National Forestry Program (2009-2029), and highlighted its support to implement REDD+ mechanism. NFP/sub-program No.6: Sustainable Forestry Financing recognized REDD+ as one of the sustainable financing mechanisms to conserve national forests.

The RGC recognizes REDD+ as a crucial strategy to tackle the alarming rates of deforestation and forest degradation in the country. Cambodia is finalizing its national REDD+ strategy, which aims to address key issues to address drivers of deforestation, and forest degradation, institutional arrangements, REDD+ SIS (Safeguard Information System), REDD+ MRV (Monitoring Reporting and Verification), and REDD+ Finance.

In 2008, RGC developed its REDD+ roadmap (or REDD+ readiness plan) to serve as a plan to ensure this country is effectively ready for REDD+ implementation. The roadmap encompassed the development of the National REDD+ strategy, NFMS & FREL/REL, REDD+ safeguards, capacity building, and institutional arrangements for REDD+ implementation.

Cambodia submitted its INDC to the UNFCCC Secretariat in October 2015. The Cambodia INDC demonstrated its commitment to conserve national forests by targeting to maintain 60% of total forest cover by 2030 through the implementation of the National REDD+ strategy. The RGC is also developing a comprehensive plan, and is proposing a finance plan to achieve the country climate action plan, so called NDC. The RGC ratified the Paris Agreement on Climate Change in April, 2016. In line with the Agreement, the RGC commits to effectively implementing its NDCs in a transparent, and inclusive manner.

Securing long-term finance to protect national forests is one of the key challenges that the RGC needs to address. Many innovative sustainable forest financing mechanisms have been piloted in Cambodia, encompassing Sustainable Provision of Ecosystem Services Project[1], ecotourism, sustainable NTFPs enterprise, and project based REDD+. Classified as a priority "high forest cover, high deforestation" country for the purposes of REDD+, Cambodia started to pilot REDD+ projects in May 2008, when the Forestry Administration (FA) of the RGC approved the first REDD+ pilot project in Oddar Meanchey province, followed by the second REDD+ pilot project in the Seima Protection Forest, Mondulkiri province in 2009.

With the Oddar Meanchey community forestry REDD+ project (OMCFREDD) under development since 2008, the Seima protection forest REDD+ project (SPF-REDD) since 2009, and Cambodia-Korea Joint REDD+ project (CKRP) since 2015, this Information Brief aims to summarize how voluntary REDD+ finance flows, the lessons drawn from them and, challenges related to financial management point to ways for the RGC to find an appropriate scale for REDD+ implementation, and provide ideas those who aim to develop voluntary REDD+ projects.

Overview voluntary REDD+ projects in Cambodia

Oddar Meanchey Community Forest REDD+ Project, the project is implementing by the FA of the RGC, protects 63,831 hectares of forest in the northwest Cambodian province of Oddar Meanchey. The project is estimated to

[1] http://www.ffi-spes.org/about.html

generate an estimated 8.2 million tons of emission reductions over 30 years. This pioneering community-led project demonstrates how developing countries can generate income from carbon markets and positively impact climate change and community livelihoods.

The project conforms with verification criteria for projects and their GHG emission reductions or removals set out in the VCS rules. The project was successfully verified its GHG emission reductions in accordance with the VCS rules, the verified period was from 28-February-2008 to 28-February-2012 Verified GHG emission reductions or removals as below:

GHG Emission Reductions or Removals (tCO2e)	2008	2009	2010	2011
Baseline Emissions	401,111	418,701	425,313	429,631
Project Emissions	241,852	241,852	241,852	75,659
Leakage	12,783	25,566	38,349	51,132
Net GHG emission reductions or removals	**146,476**	**151,283**	**145,113**	**302,840**

Sources: *SCS (Aug 2013), Verification report for the "Reduced Emissions from Deforestation and Forest Degradation in Community Forestry - Oddar Meanchey, Cambodia. [Retrieved 11 May 2016]*

Seima Forest Protection REDD+ Project, The Seima Protection Forest is designated as the second national REDD+ demonstration site. The Seima Protection Forest (SPF) covers 292,690 hectares, it is located in eastern Cambodia, mainly in Mondulkiri Province with a small area extending into Kratie Province. The REDD project area covers 180,513 hectares of forest in the SPF Core Protection Area .The Project Document (PD) was successful validated under the VCS standard in February 2016. Conservative projections suggest the site can generate significant emissions reductions each year beyond baseline levels, verification can commence, to create tradable VCUs. The project is in the process of preparing for verification, the exact amount of VCUs to be determined the third parties verifiers issue finding report.

Cambodia-Korea REDD+ Joint Project (CKRP), in partnership with 14 community forests (17villages), local authorities, and REDD+ Project developer (Wildlife Work Carbon -WWC) has initiated the third REDD+ demonstration project in Kompong Thom Province. The center of the Project, where all Project operations will take place is in the town of Tumring; thus, the name "Tumring-REDD+ Project". The Project protects 70,042 hectares of semi-evergreen forest and ever-green forest on the southwestern edge of the Prey Lang Landscape, the largest tract of contiguous lowland evergreen forest in Cambodia. The Project will be certified under both the VCS and CCB standard. The Tumring REDD+ Project is expected to sequester 8 to 9 million metric tons of tCO_2e over 30 years, and provide maximum benefits to the local community. The project is in early stage, the project conducted an assessment of drivers of deforestation and forest degradation, delineated project area and project accounting area, proxy area, and leakage belt area. Moreover, 128 forest biomass permanence sample plots were set up, and completed GHG emission model. Currently, the FA and WWC is developing PDD, and in the process in conducting FPIC, and others community awareness raising activities, and increasing effort to forest project activities and develop forest livelihood program,

What are the costs incurred for voluntary REDD+ design?

The two voluntary REDD+ projects, OMCFREDD and SPFREDD received funding from donors and development partners. Most of the funding was managed, and mobilized by NGOs whereas, under CKRP, the government is a fund management agency. All voluntary REDD+ projects where the government is the official project proponents, all project have engaged third party carbon developers to assist project proponents to design PDD, assist project validation, and verification. The three voluntary REDD+ projects used VCS standards with different of methodologies (Table 1) to verify their forest carbon emission reductions. The CCB was also used for all three projects to be able to command a premium price for the verified carbon credits.

Table1: Methodologies used for calculating GHG from REDD+ voluntary project under VCS standard

Methodology	Carbon developer	Donor	Project fund management agency	Project Area	Proponent	Total cost of Voluntary project design
Project: OMCFREDD						
VM00006: Methodology for Carbon accounting fort Mosaic and Landscape-scale REDD+ Projects, V2.1	Terra Global Capital (TGC)	DANIDA& DFID, US-DoS, Clinton Climate Initiative (CCI), JICA, UNDP(Micro Capital Grant), and Pact Global Trust Fund	Pact-Cambodia	63,831 hectares	FA	$778,635.00 *This cost not include international legal service fee, and investment from TGC*
Project: SPFREDD						
VM00015: Methodology for Avoided Unplanned Deforestation, v1.1	WCS	ADB-BCI , Translinks , SIF1&2, IGES USAID-SFB, JICA, Winrock & MacArthur, WCS, and UN-REDD	Wildlife Conservation Society (WCS)	180,513 hectares	FA	$742,080.00 This cost only cover PDD design and Validation
Project: CKRP						
VM00009: Methodology for Avoided Ecosystem Conversion, v3.0	Wildlife Work Carbon	Government of Korea, Korea Forest Service	Forestry Administration Project Management Unit	70,042 hectares	FA	Korea Government pledged $900,000.00 to support project

Sources: Forest Carbon Credits and Climate Change Office, FA (2014)

Project Design Document (PDD) is very critical at the preparation phase. The three voluntary REDD+ projects have invested a significant amount of funding to design their PDDs, including:

- ***Carbon development and MRV,*** follow the requirement of each methodology the project proponent/carbon developer had to at least identify the project area, and forest land cover change data, conduct forest carbon biomass inventory, develop emission factors, and develop forest emission models. These technical requirements are needed for design of project MRV and providing calculations for potential future emission reduction projections of each project. The OMCFREDD also spent a large amount of funding to develop new methodology, and forest biomass inventory.

- ***Social and biodiversity part,*** the CCB standards provide guideline to the project proponent/carbon developer on how social, biodiversity, climate benefits are to be secured from the project, and how these component are to be monitored. Under the social requirements, the project proponent/carbon developer needs to conduct intensive consultations and regular awareness raising activities with stakeholders, including local communities, within or adjacent to the project area, conduct social assessments, and develop social monitoring indicators. Also, Free Prior Inform and Consent (FPIC) procedures and grievance mechanisms are requested for all voluntary REDD+ project design processes. More requirements, such as biodiversity assessment, are critical for the CCB - the project proponent/carbon developer are required to conduct biodiversity assessment/ research, and develop biodiversity monitoring indicators.

Overall cost for OMCFREDD-PD Design, validation and verification

Donor	Fund Recipient and Implementer	Amount of Cost	Year (*grant became effective)*	Area of Support
DANIDA&DFID throw TWG-F&E	Community Forestry International& Pact	$322,785.00	2008	Project start up, capacity building, biomass inventory, consultative workshops, publications, and support community forestry legalization support.
US-Depart of State	Pact and Birdlife International	$25,000.00	2010	Biodiversity Assessment
Clinton Climate Initiative	Pact	$75,000.00	2011	Preparation for Project Validation, payment for Validation fee
Pact-Signature Initiative	Pact	$128,639.00	2012	Biomass Inventory, develop first project monitoring Report
JICA	Pact, AAS, and Tuv Sud. LLP	$77,111.00	2012	Prepare for project verification, and payment for verification fee
UNDP-Micro Capital Grant	Pact, TGC, and Soksiphana & Association LLP (National Law Firm)	$150,000.00	2011	Legal support to project proponent, additional biomass inventory, household assessment, purchase satellite images, support forest law enforcement, and project validation.
SNR Denton LLP[2]	FA and Pact	Provided six months pro bono service	2012	Provide legal support for project registration, develop Term Sheet, ERPA, and setting up ESCROW account.

Cost for SFP-REDD-PD Design

Donor	Fund Recipient and Implementer	Amount of Funding	Year (Year that grant came to effective)
ADB-BCI	WCS	$90,00.00	2008
IGES	WCS	$70,265.00	2011
JICA	WCS	$109,330.00	2011
SIF1	WCS	$35,000.00	2009
SIF2	WCS	$66,656.00	2010
Translinks	WCS	$89,820.00	2010
UN-REDD	WCS	$150,000.00	2012
Winrock &MacArthur	WCS	$156,009.00	2011
JICA & USAID-SFB	WCS	$560,000.00	2012
WCS Global Program	WCS's lawyer assisting legal support to FA on Term Sheet, ERPA, setting up ECROW account, project registry, and deal with credits buyers.		
Total cost for SFPREDD -PDD design and Validation*		$742,080.00	However, the project also engages Soksiphanna and Associate LLP. Estimate cost 5000.00 USD

** This estimate cost doesn't include cost for project verification, and registration.*
Sources: Reduced Emissions from Deforestation and Degradation in Seima Protection Forest-PPD-V1.3, Cambodia, p.209

[2] http://www.dentons.com/en/find-your-dentons-team/industry-sectors/forest-products-and-agribusiness.aspx

Voluntary REDD+ Transection Cost

The transection cost encompass of cost for verification, issuance, registry, bank fees, and legal services fee. The different of cost could be varies between project and project.

Verification and validation cost[3] - the core milestones of voluntary REDD+ projects are to successfully validate the project, and verify emission reductions. The project proponent/carbon developer needs to engage third party validators/verifiers, with the cost borne by the project proponent. Normally, the approximate cost for a voluntary REDD+ project validation is around 60k to 70k USD. The project validation, and verification processes include project field visits, report writing, and addressing issues raised by the validator and verifier, which takes around 1 to 1½ years. *TÜV SÜD* Industrie Service GmbH (*TÜV SÜD*[4]), and Scientific Certification Systems, Inc. (SCS[5]) were selected for OMCREDD and SPFREDD validation and verification.

Breakdown cost for OMCFREDD validation and verification

Validation Element	Cost
1st METH	9,000 Euros = $13,281.60 (1.47 $/Euro on Oct 9, 2009)
2nd METH	$19,500
VCS PD + CCB add-on (i.e. done together)	30,500 Euros = $45,009.80 (1.47 $/ Euro on Oct 9, 2009)
Dual portions of VCS PD	$6,000
Travel and field visit cost of the validator (for two field two international staffs and Two local staffs)	(Est. 4500 USD)
Total estimated costs for Validation	**$83,791.40** (subject to fluctuations due to $/Euro rate)
Verification Element	Number of Days
Project Documentation Assessment, Preparation of Desk Review Summary Findings including NIR/NCR Issuance	$9600.00
Field Audit	$12,000.00
Preparation of Field Audit Summary Findings including NIR/NCR Issuance	$2,400.00
Verification Reports	$3,600.00
Technical Review	$2,400.00
Assessment Team Travel Time	$3,600.00
Assessment Team Travel Time	$1,200.00
Total estimated costs [Total Assessor Days (29 days)- Rate per day USD1,200)]	**$34,800.00**
Travel and field visit cost of the validator (for two field two international staffs and Two local staffs)	(Est. $4,500.00)
Total estimated costs for Verification	**$39,300.00**

Sources: FA-REDD+ databased

[3] ***Verification*** *is a rigorous independent endorsement of the quality of project implementation and the delivery of multiple benefits. Successful CCB Verification enables the addition of a '**CCB label**' to verified emissions reductions units such as VCUs. The CCB Standards used alone do not lead to delivery of quantified emissions reductions certificates so they should be used in combination with a carbon accounting standard (e.g. CDM, VCS).*

[4] http://www.tuev-sued.de/home_de

[5] https://www.scsglobalservices.com/about-scs

Project registration and marketing - the task is mainly mandated to carbon developers/or project brokers. Due to the complexity of procedures, emerging modalities of the REDD+ market, and the limited capacity of the project proponents (Forestry Administration), it is necessary to engage project brokers. Only OMCFREDD+ among the three voluntary REDD+ project has been registered in an international carbon market namely Markit Environmental Registry[6]. Aside from the costs mentioned above, there are service costs to be borne by the project proponent, such as fees for issuing VCUs to be charged by VCS, and fees charged by CCB for its classification of each VCU. These fees are charged once any credit transactions have occurred. There are also other costs, such as costs deduced by banks for deposition credits and costs required by credit buyers (i.e. *setting up escrow accounts - Bank of New York Mellon for OMCFREDD*). Moreover, there are legal costs of the VCS credit issuing representative, Makit Environmental Registry - communications agreement, legal opinions on ERPA Term Sheets, and details of ERPAs are need to ensure the project proponent could proceed with signing an ERPA with buyers without any contradicting Cambodia or international law.

SFPREDD propose to set up to Seima Carbon Company (SCC) to play multiple role such as exclusive sales and marketing agent to promote Seima carbon credits and manage transactions (negotiate ERPAs, etc.), serve as an administrator of RGC registry account to manage issuance, transfer, retirement of credits, serve as an Escrow agent that manages escrow account to receive and distribute sales proceeds (Section and keep funds in escrow account if needed for future delivery or refund obligations. The project is in the process of preparation for verification, while the discussions and decision on the propose mechanism for project marketing and transection need to made prior the successful verification.

While, CKRP's benefit sharing mechanism of net VCUs to be made between the RGC and the government of Korea in the second year of the project implementation. The decision on how to utilize the project VCUs for Korea side is not made whether using VCUs to meet their NDC through AFOLU sector or forward sell of VCUs to other third parties or other CSRs. Korea confirmed this support as REDD+ investment cost, not classified as normal ODA project.

What is the status of voluntary REDD+ credits on the market?

The demand for voluntary REDD+ credits is limited on the voluntary market, so it is very challenging to sell credits. The voluntary market growth over the last year has been negative and prices for REDD+ projects recently have sparely declined. Some projects from Indonesia and Brazil are selling for $2 per ton[7].

For instance, the OMCREDD has had its VCUs registered on the voluntary REDD+ market since 2012, but up to now only 1.5% of its VCUs, a total of 755,712 tCO_2eq (verified credit from 2008-2012)[8] has been sold, in detail 7% of the net total VCUs were sold to Microsoft company[9] which is legally credits owned by TGC, the fund from the sole were transfer to TGC account, while 3543.5 tCO2e with 10USD per tCO2eq were sold through international market alliance Stand for Tree[10], however OMCREDD could not bear the cost of the membership fee and so decided to withdraw its membership, and 7000 tCO2e were sold to Carbon Neutral Company[11] with 8USD per ton. Currently, all the fund were transferred to Oddar Meanchey ESCROW account in the Bank of New York Mellon (BNY)[12], where FA is the account holder. TGC is assisting FA to develop local account which will be under the TWG-FR main account in order to obtain the OMCFREDD fund. However, other service fee to be charged such as the issuance fees for VCS and CCB to be deduced from any sell which USD0.10/VCUs for VCS, and USD0.05/VCU, and Markit fee cost estimate USD3k per quarter.

Challenges related to voluntary REDD+ finance

In a nutshell, in order to complete a voluntary REDD+ project, based on the development experiences of the three voluntary REDD+ projects, it is estimated that the whole process from the beginning until verified credits are issued

[6] http://www.markit.com/product/registry
[7] http://www.forest-trends.org/documents/files/doc_4770.pdf.
[8] http://www.vcsprojectdatabase.org/#/projects/st_/c_KH/ss_14/so_/di_/np_
[9] https://blogs.msdn.microsoft.com/microsoft-green/2013/04/22/earth-day-2013-reflecting-on-our-commitment-to-sustainability/ [retrieved 11 May 2016]
[10] https://standfortrees.org/en/
[11] http://www.carbonneutral.com/about-us
[12] https://www.bnymellon.com/us/en/home.jsp

it takes at least 4 to 5 years, and costs from 1 to 1.2 million USD per project design. This does not include the legal service fees, other transaction costs (which are unknown). Most of the investment costs were provided by donors/ international NGOs and partners, and fund flows were unstable. Most of the investment funding was used to support the preparation PDD, and payment for validation, and verification, address the real drivers of deforestation and forest degradation in the field cost much less . The VCS has developed robust and intensive rules and requirements which are so complicated that the project proponent (FA) is unable to develop a PDD using its own capacity without technical assistance from carbon developers. The costs of carbon developers' service/fees represent a significant of total REDD+ investment funding. Some carbon developers/brokers have taken a share of the VCUs from the project proponent to cover the costs of their investment, such as the TGC and FA benefit sharing agreement for OMCFREDD project. The unstable nature of voluntary REDD+ markets has reduced the commitment of project proponents, donors and investors. For instance, there has been no investment from the private sector, or the RGC (other than in-kind) into voluntary REDD+ projects in Cambodia since 2008 in term of financial support. The capacity of the project proponents remains limited in addressing the complex procedures of the transactions, legal issues in developing Emission Reduction Purchase Agreements (ERPAs) for REDD+ credits, and dealing with the unstable nature of the voluntary carbon market.

However, many lessons have emerged from Cambodia's experiences with voluntary REDD+ projects. These include lessons on how REDD+ safeguards can be addressed and respected under the REDD+ voluntary markets; the design of a REDD+ grievance mechanism, REDD+ fund management and benefit sharing mechanisms. Also, research and assessments have generated reports on drivers of deforestation and forest degradation from SPFREDD and OMCREDD.

The Paris Agreement opens the door to Parties to implement the model of Internationally Transferred Mitigation Outcomes (ITMO), which allows Parties to exchange its outcomes from the implementation of mitigation action either domestically or internationally, although the specific procedures or guidelines of the modality are yet to be developed but REDD+ country being approach result based financing under the UN mechanism by considering the IMTO model, bilateral and multilateral funding for REDD+ in the future.

However, Cambodia perceives that the voluntary REDD+ market are facing numerous challenging not only the issue of financial investment but also issue of the harmonization between voluntary REDD+ project to the National REDD+ system, and overlapping project reference region and activities shifting leakage area between voluntary REDD+ project and its adjacent projects within the country, issue of institutional coordination in address for instant the Samlout-REDD+ Project which is funded by Madox-Jolie-Pitt Foundation (MJP)[13] where the project are overlapped two jurisdictional management area of MAFF and MoE, and the last an issue of voluntary REDD+ project is the management of REDD+ fund and benefit sharing mechanism. All though, voluntary REDD+ project faced number of challenges, at least eight more initiative voluntary REDD+ projects had been proposed by INGO, and Development Partners (DP) to the RGC, some of them had been developed a very comprehensive REDD+ business plan, conducted forest carbon stock assessment, and moving to PPD development such as a proposed Sothern Cardamom REDD+ project, and Pley Long Landscape REDD+ initiative.

Annex I: New initiatives for REDD+ projects in Cambodia

Project Title	Project overview
Proposed sub-national REDD+ Program in Northern of Cambodia	The project cover two provinces, Preah Viheak and Oddar Meanchey. FA and GDANCP/ MoE are the implementation agency with technical support from WCS, WWC, and TGC. The project covers 1.9 million ha, **1.6 million ha of which is forest (FA 2012).** The project concept note was presented to World Banks during the 10th Carbon Fund meeting.
Kulem Promtep Wildlife Sanctuary REDD+ Project	GDANCP is an implementation agency with technical and funding support from WCS. The project conduced wide range of awareness raising activities on REDD+ to stakeholders, conduct REDD+ feasibility study.
Southern Cardamom REDD+ Project	The REDD+ feasibility was conducted, WA developed a comprehensive REDD+ business plan with a propose mechanism for benefits sharing and presented to MAFF/FA for decision making.

[13] http://www.mjpasia.org/

Project Title	Project overview
Prey Long Forest Landscape	The project funded by CI Japan, and Cam-REDD Project in collaboration with FA and CI Cambodia. The project conducted a assessment on Prey long Forest landscape conducted by University of Copenhagen, Denmark, conducted feasibility study and draft PDD.
Community Carbon Pools For REDD+	The project built on previous work conducted by PACT, the Clinton Climate Initiative (CCI), Terra Global Capital (TGC) and the Forestry Administration (FA), who started implementation of a REDD+ pilot project in 2011. The project implemented by FA in collaboration with FFI, and NTFP-EP funded EU Program. The project covered 15,649 hectares. The project ended in 2013, the project produced several lesson learn on safeguards, benefits sharing for REDD+, biodiversity assessment, and conducted legal review for REDD+ in Cambodia. http://theredddesk.org/countries/initiatives/siem-reap-community-forestry-redd-project
Samlout Forest Carbon Project	The project initiated and funded by MJP and technical supported by WWC, the results of the feasibility and business plan presented to FA and MoE. The project covered **109,177 ha** of forest.
Community Based REDD+ Project (CBR+)	CBR+ is a partnership between the UN-REDD Programme and the GEF Small Grants Programme to deliver grants directly to indigenous peoples and communities to empower them to fully engage in the design, implementation and monitoring of REDD+ readiness activities, and develop experiences, lessons, and recommendations at the local level that can feed into national REDD+ processes. CBR+ supports community-level projects that complement UN-REDD National Programmes, national REDD+ readiness processes and/or strategies. Currently in its pilot phase, CBR+ is being implemented in six countries. In Cambodia piloted in Ratanakiri, Mondulkiri, Steung Treng, Kratie, Kompong Thom, Preah Vihear and Oddar Meanchey provinces. UNDP is an implementing agency in Cambodia.
Fishery Conservation Area Kampong Chhnang	With support from the project USAID-LEAF, the project conduced carbon stock assessment in mangrove forest, and flood forest around Tonle Sap Great lack. The MoE and Fishery Administration are the lead agency in conducing this assessment. The FCPF readiness funded a flooded forest REDD+ in Kompong Chheng Province, the project supported wide range of activities such as support fishery law enforcement (i.e community patrol), restore degraded flooded forest area, conduct an assessment on drivers of flooded degradation and deforestation, and raising awareness on flooded forest conservation and REDD+

Sources: TWG-FR Meeting 36^{t} & 41st

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