



FINAL PROJECT REPORT

“Strengthening Sustainable Forest Management and Bio-Energy Markets to Promote Environmental Sustainability and to Reduce Greenhouse Gas Emissions in Cambodia”

(01 March 2011 – 29 February 2016)



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LIST OF ACRONYMS AND ABBREVIATIONS

ACFM	Alternative Community Forestry Modality
BTB	Battambang Province
CC	Commune Council
CF	Community Forestry
CBPF	Community-Based Production Forestry
CCF	Community Conservation Forestry
CFMC	Community Forestry Management Committee
CFMP	Community Forestry Management Plan
CLUP	Commune Land Use Planning
CMM	Clay Mixed Machine
CPA	Community Protected Area
DLUP	District Land Use Plan
DLMUPC	Department of Land Management, Urban Planning and Construction
DME	Department of Mine and Energy
DOE	Department of Environment
DSLWG	District State Land Working Group
ECK	Efficient Charcoal Kiln
EOP	End of Project
FA	Forestry Administration
FAC	Forestry Administration Cantonment
FAT	Forestry Administration Triage
FCPF	Forest Carbon Partnership Facility
HH	Households
ICS	Improved Cook Stove
ICSPC	Improved Cook Stove Production Cluster
ICo-ProDAC	Improved Cook Stove Producers, Distributors Association in Cambodia
IPSS	Improved Palm Sugar Stove
GDANCP	General Department of Administration, Nature Conservation and Protection
GERES	Group for the Environment, Renewable Energy and Solidarity
GHG	Greenhouse Gas
KCH	Kampong Chhnang province
MAFF	Ministry of Agriculture, Forestry, and Fisheries
MoE	Ministry of Environment
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MME	Ministry of Mine and Energy
MTR	Mid-Term Review
NKS	NeangKangrey Stove
NFP	National Forests Programme
NGO	Non-Governmental Organization
NLS	New Lao Stove
NTFP	Non-Timber Forests Product
PA	Protected Area
PF	Partnership Forestry
PMU	Project Management Unit
PSLMC	Provincial State Land Management Committee
RECOFTC	Regional Community Forestry Training Center for Asia and the Pacific
REDD+	Reducing Emissions from Deforestation and Forest Degradation and (+) refers to conservation, sustainable management of forest, and enhancement of forests carbon stocks.
SFM	Sustainable Forest Management
SRF	Strategic Result Framework

TOT	Training of Trainer
UNDP CO	United Nations Development Programme Country Office
WBES	Wood and Biomass Energy Strategy
WL	Woodlot
WLMP	Woodlot management plan
WISDOM	Wood fuel Integrated Supply and Demand Overview Mapping
WS	Wildlife Sanctuary

EXECUTIVE SUMMARY

The Sustainable Forest Management (SFM) Project demonstrated SUCCESS toward achievement its objective “Strengthen sustainable forest management (SFM), through integrating community-based sustainable forest management into policy, planning and investment frameworks and creating markets for sustainable bio-energy technologies which reduce CO2 emissions”. The completed achievement of all project outcomes is strongly confirmed the success of the project.

Capacity Building and policy/guideline development to promote SFM

The project has built institutional capacity to various government officials from FA/FAC, MME/DME, MoE/DoE, and MLMUPC/PLMUPC through provision of fifteen (15) trainings of trainer (TOT) regard with CF/CPA management and business plan and the efficient energy, followed by 359 field trainings. The training-for-action approach demonstrated effectiveness in capacity building as the result of Capacity Development Scorecard indicated constantly increase the scores from 13/42 (baseline) to 32.5/42 (end-line), while the project aims to reach 31.42.

The project showed good progress in preparing the policy guidance for alternative CF modality, CF Enterprise, which have been agreed by FA for pilot implementation. Guideline on the CPA Management Plan was revised in the national consultation workshop, which incorporated comment from the two sub-national consultation workshops supported by the project. The revised Wood and Biomass Energy Strategy (WBES) has been presented and validated in the national consultation workshop, of which the final draft strategy is now under revision by MME based on comment and input from the national workshop.

However, the project has made less effort in focusing on financial strategy development for concerned ministries including carbon financing for the SFM, but instead, the project makes effort to support target CF/CPA to explore funding opportunity through implementation of the business plans or eco-system services by partnering with other development partners. Though, other UNDP projects – UN-REDD and FCPF, have been working to support government to finalize the REDD+ Strategy, which the SFM is also identified one of major issues that need to be addressed.

Establishment of CF and CPA and CLUP integrating SFM

The Management and Business Plans of 30 Community Forestry developed and approved by respective FACs. Eleven (11) CPA management plans have been under review by MOE. Though, the implementation of the CF/CPAMP and Business Plans have started, which development fund were provided to support each CF/CPA site in implementation of the plans. The assessment found approximately 2,117 households in the target CF/CPA benefiting from the forest enterprises, mostly from non-timber forest products; however, it is too early to assess its result and impact as they just started implementation. The management plans of ACFM has been completed, including two (02) Partnership Forests (PF), one (01) Community Conservation Forestry (CCF), and one (1) Community-based Production Forestry (CBPF), by followed the draft concept notes.

The implementation of commune land use planning has been achieved as all four target communes completely developed the CLUP book. The project has well integrated the concept of SFM and energy into CLUP development process. The project has shown good result from CLUP implementation, including the integration of CLUP into commune development plan and the attention of local authority addressing conflicts of the hot-spot forest lands.

Wood energy efficiency promoted by improved stoves and kilns

The project has made the very tangible achievements in reducing CO₂ emissions and improving livelihood through fuelwood efficient interventions. The establishment of ICS Production Clusters, comprising of 45 production owners, mainly located in Kampong Chhnang province, altogether produced and distributed the stove of 142,575 units, higher than the target of 90,000 units by EoP. The project introduced the new innovative technologies – improved charcoal kiln, ICS, IPSS, - which have contributed to reduce GHG emissions by 30,894 tCO₂eq., including 29,949 tCO₂eq. from ICS adoption and 945 tCO₂eq. from non-renewable charcoal displacement. It is worth to highlight the income of each stove producer increased to \$ 86.53/month, compared to baseline was \$40/month. Furthermore, the stove production have created 140 jobs for local people, as stove craftsmen, with monthly income of \$112-\$115/month. The project demonstrated effective awareness approach as the survey on domestic use of cooking fuels and devices showed the increase use of improved stoves from 61% to 96%, in 2013 and 2014 respectively.

The project constructed seventeen (17) improved charcoal kilns, located in eight centres, within 07 CF sites, which is over the target of 16 kilns. The business plan of each kiln centre was developed, along with the establishment of woodlot sites, covering approximately 1,780 ha, for supplying the fuelwood source. Based on result of forest resource inventory in the target CFs, the project developed the seasonal harvesting plan of fuelwood in the woodlot areas, About 52 tons of improved charcoal were produced and market during the project implementation; however, there are still further efforts and modification of the ICK business modality in order to keep the kilns running sustainably.

The project addressed the reduction of inefficiencies of the traditional palm sugar stove by introducing an environmentally sound and appropriated technology - 30% of fuelwood is saved – compared with traditional stove, specifically adapted for local producers. The project scaled up stove construction to 185 stoves to other target provinces after the first twenty stoves were completely constructed in Kampong Speu province.

Overall, the SFM Project successfully achieved the intended objective in applying a community-based approach to SFM. Thus, this project has addressed the institutional and policy needs on the SFM and bioenergy efficiency at national level and the planning and management at the community level, respectively.

The success factors of the project included effective capacity building strategy at all level, working approach in engage multi-sector through the role of Service Providers; Integration of landscape approach and SFM into commune land use planning, and high commitment of all concerned partners to work for the good environment and people.

However, there still have been further efforts – technical and financial needs, for the SFM Project in sustainably maintaining the project outputs beyond the project ends. The project shortcomings have been identified their causes seriously affecting the project result and level of sustainability, including the late implementation at the ground for 18 months providing limited times to implement the CF/CPA management and business plans; low productivity of forest resources in most CF resulting low profitability from the implementation of forest-based enterprise; shortage of funds to support CF/CPA to fully implement their business plans; and limited analysis of full value chain actors of NTPF and green charcoal.

Lessons learned have been identified and appropriately documented in the final project report, Project Best Practices, Case Studies, and policy brief, covering the SFM and efficient energy. It is worth to note that the incomplete baseline data and inconsistent terminology of project indicators, as set in the project result framework, have costed the monitoring performance of the project. With respect to policy and capacity development, there was important recognition that capacity should be built at all levels. The SFM Project showed the importance of testing approach and its learning lessons that can be applied in the future interventions. Forest-based enterprise development is in small forest areas and even degraded forests causes questions about the prospects for livelihood

improvement among forest dependents and successfully protection and conservation. With respect to efficient energy, the green charcoal should be subjected to thorough research, including the cost-and-benefit analysis, likelihood of sustainability and potential future replication of the initiatives. Related to improved stove production, quality control is of importance to ensure a niche in the market, which ICO-ProDAC should be strengthened this role from the start to avoid too much dependent from the support of service provider. Thus, the Project Sustainability Plan should be developed at the project start to ensure all technical and financial resources are in place.

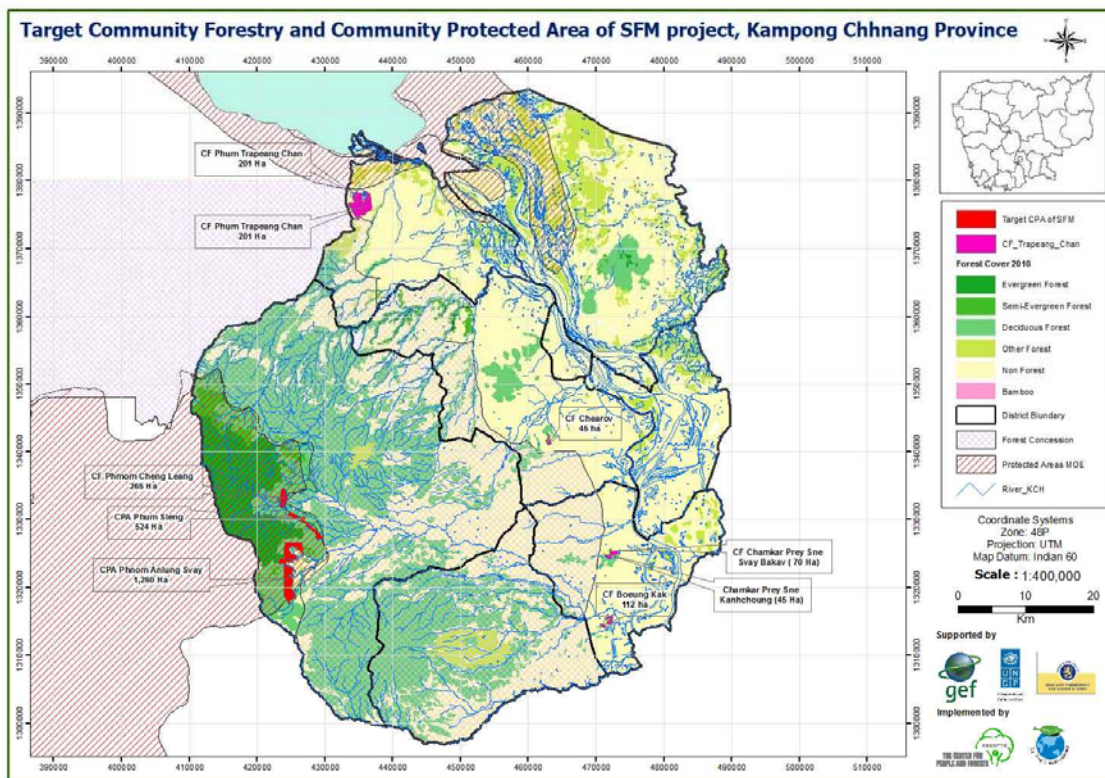
I. CONTEXT

Forests in Cambodia are subject to a wide range of threats, including logging, forest fires, subsistence and commercial agriculture expansion, and the establishment of roads and human settlements. Loss of forest cover is of global significance due to its implications for biodiversity, land degradation and climate change. Deforestation also poses a major threat to the livelihoods of local people. The underlying problems have been referred to the causes of limited capacities and incentives that exist for the government and local people to ensure that they are managed in a sustainable manner. Major barriers of the forest protection had been identified including: (a) Limited capacities and incomplete regulatory framework to support SFM; (b) Local communities are not able to realize potential benefits from forests, and (c) therefore have limited motivation and/or means for their sustainable management and conservation Limited dissemination of available energy-efficient technologies for the use of fuel wood and woody biomass.

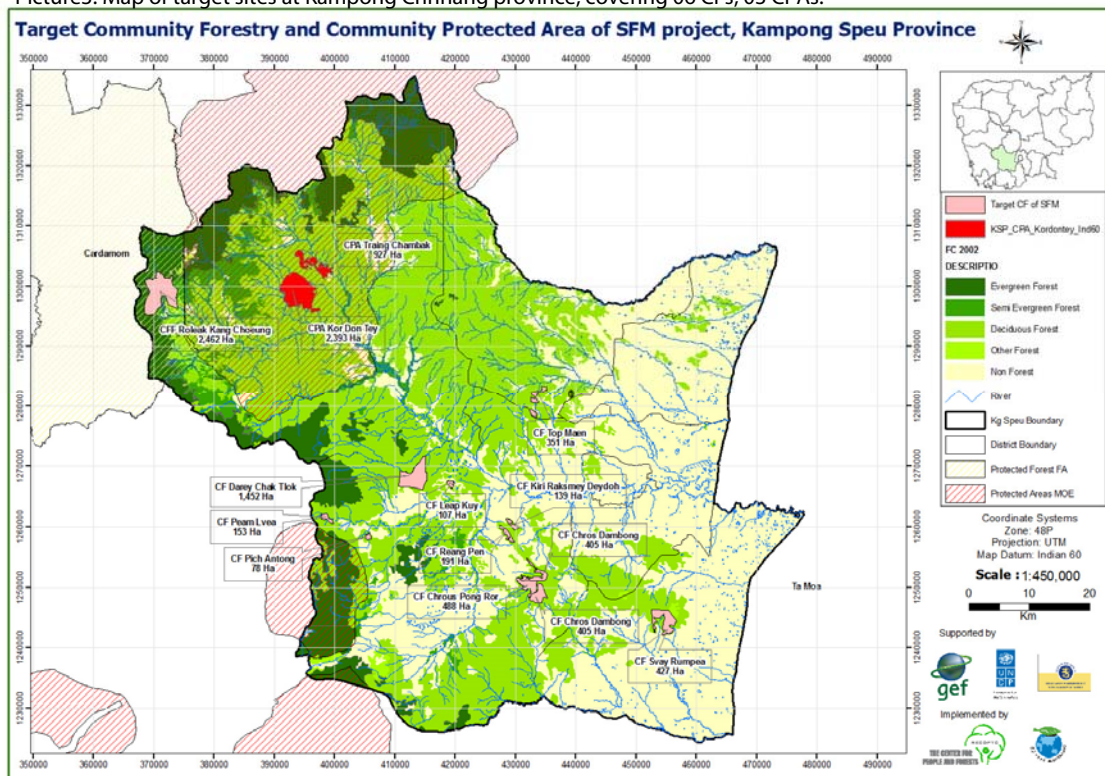
The SFM Project has played a critical role in implementing priority actions as identified in the National Forestry Programmthee and the National Strategic Development Plan 2009-2013 related to sustainable forest resource management, conservation, and community-based forest management. The objective of the project is to strengthen sustainable forest management (SFM), through integrating community-based sustainable forest management into policy, planning and investment frameworks and creating markets for sustainable bio-energy technologies which reduce CO2 emissions. The project has three outcomes, namely, (1) improvement of existing national capacities, policies and regulations which facilitate the widespread implementation of SFM, integrating energy efficiency, biodiversity, sustainable land management and livelihood considerations; (2) community-based sustainable forest management is being implemented effectively within a context of cantonment/province, district and commune level planning and delivering concrete benefits to local communities; and (3) strengthened demand and supply chain for energy efficient cook stoves.

The project identified a wide range of stakeholders vesting in the project. The project executing partner is Forestry Administration (FA)) of Ministry of Agriculture, Forestry, and Fisheries (MAFF) And various government institutions from Ministry of Environment (MoE), given its position as head of the environment sector, in particular, its General Department for the Administration of Nature Protection and Conservation (GDANCP), which is responsible for protected areas management; Ministry of Land Management, Urban Planning and Construction (MLMUPC) deals with the development of commune land use planning; Ministry of Mines and Energy (MME, formerly MIME) is lead government agency for the energy sector and, therefore, has interests in initiatives related to energy efficiency and renewable energy development and utilization.

This 04-year project targeted four provinces, along the Cardamom mountains areas: Kampong Speu, Kampong Chhnang, Pursat, and Battambang provinces. These areas had been identified as the existence of important biodiversity potentially affecting by threats, in term of land degradation and climate change at the national and global level.



Picture3: Map of target sites at Kampong Chhnang province, covering 06 CFs, 03 CPAs.



Picture3: Map of target sites at Kampong Speu province, covering 11 CFs, 02 CPAs, 01 CCF

II. PERFORMANCE REVIEW

Progress Review

1. Overall progress towards the UNDP Cambodia Programme Outcome

The SFM Project has contributed to the achievement of United Nations Development Assistance (UNDAF) Framework outcome 1.2 and Country Programme Outcome of UNDP Cambodia as below:

UNDAF Outcome 1.2	By 2015, national and local authorities, communities and private sector are better able to ensure the sustainable use of natural resources, clean technologies and respond to climate change.
Indicator	1.5.A.2.1 Number of hectares of land managed under a sustainable use regime 1.3.A.1.1 Carbon credit earned from clean development mechanism and other mechanisms (REDD+, and voluntary market)
Progress	1.2.1 A total area of 272,496 hectares was identified as being placed under sustainable forest management via the project, including 30 CFs (10,879 ha), 4 ACFM (11,359 ha), 11 CPA (8,991 ha), and 4 CLUP (241,267 ha). 1.2.2 The project supported the pilot implementation of innovative technology (Yoshimura charcoal kiln), ICS, IPSS. By using and adopting ICS and ICK, they have contributed to reduce GHG emissions by 30,894 tCO ₂ eq. However, it is worthwhile mentioning that from 2003 until 2013 (10 year crediting period), the national dissemination of Improved Cook stoves by GERES in Cambodia have contributed to reduce GHG emissions by 2,008,739 tCO ₂ eq (Verified Emissions Reductions, following the Verified Carbon Standard on the voluntary market). This case study in Cambodia, the largest ICS carbon project in the world at that time, brings evidence that ICS dissemination in developing countries heavily relying on woodfuels for domestic cooking can significantly contribute to Climate Change mitigation when national scale is reached.

2. Overall progress towards the UNDP Strategic Plan (SP) output(s)

SP Output 1.3	Solutions developed at national and sub national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.
Indicator	1.3.2.A.1: Number of males/females benefiting from strengthening livelihoods through sustainable community forestry management (CFMP), community protected area management (CPAMP) and business enterprise plans (BP) 1.3.2.B.1: Number of full time equivalent jobs created for men & women 15 or more years old, through sustainable bio-energy markets for green charcoal and improved cook stove production
Progress	<ul style="list-style-type: none"> To date, total beneficiaries (20,884 males and 16,303 females) located in 30 CF and 11 CPA, which management plans had been developed and begin the implementation. With respect to efficient energy, the project has attributed to job creation for green charcoal and improved cook stoves about 70 CF members (30 females) and 180 ICS craftsmen (130 females) respectively.

3. Capacity development

The most effective tool in building capacity of government officials and local community is strategically following the approach “Training for Action” in various project activities. Training of trainers (ToT) is firstly provided for national and provincial level, then followed by series of field trainings being organized at the target sites as part of the practicum. This approach effectively equipped the trained participants to apply their acquired knowledge and skills into practice.

With respects to institutional building, during the project life, total of 19 TOTs and 353 field trainings had been provided by various government officials at national and sub-national level on the SFM and efficient energy, with coordination and facilitation support from both service providers – RECOFTC and GERES. The total participants in the TOT and field trainings presented in the table below:

Table 1: Total of trainings (TOT and field trainings) supported by the SFM Project

Type of trainings	# of training	Total Participants	
		Total	Female
Training of Trainers	19	184	40
Field Trainings	353	6,756	1,590
Total	372	6,940	1,630

The project has built the national institutions through capacity building events, which various government officials from FA, MLMUPC, MOE, MME established a close collaboration. In the areas of efficient energy, technical capacity has been provided in various aspects including assessment of quantity and quality of available biomass energy resources in the areas of community forest woodlot, the design, engineering and installation of green charcoal kiln, namely “Yoshimora Kiln”, which is recognized as biomass-based energy systems. Other aspects include the measurement of Greenhouse Gas Emissions and Carbon Accounting that is used for project monitoring the reduction of CO₂ emission from improved cook stove and green charcoal. The capacity of provincial officials from DoE and FAC on CF/CPA management plan and business development have been improved through their active involvement in the training, field monitoring and mentoring support to target CF/CPA. The Project uses the UNDP Capacity Development Scorecard to measure the performance of relevant government officials at national and sub-national level whom actively engaged in supporting the development of CF/CPA management plan. The tool covers 14 criteria, with targets for capacity development at systemic (2), institutional (9) and individual (3) levels. The assessment was conducted at the start, midterm and end of the project and the final result indicated the score of 32.5/42, while the baseline assessment indicated 13/42 and the target of the project is to attain a performance score of 31/42. This precisely indicates the strong commitment and political will to support SFM.

In addition to institutional building, the project has provided genius support the reinforcement of the SFM related regulatory frameworks, including the CPA guideline, policy brief on the alternative community forest modality (ACFM), CF business plan, and finalization of Wood and Biomass Energy Strategy.

4. Progress toward Gender Equality

Gender Action Plan (GAP) of the SFM Project has been well integrated in the work plan of service providers to ensure the identified gender related issues were appropriately addressed by the project. A number of gender trainings were conducted and its concepts – Gender equality and equity have been mainstreamed in all project trainings and awareness raising events. The project has shown very good performance to track the women status, in term of job creation from improved cook stove, green charcoal, the income of female-head households whom engaged in the CF/CPA business enterprise. In the case of improved cook stove, 92 of all stove craftsmen are women and their participation in ICS production shows that women are able to take on small businesses and to run them successfully, thus contributing actively to the income of their family and playing an active role in the economic landscape of their community. About 1,520 women engaged in the forest-based businesses in the CF/CPA and some of them have earned some income from CF/CPA enterprises.

5. Impact on direct and indirect beneficiaries.

Completed establishment of CF/CPA management plan, covered 31,229 ha, clearly contributed to the overall stability of ecosystem health, which community forest/protected areas have been determined certain forest management blocks, such as areas of conservation zone, reforestation zones, fuel wood collection zone, pole and timber harvesting zone, bamboo management and harvest zone.

The project has made some achievement on the livelihood improvement of community forest members resulted from the pilot implementation of forest-based enterprises. The survey conducted by RECOFTC indicated at least 29% of sample respondents (2,117 households) in the target CF/CPA benefit from the forest resource based incomes. A number of success stories were collected related to implementation of forest based businesses.

In the case of Chrous Svay CF, Kampong Speu Province, the collection of bamboo branches within CF site has provided supplementary incomes to about 447 poor people from five villages whom are members of the Chrous Svay CF, Kampong Speu province. Even it is the seasonal income generating activity, but community expressed satisfaction to the level of income they received from bamboo branch collection, approximately of 10\$ per day. In the first year of bamboo branches collection, through its sustainable collection plan, the CF has earned the revenues about 23 million riel (5,750\$). To date, local community whom directly engaged in the forest based businesses in the target CF/CPA is 2,652 people, of whom 1520 are women.

With respects to improved cook stove activities, the project has created new 180 jobs for local people, mostly located in Kampong Chhnang province, where the natural clay is highly available and of quality for the production of improved cook stove. For the case of Mrs. SUN Sothy, former traditional stove producer, and she is one of 45 stove production owners supported by the project, she has shown her increased income since she joined the stove programme. She was able to increase her production from average 50 units per month to nearly 300 units/month. She now completely stopped producing other designs and focuses on New Lao Stove (NLS) production only, which allows her to generate an income of \$140-\$150 per month. These investments show that the NLS production business has allowed Sothy to improve the living conditions of her family, as she expressed herself: *"nowadays, I am happy with better living standard. The reason is that NLS production has improved my family life. I always thank to GERES team for the NLS training"*.

The Project Terminal Evaluation highlighted positive contribution of the project toward the socio-economic benefits and income-generating activities arising from SFM practices in CFs and CPAs and, which is in the early stages of implementation, and from the production of bioenergy efficient cook stoves and charcoal that reduce CO2 emissions.

Implementation strategy review

The SFM Project, which was implemented by Forestry Administration, has worked with two service providers, to ensure the effective provision of coordination and facilitation support in implementing the project activities in close consultation with various stakeholders and national and sub-national level.

1. Participatory/consultative processes

The consultative process have been well initiated by engaging relevant stakeholders in project site identification and selection, planning process, implementation, and monitoring the project performance and result. The project has conducted various consultation, workshops and meeting with stakeholders and beneficiaries to reflect the project progress and achievement against the project outputs and objectives. The project key events indicated good participatory process, including:

- The consultation workshops on site selection, scoping study, baseline assessment, project midterm review and final project evaluation.
- Regular field oversight at respective provinces in order to the follow up the progress of project implementation share the lesson learned and solution some issues occurred.
- Quarterly meeting at the provincial level led by respective FACs and participated from line departments worked with SFM projects to report the progress updated prepare follow up action plan.
- Quarterly meeting of inter-ministerial technical team at the national level to prepare the annual work plan, review the progress of service providers against planned delivery and milestones.
- Engagement of various stakeholders in the discussion and development of project exit plan.

2. Quality of partnerships

Substantive consultation and partnership working among stakeholders have been recognized, with concrete evidence of active participation and continued support throughout project implementation and monitoring from various government agencies responsible for project implementation (FA, MOE, MME, MLMUPC) both at national and provincial levels. The project has established strong partnership and coordination at the provincial level, of which FAC was taking lead the monthly meeting with relevant provincial departments (DoE, DME, DLMUPC) and service providers (RECOFTC and GERES) to review and reflect the progress and work-plan.

To ensure the effective and on-time support from government agencies on the project implementation at the target sites, the Project Implementation Agreement (PIA) has been developed and share responsibility, schedule and resources. It is an important that the project staff of RECOFTC located in the FAC office provided important coordination support and logistic assistance to ensure all focal persons from other provincial departments have been informed and other arrangements are well prepared.

At the national level, the Project Management Unit (PMU) provided coordination support to engage inter-ministerial focal points from MME, MLMUPC, MOE, and UNDP CO to review, on quarterly basis, and justify the overall progress, issues and support needed to ensure the continued project activities at all level and completed within the project timeframe.

3. National ownership

The SFM Project, as clearly stated in the project document, followed the National Implementation (NIM) Modality, which FA is the leading agency and other ministries (MME, MOE, MLMUPC) and their provincial departments are responsible parties to assure the achievement of project outputs. To implement the project, FA commissioned two (02) service providers (RECOFTC and GERES) to provide technical and facilitation supports, while decision making on the project planning and implementation fully given to government agencies, with approval from the project board. The commitments of the main key state actors were reflected in the organizational structure of the project. The collaboration was formalized by a letter of support and signing of MoUs by the FAC, DoE and PDLMUPCC at the provincial levels.

In response to the day-to-day management and operation of the project, the project indicates practice effective adaptive management, re the final project evaluation report, which the evidence has indicated through its well-managed work-plan and regular result-based reporting by PMU and the service providers. Government has provided strong human resources, including SFM Project Manager, Project Director for regular project management ensure the effective operation and management of project resources and achievement of project deliverables. The joint-field monitoring led by national inter-ministerial focal persons from FA, MOE, MLMUPC, and UNDP to visit and verify all deliverables at the target sites.

4. Sustainability

The project analyzed the overall likelihood of project sustainability, using the four dimensions – Financial Resource, Socio-Economic, Institutional Framework and Governance, and Environmental.

Financial Resource – The project was originally aiming to develop kind of financial strategies in MAFF and MOE for supporting the SFM; however, it is out of the project capacity and scopes but the opportunity from REDD+ Strategy to support the SFM initiatives has been considered, as the REDD+ Strategy is now coming on stream and there is dialogue about potential opportunity of linking it with community based forests management.

Socio-Economic - Project has demonstrated a range of socio-economic benefits and income-generating activities arising from SFM practices in CFs and CPAs and from the production of bioenergy efficient cook stoves and charcoal that reduce CO2 emissions. Management and business plans have been implemented through provision of financial resources directly to each CF/CPA to implement the CF/CPA management plan and business plan.

Institutional framework and governance – Institutional capacities in SFM has been strengthened and the project also provided guidance and lessons learned from piloting a range of models of community-based forest management and conservation, all of which are needed to better inform and strengthen the legal framework for CFs and CPAs and establish/maintain multi-sector platforms for coordinating inputs to their planning and management.

Environmental – Project has demonstrated a desire on the part of communities to plan for the long-term sustainable management of forests to meet their livelihood needs while conserving biodiversity and reducing CO2 emissions. Such plans are likely to be realised when other local NGO (Mlub Baitang) and RECOFTC have continued to support technical and financial resources to many target CF/CPA sites.

The Project has strategically developed the improved capacity of government institutions at national and provincial level to effectively perform the SFM and efficient energy related activities. Various trainings in the forms of Training for Action modality, of which Training of Trainers (TOT) were provided to project focal persons, then followed by the field trainings to the target community forests, community protected areas, and efficient energy technologies – green charcoal kiln, improved cook stove, and improved palm sugar stove. The full information of various trainings have been reported in the project final reports of GERES and RECOFTC. Besides the institutional capacity provided by the project, the SFM related policies which support relevant ministries to better implement the SFM and efficient energy, such as ACFM concept notes, CPA guideline, and WBES.

The project prepared the exit plan, in close consultation with all stakeholders to ensure all project outputs are continuously managed after the project end. The consideration of technical and financial aspects had been included in the project implementation, and existing mechanisms are strengthened to keep momentum in managing and maintaining the project outputs sustainably. For detail of the sustainability plan, see annex. 1. The Project was strategically developing the working approach and partnership strategy with relevant stakeholders to ensure the project outputs being appropriately utilized and benefited to wider stakeholders for replicating SFM and efficient energy related initiatives.

Project output	Working approach & partnership strategy
Output 1: Capacity building and policy guideline development to promote SFM	<ul style="list-style-type: none"> - linked and aligned to national policies and programs (CFP/NFP); - Provided hand-on capacity building for partners; - Documented and disseminated the promising practices of the SFM and efficient energy. - Consulted with relevant stakeholders to review the lessons learned and recommendation to better implement the SFM and energy efficient. - Strengthened existing government led coordination among key stakeholders at the national and provincial level (e.g. National CF Network through the National Community Forestry Program Coordination Committee (NCFPCC), which is led by FA).
Output 2: Establishment of 30 CF and 10 CPA management plans and enterprise development, trails of 4 alternative CF modalities and CLUP implementation in 4 communes	<ul style="list-style-type: none"> - Link CF development plan with commune development plan to access possible financial support from commune investment funds. - Allocated fund into CF/CPA development fund so each CF/CPA MC is able to implement the CF/CPA MP. - Provided hand-on capacity building for partners; - Integrated CF/CPA Management Plan into provincial forests management plan and Wildlife Sanctuary Management Plans of FAC and DOE respectively. This ensured continued monitoring and coaching to target CF/CPA on the implementation of management and business plan. - Strengthened existing government led coordination among key stakeholders at the national and provincial levels, such as Provincial CF Network through Provincial CF Program Coordination Committee (PCFPCC). - Strengthened the collaboration between provincial departments and target communities through regular participating in field monitoring and coaching related activities. - Transferred training materials, handouts, and relevant documents to stakeholders. - Provided materials and tools to CF/CPA to implement the CF/CPA MP.
Output 3: Wood energy efficiency promoted by improved stoves	<ul style="list-style-type: none"> - Training and capacity building provided in the form of training and field actions. - Involved FAC, DME, and beneficiaries in all step of designing, construction, and pilot implementation of charcoal, fuelwood collection.

and kilns and woodlot management plans	<ul style="list-style-type: none"> - Seasonal time tables, work plans, and operation & maintenance guidelines handed over to all relevant stakeholders at national and sub-national levels. - Linked new ICS producers with existing ICS association - Equipment, tools provided to ICS producers and documents on construction manual, operation manual developed and provided to charcoal and palm sugar producers.
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Technical and Financial gaps identified

Though the Project has identified some technical and financial gaps arising upon the development of CF/CPA management and business plans, which are necessary to support community to implement the plans. Those included the lack of exiting tools and guideline to enable community forests to harvest timber for commercial. Shortage of funds to support CF/CPA to fully implement their business plans. As all CF/CPA began the development of business plans, including NTFP and green charcoal products, further analysis and supports had been identified, which were out of the project capacity, including the marketing, license/permit system, which are important to keep momentum of beneficiaries and to push the business transaction to wider markets.

Identification of external support of the project outputs

It is good to note that there are continued support to existing target sites after the project ended. Those included:

Institution	Target areas	Focus	Timeframe
1. Mlub Baitong	15 CF and 05 CPA	-Support the implementation of CF/CPA management and business plans and livelihood related activities. <i>Funded by Bread of the World (German)</i>	Till end of 2017
2. RECOFTC	04 CF	Support the institutional strengthening and reporting mechanism on forest illegal activities. Support the CF business implementation, with emphasis on CF bamboo entrepreneur. Project "Forest Law Enforcement Governance and Trade" (FLEGT).	Apr 2015 – Jul 2016
3. GERES	National	GERES work is collaborating with MoE and MME on the preparation for a NAMA on Sustainable Charcoal value chain in Cambodia that will work to strengthen the sector. Project "Sustainable Charcoal Value Chain in Cambodia"	Aug 2015 – July 2016

Management effectiveness review

1. Quality of monitoring

The project is informed to use the systematic tracking tools developed by UNDP and GEF are UNDP Capacity Development Scorecard and the GEF Tracking Tool for Biodiversity Project. The tools were used at the project start, midterm and end of the project the monitoring actions were applied following the M&E framework, as said in the project document, which are comprising of:

- annual budgets and work plans;
- quarterly progress reports monitored via the UNDP Enhanced Results Based Management and regular updates of the Risk and Issues logs in ATLAS(Platform entered into Monitoring activities)
- annual Project Review/Project Implementation reports (APRs/PIRs), which combine both UNDP and GEF reporting requirements;
- periodic site visits; and
- independent evaluations at mid- and end of term.

The project applied a participatory monitoring approach, which it incorporates the activities since the start of the project. The performance of project monitoring is generally high, in particular at the field level, as the level of involvement of sub-national level in various project activities conducted by service providers. The project monitoring involves the following:

- Conducted compressive baseline study to complete the project result framework
- On-sites monitoring conducted on quarterly basis by national level project team, comprising of FA, MLMUPC, MOE, MME, UNDP and service providers
- Quarterly Project technical meeting at national level to review and verify the progress of service providers against the work-plan and milestone
- Monthly provincial level meeting, led by FAC, with relevant provincial departments and staff of service providers to review progress, issue, and work-plan
- Annual project reflection, comprising of project stakeholders and selected beneficiaries from target sites, to review progress to date, challenges, and on-ward actions.
- Project Board meeting, once a year, to review and endorse the project work-plan and budget and provide direction over the project implementation.

In general, the feedback from project monitoring has been appropriately responded through various following up actions and solutions, as confirmed in the midterm review and final evaluation reports. Feedback and concerns from partners and beneficiaries have been thoroughly reviewed and highlighted in the project reports and lessons learned, which were concrete evidence and basis for proposing realistic recommendation for future implementation.

2. Timely delivery of outputs

The project, in general, had completed and achieved all project outputs, as said in the project result framework. The delivery of outputs related to efficient energy, which GERES is responsible agency, was achieved within the original project timeframe, to be officially ended by February 2015. However, the project was recommended by the midterm review to extend its timeframe up to Dec 2015 in order to complete the deliverables related to CF and CPA related outputs, which is the responsibility of RECOFTC. Key shortcomings of the project had been noted, which seriously affected the successful completion of project outputs within the project timeframe. Those include:

- **Project timeframe:** The duration of the project is four year (18 Mar 2011 – 28 Feb 2015) as said in the project document, but the contracts to service providers covered less than 3

years (April 2012 – 28 Feb 2015). This has come into consideration for adjustment of some target deliverables, as recommended during the project midterm review, relating the ICS and palm sugar stove activities.

- **Delay in project implementation:** It took 18 months for the project to become operational in the field and a further one year for MoE to come on board. Thus, the delivery schedule of project outputs had changed. Moreover, the implementation of CF/CPA management plan is limited as the project makes efforts to develop and finalize the CF/CPA management and business plans.

3. Resources allocation

Based on the total budget in the Project Document, there are in-kind contribution from Royal Government of Cambodia (RGC)'s Forestry Administration (FA) and co-financing funds from other donors (DANIDA) and GERES, with total of USD 9.963 million. The project received the financial resources from GEF and UNDP Cambodia for the project operation.

Fund source	Approved budget	Actual disbursement
GEF	2,363,635	2,363,635
UNDP	1,500,000	1,681,576
TOTAL	3,863,635	4,045,211

The project contracted two service providers (RECOFTC & GERES) to run the project activities, with total budget of USD 2.9 million (RECOFTC = USD 1.7 million & GERES = USD 1.2 million), which equivalent to 72% of total budget. Other key items of the budget expenditures covered the following:

- USD 300,780 (7%) covered the project management (including staff and operation cost)
- USD 446,564 (11%) covered the monitoring and learning, adaptive feedback & evaluation
- USD 397,867 (10%) covered the project activities implemented by concerned ministries (FA, MME, MLMUPC, and MOE).

4. Cost-effective use of inputs

Considering the completed achievement of project outputs, the overall cost effectiveness of this project can be regarded as fair. The planned and actual disbursement of the project budget has shown close consistence, which is indicative of efficient financial management of the project fund¹.

As this project mainly focused on the institutional capacity building and on demonstration initiatives that would be fundamentally basis for mainstreaming into policy development, the invest of inputs (facilities and equipment) for supporting the implementation at the ground, transferring the know-how and ownership, and developing institutional capacity at the national and provincial level are highly considered.

¹ Source: SFM Ptoject Terminal Evaluation Report

III. PROJECT RESULTS SUMMARY

3.1. Progress toward meeting the project objective

Table 3.1: Progress dashboard of project objective

Key Performance Indicators at the objective level (Revised SRF)	Baseline	Target	Achievement as of Dec 2015	Rating *
No. of a. CFs and b. CPAs around the Cardamom mountain that have completed all legalization requirements to operate as an indirect result of SFM efforts in building capacity and policy approaches in government.	a. 72 CFs b. 20 CPAs	a. 125 CFs (53 additional) b. 34 CPAs	a. 88 of all 155 CF in the target provinces approved by MAFF b. 25 of all 35 CPAs in the target provinces recognized by MoE.	MS
Deforestation rate reduction in protected forests in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces.	0.5% according to FA2010	10% lower than rates in 4 years preceding project.	Zero deforestation at target sites.	MS
Land area covered by degraded forest as % of total forest cover in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces.	6.6%	10% reduction in land covered by degraded forest	0.8% increase in land covered by degraded forests	MU
Annual greenhouse gas (GHG) emissions reduction (ER) due to adoption of improved cook stoves at the national level.	ER = 0	ER = 61,000t CO ₂ e/year	ER = 690,177 t CO ₂ e	MS

* Source: SFM Project Final Evaluation Report, HS = Highly Satisfactory; S = Satisfactory; MS = Moderately Satisfactory; MU = Moderately Unsatisfactory; U = Unsatisfactory; HU = Highly Unsatisfactory

The overall objective of the project is to strengthen national SFM policy, integrate community-based sustainable forest management into policy, planning and investment frameworks and create markets for sustainable bioenergy technologies that reduce CO₂ emissions. The project aims to address key barriers to their protection and sustainable utilization in ways that benefit local communities and contribute to reducing CO₂ emissions.

It is rated as Satisfactory by terminal evaluation consultant. It is a good result that the SFM Project has significantly contributed to the sustainable management of community managed forests in Cambodia as well reduction of GHG emission from the adoption of improved stoves.

Though, this project is too ambitious as the target of some indicators at the objective level may have been set too high. One of them is to achieve the target of 125 CFs and 34 CPAs in the target provinces having been approved by FA and MOE, but there are 88 CFs and 25 CPAs within the target provinces having been approved by EoP. The project assessment found no deforestation rate in the target CF/CPA sites, which precisely indicates some degree of recovery within the target forests, while the deforestation rate at the national level is constantly high (14%) between 2001 and 2013. However, the result of 0.8% indicating the increase in degraded forest land within the target sites from 2006 to 2014 had undermined the veracity of the project achievements but it was not a case as the national context of deforestation rate showed increase. With respects to data on condition of forest resources, result of inventory of forest resources in the target CF/CPA that had been conducted for development of CF/CPA management plan indicated the status of forest resources and condition.

With respects to efficient energy on improved cook stove, the distribution of ICS throughout the country is of 650,784 units in 2014, which is accounted for reduction of 690,177 tCO₂e/year. While the target is 61,000 tCO₂e/year, the achievement on GHG emissions indicated in excess of the target, considering as highly satisfactory result.

3.2. Progress toward meeting the project outcome

Outcome 1: National capacities and tools exist to facilitate the widespread implementation of sustainable community-based forest management and technologies that reduce demand for fuel wood.

Output 1: Institutional capacity in FA and GDANCP

Performance indicator:	Increase in institutional capacity rating in FA and GDANCP, as measured by UNDP capacity development scorecard.
Baseline:	12.5/42
Target:	31/42

The project conducted the capacity performance at the midterm and end of project, of which relevant government officials at national and sub-national level whom actively engaged in supporting the development of CF/CPA management plan have been included in this assessment. The scores have constantly increased from 24/42 (midterm assessment) to 32.5/42 (end of project assessment). The final score (32.5/42) is comfortably above the target of 31.42. The tool covers 14 criteria, with targets for capacity development at systemic (2), institutional (9) and individual (3) levels.

The main contributing factors in achieving the capacity building related output included effective methods to capacity building in the forms of TOT and in-hand applications at the target sites supported by the project. The active involvement of relevant government officials in provision of on-going support to target CF/CPA to develop the management plan and business plan is very crucial to build their confidence and skills in continuing support the SFM related works. The concrete evidence to get the total scores increased over time is the attainment of results on completion of CF and CPA management plan reflecting from the strong commitment and involvement of government institutions at national and sub-national level signing on Project Implementation Agreement to ensure the completion of project activities and outputs within the project timeframe.

The result of the scorecard capacity assessment indicated some weakness that need to be strengthened in order to successfully resolve the issues at the field implementation, including the strengthening of the institutions to resolve issues in the fields such as conflicting on overlapping CF sites with economic land concession (ELCs) and to fast-track the approval and review of the CFMPs, and formalization of the CBFMs.

Output 2: A supportive legal framework exists for all models of community-based forest management and conservation mentioned in the NFP.

Performance indicator:	a. Recommendations for amendment of existing guidelines (if needed) in NFP for CF for additional modalities and business enterprise plan. b. Recommendations for guideline documents for CPAs
Baseline:	a. Legal framework for CFs (2006) exists, but they are still lacking for ACFMs, and for business enterprise plan. b. CPA guidelines are in draft form.
Target:	a. CF framework amended to include the additional modalities of CF, and business enterprise development. b. CPA guidelines revised with lessons learned from SFM Project

With respects to implementation of CF, the existing CF guidelines are already in place and are currently being implemented. The project have developed the draft concept notes for Alternative Community Forestry Modalities (ACFMs) – Partnership Forestry (PF); Community-Based Production Forestry (CBPF); Community Conservation Forestry (CCF) and CF Business Development presented in a multi-stakeholder workshop in July 2013. The concept notes have been accepted by the FA and were used by the project as a guide for the initiation of ACFM development at the four pilot sites. The experiences and lessons learned were collected and documented as policy brief were presented and shared to FA and relevant



Picture 1: Consultation workshop on Alternative Community Forestry Modalities (ACFM) and Community Forest Enterprise Development, 17 September, 2013 @ Sunway Hotel.

The Department of Research and Community Protected Areas Development of General Department of Administration for Nature Conservation and Protection (GDANCP), Ministry of Environment (MoE) in collaboration with the SFM Project organized two sub-national consultation workshops on the draft Prakas on guideline and procedure for establishment of CPA with relevant stakeholders and CPA practitioners, then followed by the national workshop with stakeholders conducted and finalize CPA guidelines are progressing to endorsement by MOE.



Picture 2: Consultation workshops at the sub-national level on Guideline and Procedure for CPA Establishment conducted at Kampong Thom province, 02-03 June 2015, and Sihanul Ville, 23-24 June 2015.

The proposed addition into the revised CPA guideline, which have had directly benefits to community including: equitable benefits sharing mechanism; community has a right to communicate with partners to use community resources to develop their community, payment environmental services, small business/enterprise related to NFTP, using CPA as REDD+ model,

level of local authority and local administration for nature conservation and protection need to be signed on CPA by-law, CPA management plan and CPA agreement were suggested to add to Prakas. It is noted that lessons learned from the SFM Project on supporting CPA MP within the 11 CPA sites is crucial to the revised CPA guideline.

Output 3: Commune land use planning (CLUP) incorporates improvements in SFM and efficient energy approaches to PLUPs and DLUPs.

Performance indicator:	CLUP training module reflects SFM and energy by integrating CF and CPA development and sustainability.
Baseline:	Land Use planning by local authorities includes some attention to SFM, but needs more focussed approach.
Target:	Improved CLUP training module incorporating SFM and energy approaches established at Provincial and District levels.

The project, through RECOFTC, have worked with Ministry of Land Management Urban Planning and Construction (MLMUPC) to review the existing facilitation process of CLUP. The CLUP process is defined by the Sub-Decree on Procedures of Commune/Sangkat Land Use Planning (2009) and Commune/Sangkat Land Use Planning Guidelines (2010). The Commune Land Use Planning process followed 11 steps as provide in the CLUP guideline.

The issue of SFM and fuel wood energy included in the facilitation process of CLUP development. Existing forests sites as well potential forest areas identified and resulted in the target 5 CPAs, 3CFs, 1CCF and 2 PFs being integrated in CLUP process. Development of commune land used planning, implemented in 4 target communes, almost completed. Provincial DLMUPCC is leading development of CLUP in cooperation with DoA, DoE, FAC, DME and commune council.

Output 3: Wood Energy Implementation Strategy exists, incorporating private sector Modalities.

Performance indicator:	Wood & Biomass Energy Strategy drafted.
Baseline:	Wood & Biomass Energy Strategy updated database in formulation and approved for implementation.
Target:	Wood & Biomass Energy Strategy developed to the point of approval.

The Ministry of Mine and Energy (MME) had developed a Wood Biomass and Energy Strategy document but the process had been pending when the Ministry of Mine, Industry and Energy (MIME) was divided into two ministries – MME responsible for the energy part and Ministry of Industry and Handicraft (MIH) responsible for the industry and handicraft related issues. The project provided support to General Department of Energy (GDE)/MIME to carry out some activities that had been identified by the ministry working group toward completion of the strategy. Those activities included:

- Formal assessment (survey) to assess the current status of wood and biomass development in Cambodia. The survey sampled five selected provinces. Result of this survey is used to incorporate into the draft strategy.
- Adhoc working group meetings: comprise of inter-ministerial working group, relevant NGO to review and provide input and modification of the revised document related to evaluation of data and databases available in various authorities, identifying how to rationalize and unify them; review past and on-going activities on wood energy and the impact of wood energy on the environment, including garments, brickworks, rice milks and rubber processing, agri-business and cottage industries; analyze the present consumption and

forecast trends in supply and demand and their impact on the environment and wood and biomass residue energy-supply-costs; evaluate the potential for efficiency improvement in the wood and biomass residues energy sub-sectors and evaluate the economic and social feasibility and contribution that can be made long term by environmentally sustainable wood-energy-supplies. Work plan discussed and agreed by GDE/MME in order to address above concerns and finalize the strategy. The working group, led by director department of energy, also facilitated the internal meeting in the ministry to present the status of strategy development and recommendation from working group to MME for further comment and input before the strategy presented to wider stakeholders for validation.

- Conducted validation/dissemination workshop on the final draft on strategy and action plan. Two-day national consultation workshop conducted with relevant stakeholders.

Output 4: Financial strategies in MAFF and MoE to support SFM, including opportunities for REDD and carbon financing for sustained funding to support community-based forestry

Performance indicator:	REDD and carbon finance strategies by Year 4
Baseline:	0
Target:	X Qtr Year 4

The project has made effort to support the policies reform, including the exploring funding opportunities for community protected areas to be able to extract income from the implementation of eco-system services through partnering with other development partners. And the project has supported MME for the updated Wood and Biomass Energy Strategy, which the promotion of green charcoal under the SFM project, has been included as one of the priority actions plan in the WBES. As mentioned in the terminal evaluation report, some project indicators, including this one, are unlikely relevant to the project, but other UNDP supported project, UN-REDD and FCPF, have been working on this. Based on the updated progress of FCPF project, REDD+ strategy has been draft and revisions have been made following the series of technical consultation meetings with various stakeholders, including relevant government institutions and NGOs. The project has called for proposals from NGO piloting the REDD+ related initiatives.

Output 5: Financing generated from other funding sources (banks, green funds, etc.) by EoP

Performance indicator:	<i>REDD and carbon finance strategies by Year 4</i>
Baseline:	0
Target:	<i>X Qtr Year 4</i>

This has been impracticable, with respects to the project focus, for having funding sources from REDD+ and voluntary carbon agreements, Payments for Ecosystem Services, eco-tourism and more conventional finance mechanisms, such as micro-finance and private sector investment. Instead, the project considers the sale of green charcoal and the in-house account of carbon saved from the production and marketing of ICS reflecting the progress of this indicator. Approximately US\$8,000 earned from production of 58 tons green charcoal as of Dec 2014. GHG emission reduction data from ICS and charcoal production by the SFM project reported 30,894 tCO₂ from dissemination of 143,575 stoves (29,949 tCO₂) and 58 tons green charcoal from 17 operational ICKs (945 tCO₂).

Outcome 2: Community-based sustainable forest management is being implemented effectively within a context of cantonment, province, district and commune level planning delivering concrete benefits to local communities

Output 2.1: Management and business plans for CFs and CPAs, that provide environmental and financial sustainability and opportunities for business development, are developed, approved and beginning implementation.

Performance indicator:	- No. of CPAs with management plans and business plans that have passed final stage of approval process and are being implemented. - Number of CFs with management and business plans that have passed final stage of approval process and are being implemented.
Baseline:	- 0 CPA - 0 CF
Target:	- 10 CPAs have passed the final stage of approval process by EoP - 34 CFs (30 CFs and 4 ACFMs) have passed the final stage of approval process by EoP.

The achievement of this output is crucial to ensure local communities benefiting from forest managements, in term of economic benefits and sustainable management of forest resources.

Progress of CF – The project successfully completed the development of CF/CPA management plan and development plans. It is noted that the implementation at the ground began a bit late so the extension of project period has been given, with successful completion of the planning processes.

The project follows the existing regulatory framework on CF establishment in 2006, covering eight (8) steps):

- | | |
|---|--|
| Step 1: Meeting with CFMC and CF members to prepare work plan for developing CFMP | Step 5: Conducting participatory forest inventory |
| Step 2: Dividing CF management blocks on the map | Step 6: Presenting results of forest inventory to CF members |
| Step 3: Verifying CF management block in the field | Step 7: Writing CF management plan |
| Step 4: Demarcating management blocks in the field | Step 8: Submitting CFMP to FA for review and approval |



Picture 3: Forest resource inventory activity at Prey Tralach CF, Battambang province



Picture 4: CFMC meeting to write up the CF Management Plan, Obraktra CF, Pursat Province

Table 3.2: List of target CF sites in the target provinces

Name of CF	Province	No. CF HH	Area (ha)
1. Svay Pak	Pursat	367	172
2. Ou Srav	Pursat	268	207
3. Krabei Sar	Pursat	82	167
4. Chheu Teal	Pursat	165	471
5. Bangkong Khmum	Pursat	132	299
6. Krang Thom	Pursat	103	99
7. Kam Peng	Pursat	288	188
8. Ou Bak Tra	Pursat	306	849
9. Kirisiela Keo	Battambang	161	366
10. Pheak Kdey	Battambang	219	370
11. Phum Thmei	Battambang	347	315
12. Phum Kandal	Battambang	189	131
13. Prey Tralach	Battambang	514	1,332
14. Peam Lvea	Kampong Speu	54	153
15. Pich Antong	Kampong Speu	75	78
16. Chrous Pong Ror	Kampong Speu	459	488
17. Leap Kuy	Kampong Speu	185	107
18. Reang Pen	Kampong Speu	260	191
19. Svay Rum Pea	Kampong Speu	675	913
20. Top Mean	Kampong Speu	286	351
21. Chros Dambong	Kampong Speu	347	504
22. Chrous Svay	Kampong Speu	467	427
23. Kiri Raksmei Deydoh	Kampong Speu	140	139
24. Damrey Chak Thlork	Kampong Speu	372	1,452
25. Phum Trapeang Chan	Kampong Chhnang	223	201
26. 185 K Thida Chambak Thom	Kampong Chhnang	559	631
27. Chearov	Kampong Chhnang	156	51
28. Chamkar Prey Sne Kanhchoung	Kampong Chhnang	214	45
29. Chamkar Prey Sne Svay Bakav	Kampong Chhnang	261	70
30. Boeung Kak	Kampong Chhnang	205	112

The development of 30 CF management plan, covered 10,879 ha, have been determined certain forest management blocks, such as areas of conservation zone (1,095 ha), reforestation zones (1,450 ha), fuel wood collection zone (5,093 ha), pole and timber harvesting zone (2,061 ha), bamboo management and harvest zone (948 ha).



Picture 5: Discussion on CF Management Block division, CF 185 K Thida Chambak Thom, Kampong Chhnang



Picture 6: Map of CF 185 K Thida Chambak Thom, Kampong Chhnang

The project has closely worked with Community Forest Office to develop CFMP review check list for supporting local FA and service providers to work with communities to review the draft CFMP before submitting to FA for approval. And the check-list has been very useful for CFMP reviewers (FA Officials at the national level) to systematically provide comment and response back-and-forth at least two times before the documents have been finalized and approved. For CF Business Plans, all 30 CF completed the draft and reached the final stage of approval.

Technical difficulty has been identified in the CFMP development process, which there is still some complex technical requirement in conducting the inventory of forest resources in all CF sites, though most of community forests are degraded forests, which potential forest resources, are limited in the most of the CF sites. There is extensive support to local communities to write up the CFMP and to revise the CFMP based on comments provided, which the roles of service providers are of importance in provision of on-going and coaching support to communities and local FA to complete the CFMP. The lessons learned and proposed recommendation have been documented and presented to FA in the project closing workshop for future implementation.

Progress of ACFM – According to National Forest Programme (NFP) 2010-2029, the ACFM has been determined as following:

- Partnership Forestry (PF) - a decentralized approach to forest management focused on a partnership between the commune council and the Forestry Administration where the FA extends rights to communes to manage the forest resources under specific conditions.
- Community Conservation Forestry (CCF) – a community based forest management modality intended for protected forests.
- Community-based Production Forestry (CBPF) - focus on high-value forests with commercial potential for sustainable harvesting of timber products by the community.

Related with the pilot implementation of ACFM within the four sites, progress has been slow, compared to progress of CF. Management plan development process is as the same as process of CF. By end of the project, all four ACFM sites have completed the management plans, and are now under review by FAC. Areas and Location of ACFM sites.

Table 3.3: Target ACFM site in the target provinces

ACFM Name	Province	Areas (in ha)
Kamping Puy (Takream) Partnership Forestry (PF),	Battambang	1,408 ha
Samroung Partnership Forestry (PF)	Pursat	5,402 ha
Toul Krous Community Based Production Forestry (CBPF)	Pursat	2,069 ha
Roleak Kang Cheung Community Conservation Forestry	Kampong Speu	2,462 ha

Progress of CPA – The project immediately started the CPA field works after the orientation workshop on the SFM project conducted, in 2014, to relevant departments of MOE and all four provincial departments of environment and wildlife sanctuaries to review the CPA targets and work plan. The project agreed to support 11 CPAs for the development of CPA MP.

Table 3.4: Target CPA sites in the target provinces

Name of CPA	Location	No. HH	Area (ha)
1. Phnom Cheng Leang	Tuek Phos district, Kampong Chhnang, Aural WS	266	265
2. Phnom Anloun Svay	Tuek Phos District, Kampong Chhnang, Aural WS	1,632	1,260
3. Sleng	Tuek Phos district, Kampong Chhnang, Aural WS	541	524
4. Traing Chambak	Oral district, Kampong Speu, Aural WS	720	927
5. Kor Dontey	Oral district, Kampong Speu, Aural WS	509	2,593
6. Chrok La Eang	Krakor District, Pursat, Phnom Samkos WS	1119	660
7. Rang Kvav	Kravanh District, Pursat, Aural WS	175	776
8. Stoeung Thmey	Veal veng district, Pursat, Phnom Samkos WS	110	712
9. Sre Paing	Veal veng district, Pursat, Phnom Samkos WS	87	499
10. O' Chorm (Phnom Tek Tleak)	Samlot district, Battambang, Phnom Samkos WS	176	372
11. Ta Taok O khrouch	Samlot district, Battambang, Phnom Samkos WS	177	403

The project worked closely with Department of CPA and respective provincial departments to support development of CPA MP. Existing CPA guideline were used as guidance to develop the management plan. The works has been progressed notably as all 11 CPAs sites completed the CPA MP and were submitted to GDANCP for final review and approval. It is noted that business plan development is part of the management plan development of CPA.

Output 2.2: Management FA cantonment and DoE PA offices have worked to develop community-based forest management development plans at the provincial level.

Performance indicator:	No. of FA cantonment and DoE provincial PA offices that have community-based forest management development plans by EoP.
Baseline:	- 0 province
Target:	- 04 provinces

Besides target sites, the project worked with all 4 FACs and DOE/PA and other development partners to establish CF management plans. The report of CFO/FA in 2015 showed that 66 of the 155 CFs in 4 target provinces have been supported by FAC and NGOs to establish the CF management plans. In addition to the 11 target CPAs in 4 provinces, DoE /PA in Battambang and Pursat have also supported other CPAs to develop management plans.

Output 2.3: Commune Land Use Plans (CLUPs) that integrate SFM through CFs/CPAs designed and approved by consensus among the locals government institutions

Performance indicator:	No. of locally commune-based land use plan (CLUP) for SFM based on CF/CPA developed
Baseline:	- 0
Target:	- 4 CLUPs by EoP

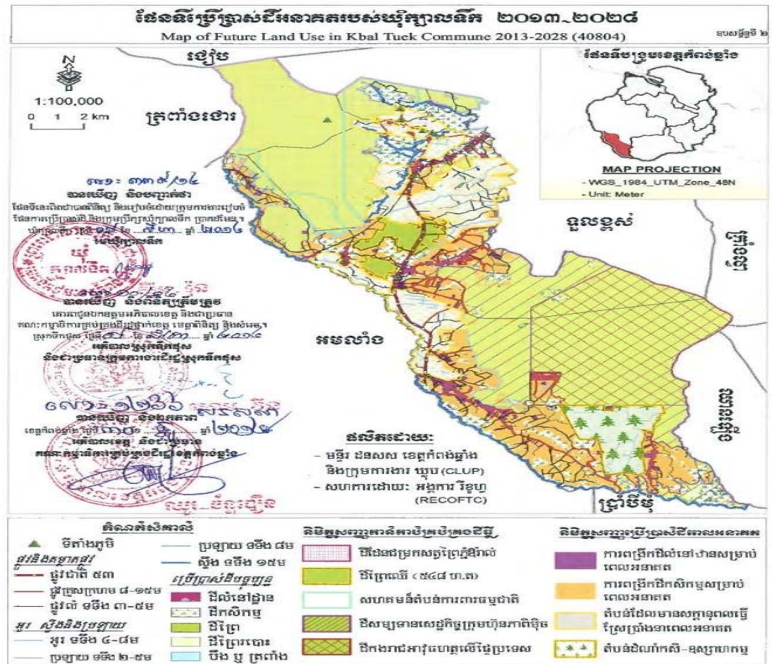
The CLUP process is defined by the Sub-Decree on Procedure of Commune/Sangkat Land Use Planning (2009) and Commune/Sangkat Land Use Planning Guidelines (2010). It contains the following 11 steps:

Step 1: CLUP Preparation	Step 7: District Integration Workshop
Step 2: Data Collection and Analysis	Step 8: Approval from District State Land working Group (DSLPG)
Step 3: Production of Commune Land Use Map	Step 9: Approval from Provincial State Land Committee (PSLC)
Step 4: Production of Future Options Land Use Map	Step 10: Data and Document Keeping and Extension
Step 5: Production of (CIP) Map	Step 11: Monitoring of CLUP Implementation.
Step 6: Commune Land Use Planning for the Future	

Table 3.4: Target CLUP and areas

No	Name of Commune	Area (ha)
1	Takream (BTB)	20,780
2	Samrong (PUR)	66,962
3	Khbal Teuk (KCH)	24,556
4	Tasal (KSP)	128,969

The development of commune land use planning books in the four (04) communes completed, of which two communes are approved by provincial governors and the other 2 have been submitted to the provincial State Land Use Committee (PSLUC). As of now, the commune land use plans are being used as tool for analysis by the commune councils in their commune investment plan (CIP) and commune development plan (CDP).



Picture 7: Approved CLUP map, Khbal Tek Commune, Kampong Chhnang

The CLUP has produced excellent result as local provincial authority demonstrated very high attention and support in resolving the forest land encroachment as identified in the CLUP Khbal Teuk commune, kampong Chhnang province. The hotspot areas of forest state land, 390 ha, was completely established as Community Forest, namely “Khsach Poun CF”, recently recognized by MAFF in 2015.



Picture 8: Discussion on Options Land Use Map, Takream commune, Battambang

Output 2.4: Households in target forest communities earn income based on the sustainable management of forest resources

Performance indicator:	No. of CFs and CPAs with households that experience increased income from forest enterprises
Baseline:	-0 CFs; 0 CPAs
Target:	- At least 50% of CFs (15) and CPAs (5)

Table 1. Identified enterprises in the target sites

Type of forests-based enterprises	# CF and CPA	Remarks
1. Bamboo	05 CF & 03 CPA	CF (KPS :4; BTB: 1); CPA (KCH:1; KSP:2)
2. Bamboo shoot	03 CF	CF (KCH:1; PST:2)
3. Ecotourism	01 CF & 01 CPA	CF (KSP:1) CPA (PST:1)
4. Firewood	09 CF & 01 CPA	(CF (BTB:1; KCH:5; PST:3); CPA (KCH:1)
5. Mushroom	03 CF	CF (BTB: 1; PST:2)
6. Pdao Som (Rattan Worm)	02 CPA	CPA (BTB: 2)
7. Phkar Ankeasel	01 CPA	CPA (KCH:1)
8. Poles	01 CF	CF (KSP:1)
9. Red Ants	03 CF	CF (KSP:3)
10. Rose wood seedling	01 CF	CF (KPS:1)
11. Hard Resin	03 CPA	CPA (KSP:1; PST:2)
12. Traditional medicines	02 CF	CF (KPS:1; PST: 1)
13. Wild vegetable (Prich vegetable)	02 CF	CF (BTB:2)

The assessment conducted by RECOFTC found 2,652 households out of the 30 CFs and 11 CPAs benefiting from the forest based businesses. All CF/CPA sites are in various stages of implementation. The result of income assessment in 2015 indicated that local communities (29%) relying on forests resources for livelihood increased compared to the start of the project was only 25%. The forest-based enterprises in the target CF/CPA involved wood-based and non-timber forest products (NTFPs). Major constrains of business plan implementation included low potentiality of forest resources in most CFs. Though, some solutions have been identified and implemented included the small plantations of fast-growing species.



Picture 9: Selected non-timber forest products in the CF sites identified for enterprise development

Output 2.5: Average income of households, and of women, from profitable enterprises based on the sustainable management of forest resources increases in target communities

Performance indicator:	- % increase in average annual income from SFM of households in target forest communities - % increase in average annual income from SFM of women in target forest communities
Baseline:	- \$62/month/hh - \$56/month (female hh head)
Target:	- Increase in average annual income by 20% from the baseline level by EoP.

The assessment of income from forest-based enterprise in the target sites in 2015 found significant reduction of forest-based income among female household head but female non-household heads said their forest-based income had increased, compared to baseline data.

Income of women	Baseline	Target (20% increase)	Outcome
Female HH Head	56	67.2	11
Female Non-HH Head	62	74.4	95

The result could indicate that the female HH head have difficulty looking for opportunities for economic activities considering that they are saddled with household work. It is very common that the female HH head will have to balance managing the family as well as looking for works. Unlike the non-HH head, they can devote much of their time looking for productive works.

The result of the assessment indicate that the project has resulted to an improvement on the income of target beneficiaries particularly among the non-HH head. The income of female respondents who are non-HH income is higher (\$95/month) compared to the project target of \$74/month. There are indications however that the current income of female HH Head differs from the target. Some of those who indicated that their income has decreased cited reasons such as erratic climate, declining condition of resources and market fluctuation.

The project has contributed significantly to the improvement of the skills of target beneficiaries particularly on the sustainable management of the forest resources. However, further efforts are needed to make the enterprises profitable.

Outcome 3: Strengthened demand and supply chain for energy efficient cook stoves and end fuels.

Output 3.1: Increased market share of improved cook stoves and charcoal kilns:

Performance indicator:	- No. units sold/ established: - Improved cookstoves (ICS) - Efficient charcoal kilns (ECK)
Baseline:	No. units: - ICS: 30,000; - ECK: 3
Target:	- No. units: - ICS: additional 90,000 yr3; - ECK: additional 16 yr3

By February 2015, the stoves had been sold 142,575 units, which is in excess of the target, 90,000 units by end of the project. The project established and trained newly 45 ICS producers to produce the Neang Kangrei Stove (NKS) and New Lao Stove (NLS).

To achieve this output, the project provided supports to stove producers through provision of technical related trainings, including stove design and assemble training, quality training, recording of stove production, and entrepreneurship. The link of the new stove producers with existing stove network, called "Improved Cook Stove Producer and Distributor Association in Cambodia" (ICO-PRODAC), indicated effective modality, as stove productions and the stove sale

volume constantly increased over time. However, the project found limited capability of ICO-PRODAC to conduct stove quality control before all stove have been distributed to the market. So far, GERES takes lead to conduct regular spot check on stove quality control but this work is unclear since the project ends.

With respects to charcoal kiln, the project set up eight (08) improved charcoal kiln centres (17 kilns) in seven (07) CF in the four target provinces:

- Battambang province: 2 ICK centers (04 kilns) are located in Sras Thort and Orbrues,
- Pursat province: 4 ICK centers (09 kilns) are located in the CFs (Chheur teal, Bangkok Khmum, and Steng thmei)
- Kampong Chhnang province: 1 ICK center (02 kilns) are located in Trapaing Chan CF,
- Kampong Spue province: 1 ICK center (02 kilns) are located at Damrei Chakthlok CF



Picture 10: Construction of improved charcoal kiln, Pursat



Picture 11: Improved Charcoal kiln centre at Damrei Chakthlork CF, Kampong Speu province

The project was aiming to pilot new technology, of which the improved kiln model (Yoshimora kiln) is introduced. Moreover, it mainly emphasized on the production process including working on the supply of wood biomass and operationalizing the production. However, during the implementation, the project has observed the challenges as the project had limited analysis of the ICK business model.

The project made effort to tackle the arisen issues through conducting the entrepreneurship training and developing the business plan for each ICK centre. Major issues have been identified during the design of ICK business plan including: 1) the ICK structure, dividing charcoal producers group and wood collectors group, 2) Benefit sharing mechanism among charcoal producers and wood collectors, and 3) cost structures for the ICK production and commercialization process.



Picture 12: Improved Charcoal kiln centre, Stengthmey CF, Pursat

The project believed that further works remain to be done on ICK value chain, including structuration, market linkages between centers and viable markets, and ultimately, marketing and branding. The supply of sustainably sourced biomass continues to present a challenge, which in turn translates into limited production and supply of sustainable charcoal. Lastly, the investment in

the technology utilized by SFM, the Yoshimura, presents a significant investment, which would be prohibitive to most existing actors in the value chain.

Output 3.2: Increased market share of improved cook stoves and charcoal kilns:

Performance indicator:	- % market share: ICS (NKS); PSS
Baseline:	% market share: ICS - 1.7% ; PSS - 0.1%
Target:	- % increase in market share: ICS - 17%; PSS - 4%

The survey on domestic use of cooking fuels and devices conducted by GERES found increased market share of improved stove from 1.7% (2012) to 17% (2014). As such an additional 142,575 units sold represents an increased market share of 17%, a commendable achievement. The project conducted ICS awareness raising in 20 remote villages in the four target provinces, of which, in total, 56 ICS retailers identified and established the supply chains from production areas to the target beneficiaries. As demonstrated in the end-line survey on ICS utilization report, the use of ICS in the project area has significantly increased during the project period, from 61% (NKS=29%; NLS=31%) at the beginning of the project to 96% (NKS=41%; NLS=44%) at the end of the project. As the project had very small penetration of improved palm sugar stove into the market, so it is not worth collecting the market share of IPSS.



Picture 13: ICS retailer store at Kravanh district, Pursat province

Output 3.3: Annual CO₂ emission from stoves and kilns reduced

Performance indicator:	- Annual CO ₂ emission reduction (tons)
Baseline:	- ICS = 0 tCO ₂ e/year; - PSS = 0 tCO ₂ e/year; - ECK = 0 tCO ₂ e/year
Target:	-- ICS = 19,800 tCO ₂ e/year; - PSS = 48 tCO ₂ e/year; - ECK = 1,850 tCO ₂ e/year

Sustainable charcoal production allowed ERs of 945 tCO₂e from April 2012 until February 2015, and potential annual ERs of 822 tCO₂e/year. ICS production allowed ERs of 29,949 tCO₂e over the project period, and potential annual ERs of 24,913 tCO₂e/year. These results contribute to the National Strategy for Emissions Reduction. The calculation of ER follows the updated UNFCCC methods and procedures, for dissemination of improved stoves that reduce non-renewable biomass consumption and sustainable charcoal production that displace non-renewable charcoal.

Output 3.4: Establishment of demonstration palm sugar stoves (PSSs) in one province, Kampong Speu

Performance indicator:	a. No. of villages where awareness raised b. No. of improved PSSs established.
Baseline:	a. 0; b. 0
Target:	a. 20; b. 20

The project aims to reduce the inefficiencies of the traditional stove by introducing an environmentally sound and appropriated technology that is specifically adapted for local producers, thereby allowing the producers to sustain the practices under improved conditions and technology, while delivering a high quality end-product suitable both for local and export markets.

The assessment of improved stove quality showed the saving rate of fuel-wood (30%), compared to traditional stove, meaning that users could save on average 3.5 tons of fuel wood per year. In addition, with the IPSS, smoke is exhausted through a chimney, so the users are better protected from inhalation of hazardous combustion gases, and the insulation of the stove drastically decreases the heat around the stove providing a better, safer working environment.



Picture 14: Beneficiaries of improved palm sugar stoves

Though, the project has agreed to refocus its support from just PSS awareness raising activity to at least 800 palm sugar producers, as stated in the original project document, to target one province and the awareness raising is along with the dissemination of 20 stoves in 20 villages. The initial field assessment was conducted to ensure that target areas and beneficiaries are properly selected. As result, IPSS awareness raising conducted in 20 target villages involving 248 (65 F) participants and 20 demonstration IPSS installed. The successful completion and high beneficiaries satisfaction of the improve stove’s advantages, the project has scaled up the dissemination of additional 185 improved stoves in the target provinces.

Output 3.5: Operational improved cook stove production clusters increase

Performance indicator:	No. of operational ICS production clusters
Baseline:	25 clusters
Target:	6 additional in year 3



Picture 15: Stove production cluster, Kampong Chhnang

The project established eight (08) ICS Production clusters, consisting of 45 production owners. The ICS Production Center, mainly focuses on business activity that make profit from the production and the sales of improved cook stoves. The concept of ICS PC is apparently different from the concept of training centre or testing facility. As such, a group of small individual producing units, living within a relatively small proximity, unable to afford production equipment individually, working together and sharing a common production plan.



Picture 16: Stove production owners participated in the “Entrepreneurship Training”

To ensure the effective and on-going function of the production cluster, the project supports stove equipment and resources, such as six (06) Clay Mixing Machines (CMM) and twenty two (22) stove fire kilns, allowing to improve a lot the productivity of a production center and the fuel efficiency of the firing process, thus reducing the production cost per unit of stove and improving overall business profitability.

The project facilitated a regular meeting among each stove cluster to sharing experience, problems and challenges among the member of one cluster, thus allowing producers to collectively find solutions and benefit from the group dynamic and to purchase in bulk raw material such as clay and metal sheets, in order to get reduced prices, reduce production costs, and ensure that all the producers can produce more or less the same quality at a similar cost.

Though, the production cluster concepts are not working well regarding the shared stove equipment – Clay Mix Machine and Fire Kiln, among members in their cluster, as one CMM was located permanently and other members expressed no willingness to transport their clay to the shared CMM. As the shared CMM were not used among other members in the cluster, the project engaged ICO-ProDAC in resolving the issue, of which, agreement was reached that stove producers who owned the equipment had to pay equipment cost to ICO-ProDAC on installment basis. This has been still on-going, except the stove cluster at Kampong Speu, as all of them stop producing the stove, due to difficulties in accessing good quality clay.



Picture 17: Clay Mixed Machine and stove fire kiln

Output 3.6: Increase Income of stove producers increases

Performance indicator:	Average income of stove producers
Baseline:	US\$40/month
Target:	US\$60/month by EoP

Average income of each stove producer is US\$ 86.53/month. The calculation of profit per stove is 800 riels and 2,400 riels for NKS and NLS respectively. However, it is worth mentioning that in most cases, NKS and NLS production came as complementary income to other sources of revenue.

As already mentioned, the project didn't benefit only the producers: overall, 140 people were trained as skilled workers to work in ICS production centres (including NKS or NLS). These workers can generate an income of \$112-\$115/month.

Output 3.7: Number of woodlots based on CFMPs and area of woodlots managed for efficient energy by local communities/ farmers increases.

Performance indicator:	a. Total number of woodlots integrated with CF management/ business plans and Charcoal Kiln business plans for fuel wood supply and green charcoal. b. Area of woodlots managed for wood energy.
Baseline:	a. 1 (Tram Kak CF); b. 0 ha
Target:	a. 5 woodlots; b. 617 ha

7 Woodlot areas, covering about 1,781 ha, established to supply firewood for charcoal kiln.

With respects to CF Management Plan development, total of 25 CF and 03 CPA have identified the fuelwood zones, covering 5,093 ha and 1,222 ha respectively. 602 ha were established as woodlots in KCH to fuel wood supply for green charcoal

The Woodlot (WL) areas were established following the identification of target site for improved charcoal kiln, including 1 WL in Kampong Speu (CF Damrei Chakthlirk), 2 WLs in Kampong Chhnang (CF Trapaing Chan and CF 185K), 2 WLs in Pursat (CF Chheur teal and CF Bangkok Khmum) and 2 WLs in Battambang (CF Prey Tralach).

The amount of firewood available has been measured through firewood inventory conducted in 2013. Among the seven CFs, where WL was established, there are three (03) CF (Bang Kong Khum, Chheu Teal and Prey Tralach) have sufficient biomass potential to provide supply to the improved charcoal kilns. Though, the project has supported the planting activities of fast growing species in the CFs.

IV. IMPLEMENTATION CHALLENGES

Project risks and actions

The project has identified the following critical risks, which is regularly updated in the Risk-log on quarterly basis. Other potential risks have been identified during the project implementation have also been reported.

Project risks	Management responses
<p>Limited viability of forest-based businesses due to low productive potential of forests, limited capacity or interest of forest communities to organize and limited interest from private sector due to unproven viability</p>	<p>Several initiatives are being implemented:</p> <ul style="list-style-type: none"> ▪ The project has revised the business ideas, in close consultative process with CF members. As results, most CFs has already generated income from pilot forest based enterprise implementation. ▪ With additional financial support from RECOFTC, the Appropriate Harvesting Technologies (AHT) was tested to measure the productivity of resources collection, either for bamboo, fuel wood or timber. ▪ Silvicultural handbook has been developed for supporting all CF to sustainably collect forest resources, based on the CF management plan. ▪ The project had supported three (03) CFs to implement the reforestation activity, which the fuel wood and charcoal businesses have been implemented.
<p>Limited commitment and participation by Government (e.g. reduced political commitment to decentralizing forestry and supporting demarcation, continued favouring of powerful actors through ELCs, inadequate capacity in FA to fulfill role as implementing partner, slowness in developing pending regulations or MAFF issuing agreements, reluctance of sectors to collaborate)</p>	<ul style="list-style-type: none"> ▪ Monitoring and troubleshooting by UNDP and Development Partners with the FA in the TWG F&E; support and facilitation of collaboration at field and province levels; monitoring, systemization and awareness raising on social benefits and resource sustainability achievable through decentralization; support to formalization of occupancy and usufruct rights of forest communities ▪ The National Community Forestry Program Coordination Committee (NCFPCC) was established and led by FA, with participant from all concerned NGOs, to report the forestry related policy frameworks, CF progress, and challenges and step forward. 368 of 494 CF were already approved by MAFF, which 84 of them were approved in 2012, 2013, and 2014. And under the SFM project, all 30 CF completed CFMP.
<p>Co-financing arrangements and/or partnerships do not transpire</p>	<ul style="list-style-type: none"> ▪ Diversification of co-financing sources; negotiation and communication of opportunities for synergies and mutual benefits with partners and private sector; generation of income sources such as carbon payments/REDD ▪ For the SFM project, the co-financing from RECOFTC project was about 55,000 EUR for the pilot testing of Appropriate Harvesting Technologies (AHT) to improve the productivity of resources collection, either for bamboo, fuel wood or timber. ▪ The 3-year project "Forest Carbon Partnership Facility", with total budget of \$3.8 million, to continuously support for REDD+ Strategy development.
<p>Climate change increases frequency of forest fires and livelihood vulnerability of forest communities, and reduces their</p>	<ul style="list-style-type: none"> ▪ Generation of income (e.g. from forest businesses) that will be reinvested in forest protection, and support to diversification of productive and livelihood support options ▪ All 30 CF has completed the development of the CFMP/CFBP,

commitment to SFM	which benefits sharing mechanism, were developed to ensure the active and continued support of CFMC in protection their forest.
Emergence of alternative technologies with which energy efficient cook stoves are unable to compete in the market	<ul style="list-style-type: none"> ▪ The production of improved cook stoves (Neang Kang Rei model and New Lao Stove model) that produced by the target producers have been sold to the market. ▪ GERES has scaled up the improved cook stove programme to other provinces (Kampong Cham and Prey Veng), with financial support from MME. ▪ Ministry of Mine and Energy included the continued support and expansion of of the improve cook stove programme in the Wood and Bio Energy Strategy.
ACFMs sites overlapped with suspended Forest Concessions are unlikely to get consent from concessionaires. Forest Concession concessionaires will likely object the establishment of ACFMs in premium areas.	<ul style="list-style-type: none"> ▪ The project closely worked with FA, FAC, and provincial governor to resolve the issue with the company, but it is very difficult as the company has no office in Cambodia. ▪ The project regularly reported the progress to FA and kept following up the response from FA and MAFF. ▪ The project continuously provided capacity building for CFMC and CF member to strengthening them to manage their forest.
GDANCPA/MoE delayed for SFM project implementation	<ul style="list-style-type: none"> ▪ Coordinated with MoE to sign request cooperation letter and PIA between RECOFC and DOE was signed. ▪ Project started implementing the 11 CPA management plans and business plans in early 2014 and the project was no-cost-extended to 31 December 2015.

Project issues and actions

Issues	Actions taken
Community could not harvest timber in CBPF	<ul style="list-style-type: none"> ▪ CBPF is one modality mentioned in the NFP that allows local communities to harvest timber for commercial purposes. Although the CBPF Management Plan was completed by the community, it turns out that they could not conduct timber harvesting because additional technical documents had to be submitted such as pre-harvesting plans, harvesting coups, identification of technical silvicultural treatments, and harvesting procedures. ▪ The identified CBPF is also located in a mountain which is inaccessible. This leaves only 519 out of 2,069 hectares that have potential timber harvesting.. The this experience have been raised to be considering in term of prepare simple harvesting procedure if there have CF guideline review.
Land use conflict/land encroachment in the target CF sites.	<ul style="list-style-type: none"> ▪ FAC brought the issue to the relevant provincial authorities ▪ Coordinated with the FAC in supporting the CFM s to submit complaints to provincial courts as necessary.
No banks provide capital investment to the enterprises at a reasonable rate	No external sources of capital were available to implement CF/CPA business plans. The project have tried to allocate fund as CFDF (500 USD) for each CFs/CPAs. However, the amount is too meager to start a start a community-based enterprise in CFs/CPAs on a commercial scale. Community have used CFDF funds to create CF-based Credit (i.e. the CFDF was used to relend to its members and used the interest for the development of the CFs/CPAs). Some of the amount was used for implementation of

	<p>the CFMP. One micro-finance lender expressed interest in providing loans to CF/ CPA enterprises. However, the interest rates offered were high and the community members felt that they could not afford these.</p>
<p>Limited access to biomass energy markets for charcoal produced</p>	<p>System is developed to be market competitive and within the existing supply chain. Provision of transportation means (Tri-cycle machine) to transport wood and charcoal products to the markets.</p>
<p>The quality of the new rural ICS produced in many centres is not uniform, caused by different clay properties and firing techniques.</p>	<p>The project use our diverse experience in the sector and lab facilities to study the clay from project target production areas and improve the clay property by mixing it with locally available additives, and introduce improved firing kiln (high temperature, controllable, energy efficient).</p>
<p>Limited stove supply chain networks serving rural areas</p>	<p>Decentralize Rural ICS production and mobilize local distribution networks of household appliances and other goods to scale up or promote the new rural ICS. Train and link new stove producers to ICO-ProDAC Establish stove retailers and link them to distributors</p>

V. LESSONS LEARNED AND NEXT STEPS

The project identified some lessons learned which are potentially impacted the project performance and overall result, those include:

- Since the start of project implementation at the ground was delayed, it resulted in insufficient time to support development and implementation of CF and CPA management and business plans.
- The overall framework of the project is well designed but the Strategic Result Framework, which is fundamental to monitoring and implementation of the project, is complex due to lack of baseline and inconsistencies in terminology to monitor progress.. The adjustment was made at the midterm; however, it was a bit late and truly undermined the usefulness of the SRF for monitoring purposes.
- Integration of SFM concept into land use planning process demonstrated very useful tool to engage all concerned parties at the local level to identify the possible actions/projects related to protection and management of natural resources and community managed forests.
- Solutions to natural resource management normally involve a wide range of interest groups (stakeholders), thus the technical and coordination support from service providers is important. This project has successfully demonstrated the importance of multi-sector cooperation.
- The institutional capacity building, inclusion of training-for-action approach, demonstrated both effectiveness to equip the trained participants to apply their acquired knowledge and skills into practice and provision of maximum benefits to local communities.
- With respects to improved stove production, quality control should be tasked to ICoProDAC, as it can play an important, even vital, role in securing a niche in the market place.
- The new pilot activities should be subjected to thorough research, including the cost-and-benefit analysis, likelihood of sustainability and potential future replication of the initiatives. Ex. products from income generating activities need to be subjected to thorough research to identify their potential niches in markets (e.g. charcoal and wood vinegar from improved kilns, NTFPs such as prich, mushrooms).

Recommendations

There are opportunities to reinforce the benefits from the project that need to be prioritized, including:

- Finalization and endorsement of the remaining CF/CPA MP is a priority that needs to be expedited so the implementation can proceed. And the monitoring activity on the implementation of CF/CPA management plans should be initiated.
- The project's lessons learned and promising practices related to the SFM and efficient energy should be disseminated to concerned stakeholders, which the documents will benefit for further development of similar initiatives by the government and other civil societies working to promote the SFM and energy.

Some important lessons need to be taken into consideration for future direction:

- Development of project sustainability plan should be developed at the start of project to ensure all technical, financial, and institutional capacity are in place by end of the project. Thus, the project exit plan should be drafted, at least 1 year before the project ends, in close consultation with partners to ensure there is no loss of momentum in implementation after the project ends. Guidance on development of exit plan is included in the project terminal evaluation report.
- As the project demonstrated potential opportunity under the REDD+ Strategy, the consultation among government and UNDP should explore the possibility of including the SFM target sites into the REDD+ demonstration sties.

VI. FINANCIAL STATUS AND UTILIZATION

Financial status

Table 5.2: Contribution overview [March 2011 – 31 Dec 2015]

FUND SOURCE	CONTRIBUTIONS		Actual Expenses	Balance
	Committed	Received		
UNDP (04000 TRAC)	1,681,575.90	1,681,575.90	1,678,250.22	3,325.68
GEF (62000 GEF)	2,363,635.00	2,363,635.00	2,361,477.24	2,157.76
TOTAL	4,045,210.90	4,045,210.90	4,039,727.46	5,483.44

Financial utilization

Table 5.2: Expenditure by activity [March 2011 – 31 Dec 2015]

Activity	TOTAL BUDGET	CUMULATIVE EXPENDITURE	BALANCE	DELIVERY (%)
Activity 1: National capacities and tools exist to facilitate the widespread implementation of sustainable community-based forest management and technologies that reduce demand for fuel wood	705,171.32	884,757.32	(179,586.00)	125%
Activity 2: Community-based sustainable forest management is being implemented effectively within a context of cantonment, province, district and commune level planning delivering concrete benefits to local communities	1,493,780.47	1,324,977.34	168,803.13	89%
Activity 3: Small and Medium Enterprises ensure long term increases in adoption of efficient technologies that reduce fuel wood demand.	1,098,913.88	1,097,638.88	1,275.00	100%
Activity 4: Monitoring and, Learning, Adaptative Feedback & Evaluation	446,564.52	432,758.05	13,806.47	97%
Activity 5: Project Management	300,780.71	299,595.87	1,184.84	100%
Total	4,045,210.90	4,039,727.46	5,483.44	99.9%

ANNEX DOCUMENTS:

Annex 1: Project documents published during the SFM Project

Annex 2: Updated Risk Logs of the Project

Annex 3: Project Management Responses to Midterm Review and Terminal Evaluation

Annex 4: Updated Project Strategic Result Framework

Annex 1: Project documents published during the SFM Project

N°	Name of documents	Author	Date
1.	Project Inception Report	UNDP	Nov 2011
2.	Comprehensive baseline study-RFP -I	RECOFTC	Sept. 2012
3.	Comprehensive baseline study-RFP -II	GERES	Sept. 2012
4.	Project Midterm Review Report	Keith Lindsay	Sept 2014
5.	Project Terminal Evaluation Report	Michael J.B. Green & Sovith Sin	Dec 2015
6.	Project Final Report_ GERES	GERES	Oct 2015
7.	Project Final Report_ RECOFTC	RECOFTC	Dec 2015
8.	Final Draft Wood and Biomass Energy Strategy (WBES)	MME	Feb 2015
9.	Draft Prakas of Guideline on Procedure and Process of Community Protected Areas Development	MOE	Oct 2015
10.	Final draft of Alternative CF Modality Concept note	RECOFTC	Sept 2013
11.	Final draft of CF Business Plan Concept note	RECOFTC	Sept 2013
12.	Exit Strategy of the SFM Project	UNDP	Dec 2015
13.	Impact Assessment of the SFM Capacity Development Scorecard	Edward V. Maningo	Nov 2015
14.	CF Business Plan Impact Assessment	Edward V. Maningo	Nov 2015
15.	Policy Brief on the SFM Capacity building	RECFOTC	Dec 2015
16.	Project Best practices on ICS, ICK, and WL	GERES	Dec 2014
17.	Project case studies	RECFOTC	Dec 2015

Annex 2: SFM Risks Log

SFM Risks Log
31 Dec 2015

#	Description	Date Identified	Type	Impact	Probability	Countermeasures / Management response	Owner	Submitted, updated by	Last Update	Status
1	Limited viability of forest-based businesses due to low productive potential of forests, limited capacity or interest of forest communities to organize and limited interest from private sector due to unproven viability	2009	Environmental, organizational, other	4	3	<p>The forest-based business/ enterprises plan have been developed in all 30 CF. The forest based business were developed based on one selected promising forest product, mostly the non-timber forest products, with full participatory process from CF members whom directly benefited from the business.</p> <p>The project had conducted the pilot study on Appropriate Harvest Appropriate Harvesting Technologies (AHT) to test the level of productivity of resources collection, either for bamboo, fuel wood or timber.</p> <p>The reforestation plan was developed and included as part of management plan of 21 CFs, where forest resources in those CF were limited, and the reforestation plan aim to deserve the forest based business implementation and to increase the forest cover in the CF. The project had supported three (03) CFs to implement the reforestation activity, which the fuel wood and charcoal businesses have been implemented.</p>	Service provider s and FA	Douk Daro	Sept 2015	Decreased

Final SFM Project Report, February 2016

2	Limited capacity in FA to undertake Procurement and Financial management according to NIM	2009	Financial operational	/	4	3	With request and agreement from FA, UNDP has recruited a Short-Term Procurement Consultants to assist and build capacity of FA staff. As results, series of on the job training on the application of NIM guidelines including different methods for the procurement of goods and services, call for request for proposal and financial management provided to FA/SFM	UNDP	Sovanna Nhem	October 2012	Done/Dead
3	Delay in UNDP support to FA capacity building in NIM prevents delivery of 2011 Work Plan	Sep 2011	Financial operational	/	4	3	See management respond in Risk 2 above. UNDP will provide support to FA to negotiate contract for RFP 2 and to reprocess a call for RFP 1 in January 2012 and is expected to be completed mid February 2012.	UNDP	Sovanna Nhem	October 2012	Done/Dead
4	Limited and/or ineffective participation of Government staff due to limited technical capacity and lack of salary supplements	2009	Financial/operational		4	3	Project Implementation Agreement (PIA) were developed and signed among service providers (RECOFTC and GERES) with relevant government institutions at the provincial levels (FAC, DOE, DME DLMUPC) to ensure the project activity plan had been implemented in accordance with the Series of TOTs and field trainings have been conducted with active participation from various government officials at the nationals and provincial level. The midterm review assessment found the increased capacity of government institutions, by using UNDP capacity scorecard, to 24, compared to baseline assessment was only 12.5.	Service Provider s	Douk Daro	Sept 2015	Decreased

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5	Integration of GDANCP into the interministerial technical team of focal persons from FA, GDE, GDANCP and DLMUP proves difficult due to MOE and MIME hard feelings that they do not own the project	15 th Sep 2011	Operational	4	4	FA and UNDP to consult with high level government staff in MOE and MIME to guide the GDANCP to participate UNDP will continue to work with FA to discuss and clarify roles and involvement of GDE/MIME, GDANCP/MoE in SFM. MOE/GDANCP has been fully engaged in the SFM related activities. Representative from MOE has been nominated to participate in the Project Board and various project technical meetings. All 11 CPA MP completed and reviewed by MOE.	FA and UNPD and GDANCP and GDE	Douk Daro	Sept 2015	Done/Dead
6	Cantonments do not have the capacity to engage with many donor supported projects in the same province/cantonment	2009 and 15 Sep 2011	Operational	4	3	Preparation of AWP by cantonments together with all ongoing projects will identify problem areas and devise the means for solving them, through contractors' deployment of provincial coordinators Series of TOTs and Field trainings were provided to FAC/FAD/FAT on CF management plan and business plan development. As of June 2015, the statistic of FA/CFO reported over 65 CF in four target provinces has been supported by FAC and various donors to establish CFMP.	FA and service providers	Douk Daro	Sept 2015	Decreased

Final SFM Project Report, February 2016

7	<p>Limited commitment and participation by Government (e.g. reduced political commitment to decentralizing forestry and supporting demarcation, continued favouring of powerful actors through ELCs, inadequate capacity in FA to fulfill role as implementing partner, slowness in developing pending regulations or MAFF issuing agreements, reluctance of sectors to collaborate)</p>	2009 and Sep 2011	Political, organizational	4	3	<p>Monitoring and troubleshooting by UNDP and Development Partners with the FA in the TWG F&E; support and facilitation of collaboration at field and province levels; monitoring, systemization and awareness raising on social benefits and resource sustainability achievable through decentralization; support to formalization of occupancy and usufruct rights of forest communities</p> <p>The National Community Forestry Program Coordination Committee (NCFPCC) was established and led by FA, with participant from all concerned NGOs, to report the forestry related policy frameworks, CF progress, and challenges and step forward. 368 of 494 CF were already approved by MAFF, which 84 of them were approved in 2012, 2013, and 2014. And under the SFM project, all 30 CF completed CFMP.</p>	RGC DP	Douk Daro	Sept 2015	Decreased
8	<p>Co-financing arrangements and/or partnerships do not transpire</p>	2009	Organizational, strategic, financial	4	2	<p>Diversification of co-financing sources; negotiation and communication of opportunities for synergies and mutual benefits with partners and private sector; generation of income sources such as carbon payments/REDD</p> <p>For the SFM project, the co-financing from RECOFTC project was about 55,000 EUR for the pilot testing of Appropriate Harvesting Technologies (AHT) to improve the productivity of resources collection, either for bamboo, fuel wood or timber.</p> <p>The 3-year project "Forest Carbon Partnership Facility", with total budget of \$3.8 million, to continuously support for REDD+ Strategy development.</p>	Service Providers and FA	Douk Daro	Sept 2015	Decreased

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9	Inadequate local governance conditions prevent threats to forests from being effectively combated and SFM benefits being shared and reinvested	2009	Organizational	4	3	Facilitation of participatory formulation of culturally-acceptable benefit sharing rules; generation of equitable income (e.g. from forest-based businesses and carbon payments) that will be reinvested in forest protection. CF business plan, which one promising forest product was selected, were fully established in 30 CF, of which 22 CF has pilot implementation of forest business.	Service Provider s and FA	Douk Daro	Sept 2015	Decreased
10	Climate change increases frequency of forest fires and livelihood vulnerability of forest communities, and reduces their commitment to SFM	2009	Environmental	2	3	Generation of income (e.g. from forest businesses and carbon payments) that will be reinvested in forest protection, and support to diversification of productive and livelihood support options All 30 CF has completed the development of the CFMP/CFBP, which benefits sharing mechanism, were developed to ensure the active and continued support of CFMC in protection their forest.	RGC	Douk Daro	Sept 2015	Decreased
11	Large size and complexity of project target area affects practicability of field operations, increases costs and limits field level impacts at individual sites	2009	Operational	4	3	Project has focused on 4 provinces (operations in other provinces will be limited and largely indirect); effectiveness will be subject to continuous review by inter-ministerial team of focal persons and project manager All target CF, ACFM, and CPA were selected and field implementation have been almost completed according to project timeframe and budget, based on the project midterm review conducted in 2014.	Service Provider s and FA	Douk Daro	Sept 2015	Dead

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12	Emergence of alternative technologies with which energy efficient cook stoves are unable to compete in the market	2009	Other	4	2	<p>Monitoring of consumer preferences; ongoing R&D in order to adapt technologies and maintain their competitiveness</p> <p>The production of improved cook stoves (Neang Kang Rei model and New Lao Stove model) that produced by the target producers have been sold to the market.</p> <p>GERES has scaled up the improved cook stove programme to other provinces (Kampong Cham and Prey Veng), with financial support from MME.</p> <p>Ministry of Mine and Energy included the continued support and expansion of of the improve cook stove programme in the Wood and Bio Energy Strategy.</p>	Service provider MIME	Douk Daro	Sept 2015	Dead
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13	No banks and/or credit institutions provide capital investment to the enterprises at a reasonable rate	2012	Strategic financial	4	3	<p>Capital investment in rural business is likely to be limited particularly in NRM sectors. The project will encourage business to start small and growth their business gradually. Village saving banks or self-help saving group may be encouraged to use as startup capital. The business is more likely to be sustainable if it comes from within.</p> <p>The private partners – including local traders, shop business owners, and middlemen – had been identified and engaged in enable CFMC contract with for the implementation of CF business.</p> <p>The ICS programme has well connection with private sectors, such as distributors, middlemen, and retailers. The existing ICS network has representative from different actors, engaging in the ICS business, such as distributors, producers, middlemen, with coordination support from GERES, have increased the ICS market and demand from year to year.</p>	Service provider Private sector Communities	Douk Daro	Sept 2015	Ongoing/Stable
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* The implementation status is tracked in the ERC.

** Status: (Not Initiated, Initiated, Completed, and No Longer Applicable)

Annex 3: Udated Management Responses to MTR and TE

UNDP Management Response
Sustainable Forest Management
Sustainable Forest Management Project, Mid-Term Evaluation

Overall comments: *UNDP agreed with most of the observations and recommendation suggested by the MTR team. However, some suggestion has been already approved by the project board and UNDP. The follow up actions have been initiated and implemented to ensure it could be achieved in a timely manner.*

MTR Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
1. Corrective actions for the design, implementation, monitoring and evaluation of the project						
1.1 Extend the project timescale, to compensate for time lost during Inception, Service Provider (SP) recruitment and launching of implementation. <ul style="list-style-type: none"> ▪ RECOFTC wishes to extend the time period, to finalize work on CFMPs and particularly CFBPs, and on corresponding features of CPAs. ▪ GERES has said that they have no wish to extend the time period. ▪ The recommended length of extension would be to the end of 2015. 	Agree	-SFM/UNDP prepare request letter of no-cost extension and send it to UNDP Regional for final approval. -SFM/PMU work with RECOFTC to prepare no cost extension work plan with clear milestones and timeline for project implementing partner endorsement -SFM/PMU prepared amendment of contract	PMU/SFM, UNDP, RECOFTC	Q.3 – Q.4 2014	Completed	The extension already approved by Project board and UNDP Headquarter also approved it with no-cost extension

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MTR Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
		between FA and RECOFTC and revise payment milestones up to Nov 2015				
<p>1.2 SRF revision</p> <ul style="list-style-type: none"> The revised SRF should be adopted and integrated into project monitoring and reporting mechanisms. The proposal to convert some of the current Outcome indicators to Outputs may appear to reduce the number of Outcome indicators reported in APR/PIRs, but there is a mechanism that could be applied by the Project Team to resolve this apparent problem: 	Agree	<ul style="list-style-type: none"> Quarterly Progress Report of RECOFTC and GERES is integrated the revised SRF SFM work with RECOFTC and GERES to completed the baseline and target figures in the revised SRF 	SFM/PMU	Q.4 2014	Completed	The updated SRF has been presented during SFM annual reflection on 02-03 Dec 2014.
<p>1.3 Delivery of Outcomes</p> <ul style="list-style-type: none"> Focus on clear milestones in Outcome areas for delivery by SPs. Such milestones are included as part of the ToRs for the SPs. Set annual (even quarterly?) milestones to encourage implementation, and monitoring of progress. 	Agree	<ul style="list-style-type: none"> SFM work with SPs to set specific/clear deliverables in their quarterly work plan, attached with progress report. SFM will work with RECFOTC to revisit the expected outputs in the extension period 	SFM/PMU	Q.4 2014	Completed	The expected outputs of SP has been set as milestone deliverables on quarterly basis and presented during SFM annual reflection.
2. Actions to follow up or reinforce initial benefits from the project						

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MTR Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
<p>2.1 SFM and local level benefit generation</p> <ul style="list-style-type: none"> ▪ Take final steps to approval of CFs/ CPAs and consolidate implementation ▪ Ensure coordination of CF business plans with charcoal kiln business plans and woodlot management plans, at sites where both occur. Consider the "clustering" of CFs and coordination of their management and business plans where supply for ECKs can be supplied by more than one CF. 	Agree	<ul style="list-style-type: none"> - SFM/PMU facilitated FA Technical Team at the national level to provide final comment to CFMP - SFM/PMU and RECOFTC work with MOE to refine the deliverable target related to CPA by Q.3 2015 - Business plan of ECK is developed with inclusion of the analysis of supply sources of firewood for ECK. 	SFM/PMU RECFOTC GERES	By End of Project	Initiated	FA Technical team completed conducted all 30 CFMP review and share comment to FAC and RECOFTC for revision.
<p>2.2 Energy-efficient fuel wood technology</p> <ul style="list-style-type: none"> ▪ ECKs need their own business plans, but they must be developed in coordination with CFBPs. ▪ For ECK wood supply issues, should be looking at linkages with a cluster of CFs and identify needs for infrastructure support – e.g. means of transport of wood, including vehicles – and setting the correct, incentivising price for suppliers of sustainably harvested wood. 	Agree	<ul style="list-style-type: none"> - Business plan developed for each ECK taking into account cluster of CFs sites for fuel wood supply - Wood lots management plan is integrated as part of CFMP - Woot lot plantation with fast growing tree will be developed within specific CF target sites - Means of transport (Kor Yun) has been procured and provided to each ECK center. 	SFM/PMU GERES	Q.1 2015	Completed	Business plan of ECK developed and being implemented . All ECK BP had been incorporated with CFMP. The project delivered eight Kor Yun to eight ECK centre.

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MTR Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
<p>2.3 Project Management</p> <ul style="list-style-type: none"> Maintain attention on risks/ assumptions in the Risk Log (in Atlas as well as in the Annual Reports). Risks to longer term sustainability of outcomes should also be considered and addressed. 	Agree	<ul style="list-style-type: none"> SFM/PMU updates the status of risks on quarterly basis in the quarterly report and annual report. SFM/PMU to coordinate with SPs to ensure exit strategy and actions for each individual community is in place 	SFM/PMU UNDP	By End of Project	Initiated	The status kept updated and included in the quarterly progress report.
<p>2.4 Sustainability and Impact</p> <ul style="list-style-type: none"> It is essential to begin now on developing a Sustainability Plan, with an Exit Strategy. 	Agree	-SFM/PMU facilitates RECFOTC and GERES to develop Exit Strategy	SFM/PMU RECOFTC GERES	Q.4 2014	Completed	The exit plan of SP already developed and presented during SFM annual reflection
3. Proposals for future directions underlining main objectives						

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MTR Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
3.1 Analyse the lessons learned from the pilot efforts, making use of the large sample of CFs/ CPAs, with respect to different factors presented by their specific conditions, documentation of impacts of forest condition indices, all leading to documentation of opportunities for future implementation and scaling-up.	Agree	<ul style="list-style-type: none"> - SFM/PMU facilitates with RECOFTC and GERES to document the project impacts, factors (contributing and hindering) toward project success. - SFM conducts Terminal Evaluation, which include the documentation of lessons learned and good practice of the project for future implementation and scaling up. 	SFM/PMU UNDP External consultant	Q.3 2015	Initiated	Both SPs are working to document lessons learned, short stories. Some stories had been produced and attached with Annual Report, PIR Report.
3.2 There should be a full financial analysis of the supply chains for stoves, charcoal and forest products.	Agree	SFM discussed with RECOFTC and GERES for possibility to conducting thorough financial analysis of supply chains for stoves, charcoal and forest products	SFM/PMU GERES RECOFTC	Q.1 2015	Completed	The business plan of charcoal and other forest products of all 30 CF already developed,

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UNDP Management Response
Sustainable Forest Management
Sustainable Forest Management Project, Terminal Project Evaluation

Project ID: 00075402
Atlas ID: 00060049

Date: January 29, 2016
Updated by: Douk Daro, M&E Officer of the SFM Project
Reviewed by: Nhem Sovanna, National Project Advisor

TE Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
1. Actions to follow up or reinforce initial benefits from the project						
1. Finalization, endorsement and/or official approval, and dissemination of remaining CF/CPA Management Plans CFMP/CPAMP) and Business Plans (CFBP/CPAMP)	Agree	Follow up FA and GDANCP to expedite approval of the plans.	SFM/PMU RECFOTC	Q.1 2016	Completed	30 CFMP endorsed by FAC. 30 CFBP completed and handover to FA for endorsement. 11 CPAMP/BP completed and handed over to GDANCP for endorsement
2. Dissemination of knowledge, experience and best practice in community forestry and emissions reduction.	Agree	Combine the SFM related documents and share to UNDP Communication and Policy Units for knowledge	SFM/PMU FCPF UNDP CO	Q.1 2016	Completed	All SFM documents have been compiled and filed,

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TE Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
		<p>management and sharing. Upload all SFM related documents, knowledge, experience, guideline etc. in REDD+ Taskforce Secretariat Website at www.cambodia-redd.org</p> <p>Disseminate through REDD+ Cambodia, IWRD, FA/CF Department, GDANCP, RUA & RUPP, and selected NGOs/IOs</p>				including lessons learned, case studies, best practices, guidelines/manual for planning and managing CF/CPA.
<p>3. Provincial multi-sector platforms should be institutionalized. Comprising focal persons from the four ministries (MAFF, MoE, MME and MLMUPC) participating in the project, to ensure that communities continue to be supported during the implementation of CF and CPA management and business plans.</p>	Partially Agree	Representatives of the four provincial departments are members of the provincial multi-sector planning platforms under the Governor Office, MOI under NCDD. Their roles have already institutionalized.	SFM/PMU FA	Q.1 2016	Completed	The platform will continue after the project ends.
<p>4. Implementation of CF/CPA management and business plans should be supported by providing or facilitating opportunities for revenue generation to improve livelihoods and manage forests.</p>	Agree	Continue to explore possibilities of funds for other CF and CPA.	SFM/PMU FA RECOFTC	Q.1 2016	Completed	Funds from NGO (MB and RECOFTC) to continue support 25 CF and 5 CPA to implement the CF/CPA MP.

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TE Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
5. A number of important and sometimes unexpected results have emerged during implementation that require further research and/or analysis in order to inform future interventions. These include: <ul style="list-style-type: none"> - Ground-truthing the increase in forest degradation detected in target sites from recent analysis of land sat imagery and following up with the relevant communities. - Further analysis of the increasing gap in female income generation between household heads and non-heads. - Complete the assessment of inventories of forest resources and their condition in order to detect any changes that might need to be addressed. 	Agree	Ground –truthing to detect forest degradation and inventory of forest resources will be assessed as part of the National Forest Reference Emission Level assessment (FREL), National Forest Monitoring System (NFMS) and National Forest Inventory (NFI) being developed under the Cambodia REDD+ programme. GERES is currently planning to work with ICoProDAC to improve ICS value chain, markets and quality standards	REDD+ Taskforce Secretariat/F CPF/PMU RECOFTC GERES FA & GERES	Q.1 & Q2 2016	Completed	The final assessment had been conducted, in relation with key performance indicators, as such data on forest degradation, assessment of income from forest based business, and forest inventory. GERES is implementing the ICO-ProDAC Project, two-year project, funded by Blue Moon Fund.
6. Markets for products of IGAs should be explored and developed with emphasis on establishing or enhancing pro-poor value chains. Existing value chains for cooking stoves can most probably be enhanced in ways that reduce the profit margins of middlemen and maximise those of the producers and distributors. Markets for	Agree	Early approval of plans and appropriate follow up for implementation by FA and GDANCP GERES is currently planning to work with ICoProDAC to improve ICS value chain, markets and quality standards	FA and GDANCP FA & GERES	Q1 2016	Completed	Value chain analysis of selected products completed and integrated in respective business plans GERES is implementing the ICO-ProDAC

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TE Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
charcoal currently provide marginal financial benefits to the producers, and this could be improved by developing a market for wood vinegar.						Project, two-year project, funded by Blue Moon Fund.
7. A more precautionary approach to health and safety aspects of income generation should be adopted. For example, those involved in charcoal production refer to their eyes getting used to smoke conditions.	Agree	Continue to build community awareness on health safety aspects.	GERES DME	Q.1 2016	Completed	Charcoal production technology integrated measure to ensure health and safety aspects.
8. Ecotourism developments need to be based on a proper understanding and consistent application of ecotourism principles, with a clear community-based orientation.	Agree	Already being done and will continue to be supported	RECOFTC DoE	Q.1 2016	Completed	Awareness activity on Ecotourism aspect and principle were already made through the CPA MP development process.
2. Proposals for future directions underlining main objectives						
9. Draft Exit Strategy should clearly identify what needs to be in place by the end of the project. Fund for immediate future coming from government budget and external support to cover the transition phase.	Agree	Continue to explore technical and financial resources for management plans and business plans implementation from FA, GDANCP, DPs, NGOs/IOs	SFM/PMU	Q.1 2016	Completed	Exit strategy from GERES and RECOFTC had developed. Funds from NGO (Malup Baitang and RECOFTC, REDD+ Taskforce Secretariat FCPF

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TE Recommendation	Management Response (UNDP Country Office)	Key Action(s)	Responsible Unit(s)	Time Frame	Tracking*	
					Status**	Comments
						Project) has been secured to continue support in 25 CF and 5 CPA to implement the CF/CPA MP.
10. Identify and secure funds for mainstreaming SFM across all provinces 11.	Agree	- Enhance financing for implementation of SFM from other development partners, including Forest investment programme (FIP) and Climate investment Fund (CIF), WB.	SFM/PMU	Q.1 2016	Completed	National Forest Programme (2009-2029) aim to address SFM across all provinces, with target of 2 million ha of forest land. RGC has recently been launching the Cardamom Trust Fund to address the SFM along the Cardamom mountain.

Annex 4: Updated Project Strategic Result Framework

SUSTAINABLE FOREST MANAGEMENT (SFM) PROJECT

PROGRESS DASHBOARD AGAINST PROJECT RESULT FRAMEWORK

Updated: December 2015

Strategy	Indicator	Baseline	Target	Achievement at EoP	Rating
Objective:					S
Project Objective: To strengthen national SFM policy, integrate community-based sustainable forest management into policy, planning and investment frameworks and create markets for sustainable bio- energy technologies that reduce CO ₂ emissions	No. of a. CFs and b. CPAs around the Cardamom mountain that have completed all legalization requirements to operate as an indirect result of SFM efforts in building capacity and policy approaches in government.	72 CFs have agreement with FA 20 CPAs have developed a number of steps under CPA guidelines	125 CFs (53 additional) have agreement with FA by EoP. 34 CPAs approved by EoP.	a. 88 CFs, including 21 target CFs, of all 155 CF in the target provinces had been approved by MAFF (CFO/FA Statistic 2015). b. 25 CPAs (including 11 target CPAs) of all 35 CPAs in the target provinces were recognized by MoE.	MS
	Deforestation rate reduction in protected forests in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces.	Trend in deforestation rates for 4 years before start of project in CF/CPA sites, and in control sites. <u>0.5% according to FA2010</u>	Average deforestation rates in FA and MoE forests are 10% lower than rates in 4 years preceding project.	<u>Zero deforestation at target sites.</u> Current deforestation rate in target sites is -0.46% per year; national deforestation rate was 0.5% per year (baseline), indicating that there is no deforestation rate in the target sites. However, the deforestation rate in the target provinces is +0.71% per year, which indicates the increase of areas classified as non-forests.	MS
	Land area covered by degraded forest as % of total forest cover in Kampong Speu, Kampong Chhnang, Battambang and Pursat provinces.	6.6% [revised]	10% reduction in land covered by degraded forest relative to total forest cover by EoP. [revised]	<u>0.8% increase in land covered by degraded forest in the target areas.</u> Remote Sensing Analysis, RECOFTC, 2014: - Land areas covered degraded forest at: Target site = 7.4% Land areas covered by degraded forest in the target sites had increased from 6.6% (Baseline, FA 2006) to current status of 7.4%; meaning there has been an increase of 0.8% in degraded forest in the target sites of the project; while the project aims to reduce the areas covered by degraded forest of 10%.	MU
	Indices of forest resources and condition in target community-managed forests	Inventory of forest resources in CFs and CPAs, undertaken at the start of CF process.	Indices remain at 100% of baseline levels by EoP.	The result if forest inventory indicated the average number of tree per hectare and volume in the target sites: -Total tree per hectare = 258/ha; the volume is = 32/ha.	Data deficient
Annual greenhouse gas (GHG) emissions reduction (ER) due to adoption of improved cook stoves at the national level.	ER= 0	ER = 61,000t CO ₂ e/year	The 2014 annual ER from ICS at national level is 690,177 t CO ₂ e (GERES ICS project in Cambodia). At national level, 650,793 units were sold in 2014. Total ICS sold as of Dec 2014 was 1,617,576 units.	HS	
Outcome 1: National capacities and tools exist to facilitate the widespread implementation of sustainable community-based forest management and technologies that reduce demand for fuel wood.					S

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Strategy	Indicator	Baseline	Target	Achievement at EoP	Rating
1.1 Institutional capacity in FA and GDANCP	Increase in institutional capacity rating in FA and GDANCP, as measured by UNDP capacity development scorecard	12.5/42 (See Project Document Annex 14)	31/42 (See Project Document Annex 14)	Scorecard rating increased to 32.5/42 (RECOFTC Final Project Report, 2015).	HS
1.2 A supportive legal framework exists for all models of community-based forest management and conservation mentioned in the NFP.	Recommendations for amendment of existing guidelines (if needed) in NFP for CF for additional modalities and business enterprise plan. Recommendations for guideline documents for CPAs	Legal framework for CFs (2006) exists, but they are still lacking for ACFMs, and for business enterprise plan. CPA guidelines are in draft form.	CF framework amended to include the additional modalities of CF, and business enterprise development. CPA guidelines revised with lessons learned from SFM Project	ACFM concept notes (PF, CBPF, CCF) and CF Business Plan drafted and presented to FA and stakeholders. Lessons learned from 4 pilot sites (02 PF, 01 CBPF, 01 CCF) documented by RECOFTC, including specific recommendation to FA to amend existing CF guidance. MOE/DRCPAD held 2 sub-national consultation workshops on existing CPA guidelines. Issues raised included roles and benefits of communities from PAs, and self-sustaining finance to continue protection and management of CPA. National consultative workshop held in Sept. 2015 by MoE to review CPA MP. The revised CPA MP is officially endorsed by end of project.	S
1.3 Commune land use planning (CLUP) in communes where the project supports CFs and CPAs incorporates improvements in SFM and efficient energy approaches to PLUPs and DLUPs.	CLUP training module reflects SFM and energy by integrating CF and CPA development and sustainability.	Land Use planning by local authorities includes some attention to SFM, but needs more focussed approach.	Improved CLUP training module incorporating SFM and energy approaches established at Provincial and District levels.	The issue of SFM and fuel wood energy included in the facilitation process of CLUP development. Existing forests sites as well potential forest areas identified and resulted in the target 5 CPAs, 3CFs, 1CCF and 2 PFs being integrated in CLUP process. Development of commune land used planning, implemented in 4 target communes, almost completed. Provincial DLMUPCC is leading development of CLUP in cooperation with DoA, DoE, FAC, DME and commune council.	HS
1.4 National Wood Energy Implementation Strategy exists, incorporating private sector modalities	Wood & Biomass Energy Strategy drafted.	Wood & Biomass Energy Strategy updated database in formulation and approved for implementation.	Wood & Biomass Energy Strategy developed to the point of approval.	Two-day national consultation workshop conducted with relevant stakeholders. MME/General Department of Energy currently reviewing draft Wood & Biomass Energy Strategy based on feedback from workshop.	S
Financial strategies in MAFF and MoE to support SFM, including opportunities for REDD and carbon financing for sustained funding to support community-based forestry	REDD and carbon finance strategies by Year 4	0	X Qtr Year 4	Project has supported: policy reform and explored funding opportunities for CPAs to secure income from provision of eco-system services through partnering with other development partners; and supported update of Wood and Biomass Energy Strategy, with the promotion of green charcoal under the SFM project as one of the priority actions in the WBES. Activity has limited relevance to present project, but has been picked up by FCPF project under which REDD+ strategy has been drafted and revised following consultation meetings with stakeholders, including relevant government institutions and NGOs. Project has called for proposals from NGO piloting the REDD+ related initiatives.	MU

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Strategy	Indicator	Baseline	Target	Achievement at EoP	Rating
Financing generated from other funding sources (banks, green funds, etc.) by EoP	Amount generated across target sites.	Near zero	\$500,000	Approximately US\$8,000 earned from production of 58 tons green charcoal as of Dec 2014. Project Board recommended using GHG emission reduction data from ICS and charcoal production by SFM project. GERES reported GHG ER totalled 30,894 tCO ₂ from dissemination of 143,575 stoves (29,949 tCO ₂) and 58 tons green charcoal from 17 operational ICKs (945 tCO ₂).	U
Outcome 2: Community-based sustainable forest management is being implemented effectively within a context of cantonment, province, district and commune level planning delivering concrete benefits to local communities					S
2.1 Management and business plans for CFs and CPAs, that provide environmental and financial sustainability and opportunities for business development, are developed, approved and beginning implementation.	No. of CPAs with management plans and business plans that have passed final stage of approval process and are being implemented. [Revised]	0 CPAs	10 CPAs have passed the final stage of approval process by EoP	All 11 CPA completed draft CPA management plans and are now under review by MoE.	S
	Number of CFs with management and business plans that have passed final stage of approval process and are being implemented. [Revised]	0 CFs	a. 34 CFAs (including 30 CFs and 4 ACFMs) have passed the final stage of approval process by EoP. [Revised]	All 30 target CFs reached final stage of management plan approval process and are being implemented. 4 ACFM progressed to step 8 (CF inventory). The 30 draft CF management plans carefully reviewed by FA technical team, including: proposed annual activity plan, objective of management blocks, result of forest inventory, level of demand and supply of forest resources by local people, to ensure proper management of forest resources.	
2.2 FA cantonment and DoE PA offices have worked to develop community-based forest management development plans at the provincial level.	No. of FA cantonment and DoE provincial PA offices that have community-based forest management development plans by EoP.	0 provinces.	4 provinces.	Besides target CFs, all 4 FACs had worked with other development partners to establish CF management plans. CFO data (2015) show that 66 of the 155 CFs in 4 target provinces have been supported by FAC and NGOs to establish the CF management plans. In addition to the 11 target CPAs in 4 provinces, DoE /PA in Battambang and Pursat have also supported other CPAs to develop management plans (CPA data in 2014, DRCPAD).	HS
2.3 Commune Land Use Plans (CLUPs) that integrate SFM through CFs/CPAs designed and approved by consensus among the locals government institutions	No. of locally commune-based land use plan (CLUP) for SFM based on CF/CPA developed	0	4 CLUPs by EoP	4 CLUPs for SFM finalised, of which 2 are approved by provincial governors and the other 2 have been submitted to the provincial State Land Use Committee. Existing forests sties as well potential forest areas have been identified and included in the CLUPs. Thus, the target 5 CPAs, 3CFs, 1CCF, 2 PFs and 2 WISDOMs integrated into CLUP process.	HS

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Strategy	Indicator	Baseline	Target	Achievement at EoP	Rating
2.4 Households in target forest communities earn income based on the sustainable management of forest resources	No. of CFs and CPAs with households that experience increased income from forest enterprises	0 CFs 0 CPAs	At least 50% of CFs (15) and CPAs (5)	[Evaluators: 1,192 CF members benefitted from implementation of 17 CF business development plans by June 2015. Source: RECOFTC, May-June Quarterly Report]	MS
2.5 Average income of households, and of women, from profitable enterprises based on the sustainable management of forest resources increases in target communities	% increase in average annual income from SFM of households in target forest communities [Revised]	Income derived from SFM by target households before implementation of the business plan [Revised] 2012: US\$ 213/yr	Increase in average annual income by 20% from the baseline level by EoP. [Revised]	Annual income from forest-based enterprise in target province (Kampong Chhnang) increased from: US\$ 213 (2012) to US\$ 283 (2014). Business plans completed for all 30 CFs and 11 CPAs and in various stages of implementation, resulting in 2,117 households (29% respondents) benefitting from IGAs based on forest resources, such as fuel wood, bamboo, mushrooms, wild vegetables, red ants and traditional medicines. This represents an increase in number of partially forest dependent households since onset of project.	S
	% increase in average annual income from SFM of women in target forest communities [Revised]	Income derived from SFM by target women before implementation of business plan is US\$ 56/month for female non-household head and US\$ 62/month for female household head. Female average is US\$ 60.5 [Revised]	20% increase in relation to baseline. 20% households with increased income are women-headed. Targets in US\$ income/month: Female HHH: 67.2 Female non-HHh: 74.4 Female (mean): 70.8	Analysis of 2,117 households (29% respondents) shows: US\$ income/month: Female Household Head: 11.12 Female non-Household Head: 94.58 Female average: 52.84 (Final Report, RECOFTC, Dec. 2015)	
Outcome 3: Strengthened demand and supply chain for energy efficient cook stoves and end fuels					S
3.1 Increased market share of improved cookstoves and charcoal kilns: Numbers	No. units sold/ established: - Improved cookstoves (ICS) - Efficient charcoal kilns (ECK)	No. units: - ICS: 30,000 - ECK: 3	No. units: - ICS: additional 90,000 yr3 - ECK: additional 16 yr3	ICS: 65,915 units sold annually ICS: 143,575 units sold in total 17 ECK constructed	S
3.2 Increased market share of improved cookstoves: percent market share.	% market share: ICS (NKS) PSS	% market share: ICS - 1.7% PSS - 0.1%	% increase in market share: ICS - 17% PSS - 4%	ICS: 35% increase in market share (GERES Final Report, 20.11.2015) PSS: Data not worth collecting available due to project's very small penetration of PSS into the market.	S
3.3 Annual CO ₂ emission from stoves and kilns reduced	Annual CO ₂ emission reduction (tons) - ICS - PSS - ECK	- ICS = 0 tCO ₂ e/year - PSS = 0 tCO ₂ e/year - ECK = 0 tCO ₂ e/year	- ICS = 19,800 tCO ₂ e/year - PSS = 48 tCO ₂ e/year - ECK = 1,850 tCO ₂ e/year	Based on SFM GHG ER Final Report (GERES, 20.11.2015): ICS = 29,949 tCO ₂ e/year PSS = not measured ECK = 945 tCO ₂ e/year	S
3.4 Establishment of demonstration palm sugar stoves (PSSs) in one province, Kampong Speu	No. of villages where awareness raised No. of improved PSSs established.	0 0	a. 20 b. Additional 20 by year 3.	a. IPSS awareness raising conducted in 20 target villages involving 248 (65 F) participants. b. 20 demonstration IPSS installed	S

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Strategy	Indicator	Baseline	Target	Achievement at EoP	Rating
3.5 Operational improved cook stove production clusters increase	No. of operational ICS production clusters	25 clusters	8 additional in year 2, 6 additional in year 3	8 ICS clusters, comprising 45 cook stove producers (including IC,S NKS and NLS), established and operational (6 clusters in KCH, 1 in KSP and 1 in PST). Main ICS production is in Kampong Chhnang where producers, distributors, are at Kampong Chhnang. ICS production plan of each producer developed and regularly monitored to ensure production is achievable.	S
3.6 Income of stove producers increases	Average income of stove producers	US\$40/month	US\$60/month by EoP	Average income of stove producer is US\$ 86.53/month. Income margin is c. 800 riels (\$0.2) per stove; each ICS employee produces at least 30 stoves per day (Stove Producers Profitability Assessment, GERES Dec. 2014). As of June 2015, all 45 ICSPBUOs have increasingly employed more local people (up to 180 employees).	HS
3.7 Number of woodlots based on CFMPs and area of woodlots managed for efficient energy by local communities/ farmers increases.	Total number of woodlots integrated with CF management/ business plans and Charcoal Kiln business plans for fuel wood supply and green charcoal. Area of woodlots managed for wood energy.	1 (Tram Kak CF) 0	5 woodlots 617ha	7 Woodlot areas, covering about 1,700 ha, established to supply firewood for charcoal kiln. 7 CFs established woodlots for fuel wood harvesting; cover 4,902 ha; integral to management plan. 602 ha were established as woodlots in KCH to fuel wood supply for green charcoal	S