



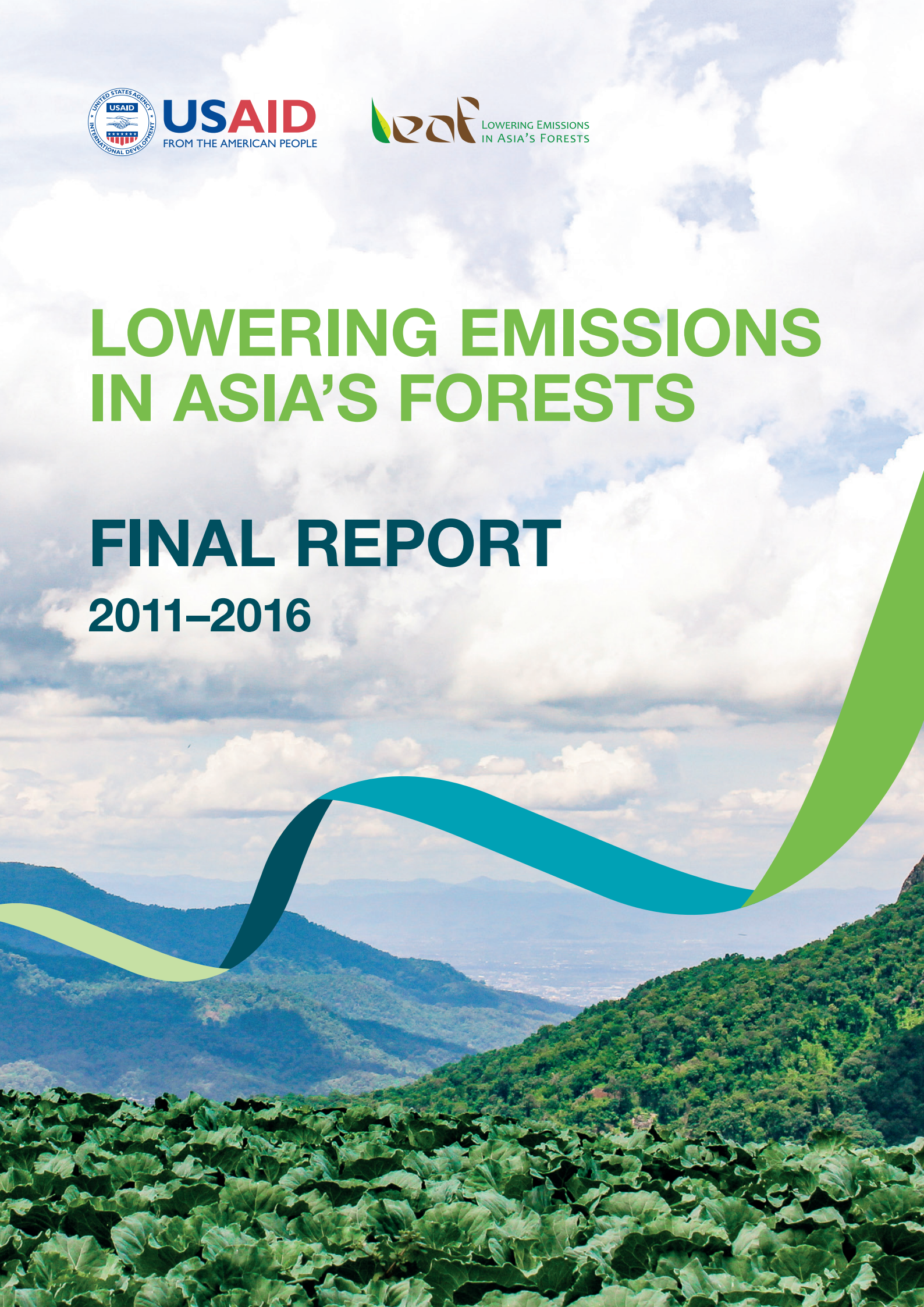
USAID
FROM THE AMERICAN PEOPLE



LOWERING EMISSIONS IN ASIA'S FORESTS

FINAL REPORT

2011–2016



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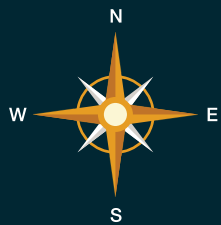
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FINAL REPORT

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 Vietnam

 Laos

 Thailand

 Cambodia

 Malaysia

USAID LEAF COUNTRIES



Papua New Guinea





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EXECUTIVE SUMMARY

Over a five-year implementation period, the United States Agency for International Development’s Lowering Emissions in Asia’s Forests (USAID LEAF) program delivered significant results against its overall objective of strengthening the capacity of target countries to achieve meaningful and sustained reductions in greenhouse gas emissions from the forestry-land use sector.

While focusing on identified objectives in specific landscapes—Thailand, Vietnam, Laos and Papua New Guinea—USAID LEAF was at its core a regional program. All interventions and activities addressed challenges faced throughout Southeast Asia. The strengthening of regional platforms and partnerships allowed the program to launch innovative tools and models via these platforms that were ready for scaling and replication. The provision of targeted training and technical assistance increased the capacity of individuals, organizations and government bodies, many of whom were linked with one another through regional networks that continue to evolve. Technical guidance and inputs to policies and regulations ensured progress was made at regional and national levels to better position governments to influence policy and market incentives to reduce emissions.

This final report summarizes how USAID LEAF addressed the myriad challenges faced in the region and highlights key program results. Among those detailed, there are several notable achievements.

A major policy and capacity building success for USAID LEAF was the approval by the government of Vietnam of the Lam Dong **Provincial REDD+ Action Plan** (PRAP) in January 2015. This plan provides a pathway for the Lam Dong provincial government to reduce emissions from the forestry-land use sector by 27% by 2020. The PRAP,

together with the USAID LEAF-supported Vietnam National REDD+ Fund proposal, represents the most advanced and most complete elements of a functioning national REDD+ system in the region.

In Madang province, Papua New Guinea, participatory low emission land use planning has become the norm, after the delivery of the USAID LEAF report *Low Emission Land Use Planning for Madang Province: Options and Opportunities*. This innovative report provides strategic guidance to the provincial government on how to achieve ‘green growth’ and positions the province as a model in the country for low carbon growth. With support pledged by the provincial government, communities throughout the province are poised to scale-up land use planning mechanisms spearheaded by USAID LEAF and The Nature Conservancy (TNC).

One of the first **payment for ecosystem services** (PES) schemes in Thailand was developed by USAID LEAF and launched in 2015. In this pilot PES, Aura, a bottled water company and subsidiary of Tipco Foods PCL, is engaging the community of Baan Pong Khrai in Chiang Mai province to restore degraded forests near the company’s water source and to improve local watershed management. Less than a year into implementation, Aura has committed to continue the PES through 2018 and its leadership in the province has spurred other private sector actors to begin designing new PES schemes.



Through the **Asia-Pacific Leadership Initiative on Gender and Climate Change**, USAID LEAF fostered a cadre of 24 gender champions—men and women leading efforts within government ministries, institutes of higher education and NGOs—to better integrate gender into forest policy and to drive the development of new policies that equally account for the roles of men and women.

The innovative **Climate Change Curriculum** developed by USAID LEAF has laid the foundation for the education and training of the next generation of climate change professionals in Southeast Asia. Over the course of three years, USAID LEAF developed and introduced four climate change modules at the university level. As the program comes to a close, more than 700 professors at 60 universities are providing instruction in the curriculum, adapting it to specific country contexts, and educating more than 30,000 undergraduate and 700 graduate students annually.

Five regional platforms were strengthened and are now better positioned to share lessons learned, collaborate on more effective use of limited resources, and support development of a practitioners' network to promote sustainable forest and natural resource management in the region. As part of this work, more than 20 tools, models and technologies were developed specifically to give practitioners new and innovative ways to address drivers of deforestation

and associated GHG emissions.

More than 33 laws, regulations or policies that benefited from USAID LEAF technical inputs and reviews were developed, revised, adopted or implemented. Notable among these are a Forestry Law Revision (Laos); development and approval of a National Climate Compatible Development Policy (Papua New Guinea); development and adoption of a management plan for the Mae Sa-Kog Ma Man and Biosphere Reserve (Thailand); and a Gender and Climate Change Action Plan in the Ministry of Women's Affairs (Cambodia).

The **capacity of individuals and organizations** was greatly increased through nearly 80 technical training events that delivered 40,000 person hours of training and reached more than 2,100 unique individuals.

USAID LEAF was implemented during a period of rapid evolution in the way governments, donors, organizations and individuals approach the fight against climate change. As USAID LEAF ends, efforts to achieve meaningful and sustained reductions in GHG emissions continue to evolve, and the partners, collaborators, beneficiaries and supporters of the program will continue to benefit from its legacy and achievements.



INTRODUCTION AND BACKGROUND

Many countries in Asia have committed to reducing national greenhouse gas (GHG) emissions, including from the agriculture, forestry and other land use (AFOLU) sector.

However, design and implementation of actionable plans is hindered by limited capacity to address complex land management issues, institutional divisions between the agriculture and forestry sector, and rising competition for land driven by economic growth and increasing populations. In addition, sustainable forestry and land management initiatives face financing challenges due to risks related to weak land tenure and enforcement and inadequate GHG accounting and investment frameworks.

Asia's extensive forest resources cover approximately 30% of the region's land area. These forests provide a wide array of environmental benefits, including carbon storage, biodiversity habitats, watershed protection and resources to support economic livelihoods. Unfortunately, these forests are being lost and degraded at a rapid pace due to conversion to agriculture and plantation use, unsustainable logging, infrastructure development and other pressures. Asian forests are being destroyed at an alarming rate of 1% a year—or more than one million hectares, the equivalent of 2,800 football fields. With this destruction comes associated GHG emissions, estimated to be 24% of global GHG emissions, and even higher at 58% in the 10 ASEAN member states. It is within this overall context that USAID LEAF focused its efforts.

PROGRAM OVERVIEW

In January 2011, the United States Agency for International Development's (USAID) Regional Development Mission for Asia (RDMA) awarded Winrock International, in partnership with SNV – Netherlands Development Organization (SNV) and Climate Focus, a five-year \$20 million Cooperative Agreement to implement the USAID LEAF program. The Center for People and Forests (RECOFTC) joined as a consortium partner in October 2012, and USAID LEAF received an additional \$800,000 to support gender integration activities in 2013.

The primary goal of USAID LEAF was to strengthen the capacity of target countries to achieve meaningful and sustained reductions in greenhouse gas emissions from the forestry-land use sector. Over the course of the five-year program, USAID LEAF achieved this goal by contributing to four primary objectives:

1. Replicate and scale-up innovation through regional platforms and partnerships.
2. Assist in the development of policy and market incentives for greenhouse gas reductions.
3. Strengthen human and institutional capacity to improve forest and land management.
4. Demonstrate innovation in sustainable land management.

Within these objectives, the program tracked progress towards sub-intermediate results (Sub-IR):

- P.1¹: GHG emissions from the forestry-land use sector reduced or avoided.
- P.2: Domestic and international finances in environmental services invested.
- Sub-IR 1.1: Best practices, models and methodologies regionally replicated.
- Sub-IR 1.2: Capacity of regional platforms strengthened.
- Sub-IR 2.1: REDD+ policy, planning and institutional frameworks strengthened.
- Sub-IR 3.1: Individual and institutional capacity increased.

- Sub-IR 3.2: Increased gender equality and women's empowerment in climate change mitigation from the forestry-land use sector.
- Sub-IR 4.1: Management of natural resources in demonstration areas improved.
- Sub-IR 4.2: Livelihoods of local communities in demonstration areas improved through climate mitigation actions.

Two principles both framed the work of USAID LEAF and were key to its success. First, USAID LEAF was an *integrated program*. All program objectives were interconnected through the design and implementation of activities and interventions. Regional policy and capacity building were linked to demonstration activities designed to test innovations on the ground, with successful models being shared through regional partnerships and platforms. Policy support efforts drew inputs from rarely-consulted regional and local organizations and individuals, and thus built on the success of the program's capacity building efforts for those entities. Policies and measures such as REDD+ funds were a means to provide funding to support field activities, while work at the local level resulted in new relationships between the private sector and communities, many of whom joined in activities for the first time because of their engagement by USAID LEAF. Lessons learned from all activities were shared through the many regional platforms strengthened, where they are well positioned to be scaled-up and replicated throughout the region.

Second, USAID LEAF was uniquely positioned as a *regional program*. As such, the program focused on the development and application of tools and models for use in varying regional contexts, with the networks of individuals and organizations developed and strengthened by USAID LEAF providing new platforms for subsequent dialogue and sharing of best practices.

PROGRAM EVOLUTION

The launch of USAID LEAF coincided with a high level of interest in the emerging international reducing emissions from deforestation and forest degradation (REDD+) mechanism, and a \$1 billion commitment from the U.S. government to support REDD+ readiness. Through financial incentives to support effective forest management and associated emission reductions, while incorporating considerations of larger socioeconomic and other ‘co-benefits’, initial USAID LEAF efforts focused on technical issues related to REDD+, including forest reference level development, REDD+ policy initiatives and support of REDD+ planning efforts.

Prompted by a USAID mid-term review in 2013, the program adjusted its strategy for the remaining period of implementation. Driven by the evolving priorities of the USAID RDMA Regional Environment Office (REO), this process included extensive dialogue with USAID bilateral missions in the region and between RDMA REO and USAID LEAF implementing partners, as well as internal reflection to identify USAID LEAF’s priority points of entry to deliver results in both a national and regional context.

The resulting modified strategy focused on the application and replication of regionally significant tools and models and capacity building of counterpart staff to implement and monitor their application. USAID LEAF decided to focus on landscapes in Vietnam, Laos, Papua New Guinea and Thailand, and on activities that addressed regional drivers of deforestation and forest degradation through a multi-level low emission development strategy (LEDS) framework.

The low emission planning framework developed under the global EC-LEDS program was employed across the forestry and land use sectors in the selected landscapes, providing a common framework for comparisons between geographically and socio-politically diverse settings. USAID LEAF expanded its engagement with replication countries through ASEAN-level activities that built on program successes and increased knowledge sharing through the AFOLU Working Group of the LEDS Global Partnership and the Lower Mekong Initiative (LMI).



The work implemented here by USAID LEAF serves as a model for others in the region and indeed around the country to work for the preservation of our precious forest and water resources.”



*– Mongkol Suksai
Vice Governor
Chiang Mai Province*



ACTIVITY AREAS

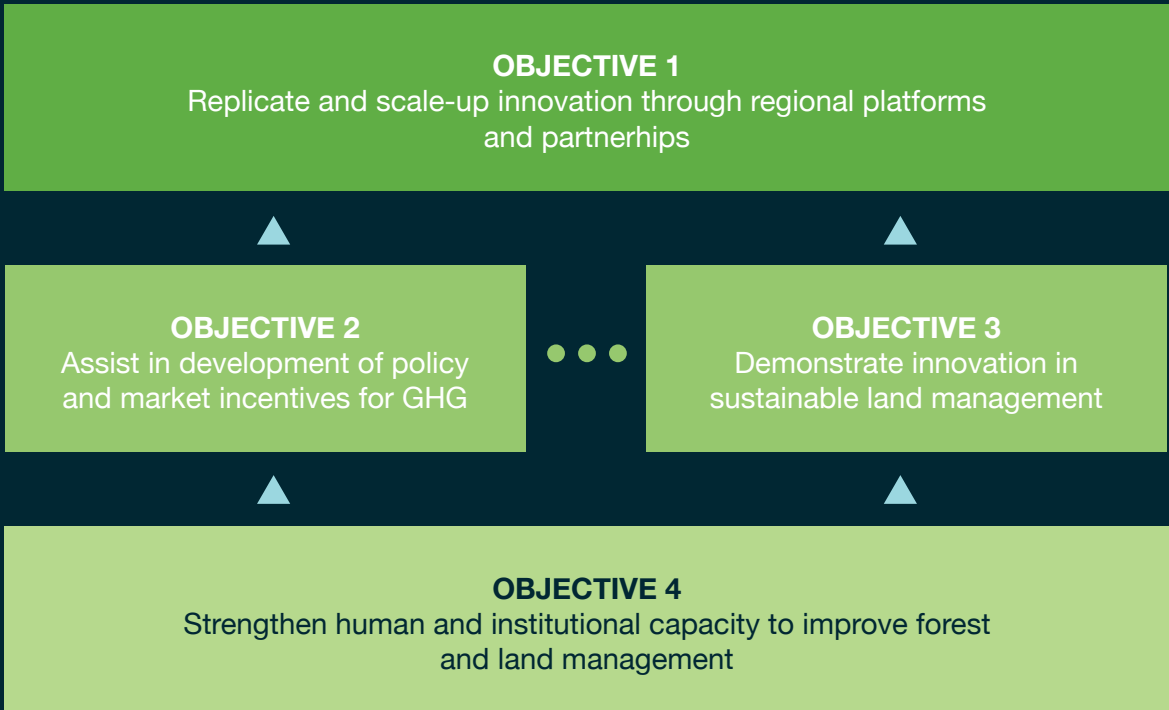
Ensuring all program activity areas were mutually reinforcing allowed USAID LEAF to deliver a truly integrated program.

Linkages enhanced successes by developing and reinforcing networks of partners who supported one another across technical areas, leveraged new resources, and demonstrated impact and innovation on the ground.

USAID LEAF maintained a physical presence in four countries, led by local and international experts who ensured program activities were rooted in current best practices and appropriately adapted to national and sub-national realities.

Ensuring all program activities were symbiotic allowed USAID LEAF to deliver a robust, regionally integrated program. Program staff actively fostered linkages between collaborating individuals, partner organizations and governments, and promoted inclusion in the varied and expanding networks of leading practitioners in climate change mitigation across the region.

Program activities and their associated objectives were neither solitary nor consecutive in practice. Every activity supported achievement of results for its objective, while complimenting and contributing to the success of other objectives. Progress, outputs and overall achievements were enhanced by nurturing and reinforcing networks, sharing knowledge and enhancing capacity, leveraging new resources, engaging non-traditional players, and demonstrating impact and innovation in the field.



1. PLATFORMS AND PARTNERSHIPS

USAID LEAF identified promising innovations and models, engaged regional platforms, and developed partnerships to replicate and scale innovations. Partnerships and platforms provided a structure to share lessons learned, collaborate on more effective use of limited resources, and support development of a practitioners' network for sustainable forest and natural resource management in the region.

Main Activities

Platforms

Platforms were an organization, network, association or other coordinated body with the ability to gather, store, organize and disseminate knowledge of a particular technical area to a diverse group of stakeholders.

The program collaborated with two knowledge management platforms, REDD Desk and Forest Carbon Asia. Additionally, USAID LEAF engaged three technical networks: ASEAN Regional Knowledge Network on Forest and Climate Change (ARKN-FCC) comprised of government policy

By The Numbers

 **5** platforms strengthened

 **24** models, tools & technologies developed for replication

makers; AFOLU Working Group, made up of practitioners and donors; and Mangroves for the Future (MFF), a targeted technical network. The rapid proliferation of technology-driven knowledge sharing and networks supporting REDD+ and forest management led USAID LEAF not to add to an increasingly crowded space with new platforms. Rather, the program engaged two existing platforms, REDD Desk and ARKN-FCC, where efforts to boost capacity, improve operations and bolster the likelihood of sustainability had the highest potential for impact.

Priority Platforms

Platform Name	Mandate	Area(s) of Collaboration
AFOLU Working Group of the LEDS Global Partnership	Global	Key platform for linking practitioners and donors, driving replication of tools and models
ASEAN Regional Knowledge Network for Forest and Climate Change	Regional	Addressing drivers of deforestation and forest degradation, policy development
Mangroves for the Future	Regional (focus on Vietnam and Thailand)	Regional model for linking community-level income generation to improved mangrove management
The REDD Desk	Regional	Information sharing, knowledge management
Forest Carbon Asia	Regional	Information sharing, knowledge management

Launched in late 2009, the REDD Desk is a knowledge platform for REDD+ resources. The REDD Desk has two areas of significant overlap with USAID LEAF objectives: the REDD Countries Database and the establishment of National REDD Platforms. USAID LEAF provided tools and resources to the REDD Desk for their website and technical input and review of information for the REDD Countries Database.

USAID LEAF also collaborated with Forest Carbon Asia, another knowledge platform focused on technical tools and methodologies about forest carbon markets in Asia. USAID LEAF and Forest Carbon Asia shared information on each other's websites and in communications and outreach materials and Forest Carbon Asia benefited from strategic planning guidance from program experts.

Beyond knowledge management and information sharing hubs, USAID LEAF expanded to platforms with the ability to catalyze action on the ground. ARKN-FCC allows member states to share knowledge and identify experts and research institutions specializing in forests and climate change. Collaboration with ARKN-FCC focused on the development of a Decision Support Tool on Identifying and Addressing Drivers of Deforestation and Degradation launched at COP 20 (Conference of Parties) in Peru and piloted in three USAID LEAF countries; an Australia-New Zealand Forestry and Climate Change Policy Exchange in collaboration with the ASEAN-German Climate Change Programme (GAP-CC), the Food and Agriculture Organization (FAO), and the Australian government; and technical support developing ASEAN (Association of Southeast Asian Nations) regional positions in international climate discussions.

While providing information to the public through a website or database, USAID LEAF believed more impact could be achieved if resources were targeted at platforms involved in directly implementing activities on the ground (MFF); involved policy makers that could directly drive policy change in their respective countries (ARKN-FCC); or were focused on mobilizing resources and linking practitioners working on the latest methods for low carbon development (AFOLU WG).

USAID LEAF was tasked to establish the AFOLU Working Group in 2014 as a part of the LEDS Global Partnership, driven by the perception of some actors that the AFOLU sector was being neglected. The group's first workplan targeted two priority areas: finance and low emission land use planning. Early in 2015, core members of the working group elected a steering committee, identified co-chairs, a Technical Services Unit (a role filled by Winrock International), and a Secretariat (hosted by the Global Environment Center (GEC)). By the end of 2015, the Working Group had an ambitious workplan in place to implement post-USAID LEAF support.

A collaborative effort between MFF, FAO and USAID LEAF began with the Income for Coastal Communities for Mangrove Protection project, focused on the development of low-cost mechanisms for financial incentives to communities involved in mangrove conservation. USAID LEAF provided overall technical coordination and guidance, development of a simple mangrove carbon stock estimation methodology, and a template agreement and associated guidance for engaging coastal communities.

Additionally, USAID LEAF was engaged with the U.S. government-led LMI, launched to create integrated sub-regional cooperation among the five Lower Mekong countries and the United States. In July 2011 at the fourth Ministerial Meeting of the Lower Mekong Initiative, USAID LEAF was mentioned by Secretary of State Hillary Clinton as an important new program "that is to mitigate one of the leading causes of climate change, deforestation." USAID LEAF presented its gender work at LMI's first-ever Lower Mekong Gender Equality and Women's Empowerment Policy Dialogue in Siem Reap, Cambodia in July 2012, which frequently highlighted USAID LEAF's curriculum development work in their outreach materials.

Partnerships

To increase impact and scale, USAID LEAF partnered with programs and organizations having similar mandates. In many cases, this was necessary given the complexity of forest and land management issues, where no individual organization has the knowledge and resources to overcome these challenges. This is apparent in the program's core landscapes, where partnerships were developed and strengthened with organizations likely to be active in the long term in those areas, increasing the likelihood of program initiatives becoming sustainable.

In addition to landscape-based partners, USAID LEAF engaged other USAID programs to allow for more effective and efficient use of U.S. government resources and to target support to common stakeholders across projects. Partners such as the United States Forest Service (USFS), FAO, and SilvaCarbon helped to design and deliver a range of technical trainings and regional events.

Collaborating USAID-funded programs

Program Name	Focus Area	Areas of Collaboration and Replication
Low Emissions Asian Development (LEAD)	Regional	Asia LEADS Partnership AFOLU WG, LEADS Implementation, Curriculum Development, Gender
Vietnam Forests and Deltas (VFD)	Vietnam	National REDD+ Fund Development, Nghe An Community Forestry Models, PRAP development and implementation, Curriculum Development, Gender
Supporting Forests and Biodiversity (SFB)	Cambodia	Drivers, Curriculum Development, Gender
Biodiversity and Watershed Improved for Stronger Economy and Ecosystem Resilience Project (B+WISER)	Philippines	Integrated Accounting Frameworks, Drivers, Gender
Forest PLUS	India	Curriculum Development
Climate Resilient Ecosystems and Livelihoods (CREL)	Bangladesh	Carbon Accounting Tools, Curriculum Development
Mangrove Rehabilitation for Sustainably-Managed, Healthy Forests (MARSH)	PNG	Carbon Accounting Tools, including carbon stock assessment, Curriculum Development
Grassroots Equity and Enhanced Networks in the Mekong (GREEN Mekong)	Regional	Gender
Hariyo Ban	Nepal	Gender
Forest Carbon, Markets and Communities (FCMC)	Global	Social and environmental soundness



Models and Tools

More than 20 tools and models falling into four broad categories were developed by the program: policy development support, gender integration, technical guidance for developing forest inventory and terrestrial carbon assessment. Tools were shared through regional platforms, but more importantly, became a fundamental component of USAID LEAF's capacity building work. The Technical Guidance Series for Forest Inventory, for example, provided much needed frameworks for practitioners in Lam Dong, Vietnam, to apply to the development of a Provincial REDD+ Action Plan.

Key Outcomes

A key success demonstrating USAID LEAF's integrated programming was the design and application of tools. These were not a disconnected resource that might be utilized by someone finding them online, rather they were an integral part of USAID LEAF capacity building efforts that in turn led to tangible outputs, as evidenced in applying multiple modules of the Technical Guidance Series to the PRAP development in Lam Dong, Vietnam.

Collaboration with other USAID programs sharing similar mandates was a key success factor for USAID LEAF. For example, Vietnam Forests and Deltas (VFD), which also worked on curriculum development, partnered with USAID LEAF in its curriculum development and roll-out in Vietnam and will continue to support that work. A number of other USAID-funded programs, including Hariyo Ban in Nepal and B+WISER in the Philippines, partnered with USAID LEAF on gender activities.

ARKN-FCC added value by providing links to senior policy makers in the region. The development of the decision support tool (DST) and pilot projects in Cambodia, Philippines and Malaysia provided an opportunity to test and validate a globally relevant and useful tool.



An effective and sustainable land use planning process will allow our valuable natural resources to be sustainably developed for our economic prosperity with positive and long-lasting environmental outcomes for all.”

*– Honorable Jim Kas, MP
Governor
Madang Province*

Challenges

Ensuring the sustainability of networks and platforms is a significant challenge, a fact that influenced USAID LEAF’s decision not to focus on creating new platforms. Forest Carbon Asia, with which USAID LEAF collaborated extensively in the early stages of the program, encountered funding issues and is now relatively inactive. REDD Desk is more stable, but has limited staff and is largely reactive to donor priorities at any given time. The AFOLU Working Group, into which USAID LEAF has invested significant time and energy, is at a crucial period in its growth as it defines a sustainability strategy. The Working Group now has a Secretariat, functional steering committee, co-chairs, technical support unit and a workplan funded by the LEDS Global Partnership. These are significant strides. However, the Working Group needs to solidify its identity, increase its ability to consistently provide services to the network, and develop a sustainability plan, as it is heavily reliant on LEDS Global Partnership funding and needs to urgently address its future financial sustainability.

Lessons Learned

Leadership matters within institutions, and relationships matter within and between institutions. Some of the most successful collaborative efforts developed by USAID LEAF were with organizations led by dynamic and motivated individuals and those where counterparts at the national and sub-national levels knew how to navigate the often confusing directives on developing, implementing and coordinating activities on the ground.

Regional programs often provide a mechanism to share information, facilitate partnerships and other linkages, and promote emerging models. Unfortunately, many such initiatives lack the opportunity for direct implementation, and rely on others for the testing of models and application of best practices. In certain localized contexts, some regional programs are seen as more theoretical, and lack some credibility when it comes to discussing realities in communities and on the ground. At the other extreme, programs that focus on one country or one landscape are often keen to learn from implementers working on similar issues in other countries or landscapes, and do not have a mechanism to reach out and engage a range of other initiatives in the region.

USAID LEAF provided unique value in this context—both able to engage regionally with key platforms, partners and innovative thinkers—while practically applying models and tools on the ground across multiple countries. These linkages provided USAID LEAF instant credibility in each country because staff could demonstrate how they had used it themselves, something greatly appreciated by local partners. In regional forums, USAID LEAF was able to address specifics and provide tangible proof of impact where tools were previously used, rather than theorize about what might be the best option. The ability to maintain a regional focus while also having specific country perspectives through on-the-ground implementation was highly beneficial for USAID LEAF and all its beneficiaries. Such a balance should be built into future regional programs.

2. POLICY AND MARKET INCENTIVES

USAID LEAF assisted in the development of policy and market incentives for GHG reductions, an objective that reflected global climate change concerns and recognized the essential role of governments and partner organizations in establishing policy frameworks to reduce emissions. Concurrent with the mid-term review, the need for market involvement as a driver of large-scale GHG emissions reduction activities was recognized and attention shifted to assessing the potential of the private sector as funders of AFOLU sector emissions reduction efforts.

By The Numbers



33

laws, regulations or policies developed, revised, adopted or implemented with USAID LEAF assistance including:

- Forestry Law Revision (Laos)
- National Climate Compatible Development Policy (Papua New Guinea)
- Provincial REDD+ Action Plan (Vietnam)
- Mae Sa-Kog Ma Man and Biosphere Reserve Management Plan (Thailand)
- Gender and Climate Change Action Plan (Cambodia)

Activities centered on four key processes: comparative analysis of forestry and REDD+ policy and legislation from USAID LEAF countries and other countries; learning from experience in USAID LEAF core landscapes and other sub-national AFOLU low emissions development efforts; acting as a regional center of expertise in forestry and climate change; and supporting regional bodies and knowledge exchange mechanisms.

USAID LEAF's policy work reflected the integrated design of the program. Policy and financing innovations developed were replicated and scaled-up through the program's regional platforms and partnerships with ARKN-FCC, MFF and the AFOLU Working Group. Building and institutionalizing technical capacity in these and other governmental and non-governmental organizations was achieved through regional and national level trainings. The program's efforts to demonstrate innovations in sustainable land management were both supported by, and drew upon, policy and finance related work at different levels across the region.

USAID LEAF policy analysis and national, sub-national and regional knowledge exchange promoted learning within and between countries. The program's work in policy and finance was also replicated outside the region as a result of public outreach by USAID LEAF and sharing through partners and platforms. The flexibility and responsiveness of USAID LEAF also meant that the program was able to catalyze action by working with active players in forestry and climate change in the region such as UN-REDD and the Forest Carbon Partnership Facility (FCPF). This was particularly notable following the program's engagement in the Readiness Preparation Proposal for REDD+ process in Thailand, initiation of work on the National REDD+ Fund in Vietnam, and through the USAID LEAF-supported *Review of Forest and REDD+-related Policy and Legislation in Papua New Guinea*.

Main Activities

USAID LEAF activities focused primarily on forest and land policy and legislative reform.

Policy and Legislative Reform

USAID LEAF supported policy reforms aimed at reducing emissions and improving forest and land management in six countries. Drawing from a wide range of experts and based on experience from the program's field interventions, substantive inputs were provided to a range of existing and newly initiated policy processes. In total, the program supported revision to or development of 33 laws, regulations, policies, agreements, decisions, strategies or plans addressing forestry, land use and climate change, with gender-related inputs included where possible.

The most significant policy and legislative reform efforts undertaken were in Vietnam and Papua New Guinea. In Vietnam, the program supported the Vietnam Administration of Forestry (VNFOREST) in developing a National REDD+ Fund. Support for establishment of the fund began in 2012 following development of a workplan aimed at regulation and funding of forest carbon emissions reduction as an ecosystem service. The process drew on international best practices, many of which were highlighted and published in USAID LEAF's Review of International Experience with REDD+ and National Forest Funds in mid-2013. Through March 2014, USAID provided comprehensive support for VNFOREST to develop a plan for the structure and operations of the National REDD+ Fund. Subsequently, UN-REDD engaged in the process and revised the proposal to include greater international control over the proposed fund. Consultative meetings continued until October 2014 prior to review by relevant Vietnamese ministries and representatives of the Norwegian government, the main prospective contributor to the fund. In December 2015, the National REDD+ Fund proposal was approved by the Ministry of Agriculture and Rural Development.

The National REDD+ Fund activities were related to development of the Lam Dong PRAP and associated reference level work. In designing the National REDD+ Fund, provision was made to finance PRAPs, and the first of these endorsed in Vietnam was the Lam Dong PRAP. The development of a further nine PRAPs is currently supported by UN-REDD, FCPF and VFD.

In Papua New Guinea (PNG), the program undertook a Review of Forest and REDD+ Related Policy and Legislation and a multi-stakeholder consultation in collaboration with UN-REDD, the Papua New Guinea Forestry Authority (PNGFA), the Office for Climate Change and Development (OCCD) and the Constitutional Law Reform Commission (CLRC). The review was drafted with broad stakeholder engagement and a National Consultation of Papua New Guinea Forest and REDD+ Related Policy and Legislation was held in Port Moresby in July 2014. Inputs from the consultation were incorporated into the review, which was released in September 2014. In November 2015, PNGFA reported that work on amendments to the Forestry Act was continuing, with submission to the National Executive Council for endorsement and passage through Parliament, planned for mid-2016.

USAID LEAF policy and legislative work in relation to the PNG Forestry Act also served to support inputs to other reform processes at national and sub-national levels. In particular, the PNG Climate Compatible Development Policy, promulgated in August 2014, received significant support from the program. Similarly, the Protected Area Policy and National REDD+ Policy received comprehensive technical inputs as did the Madang Forest and Marine Protection Bill.

The Forestry Law and Land Policy reform efforts in Laos also benefited from the input of expertise by USAID LEAF, although both processes remained stalled as of early 2016. The Land Policy may clear in 2016, which would allow for subsequent approval of the Forestry Law.

In Thailand, USAID LEAF inputs were curtailed by the domestic political situation, but the program supported a pivotal consultation in the Forest Carbon Partnership Facility Readiness Preparation Proposal process, whereby civil society groups were given their first real chance of contributing to a previously closed process. At the sub-national level, development of the Mae Sa-Kog Ma Man and Biosphere Reserve Management Plan was led by USAID LEAF, and was adopted in late 2015, nearly 30 years after the area was designated a UNESCO Man and Biosphere Reserve (MAB). In addition, one of the first payment for ecosystem services schemes in Thailand was launched, a USAID LEAF initiative that engaged local government, communities and the private sector to provide long-term care for fragile ecosystems.

In addition to direct support for policy and legislative development and reform, a *Decision Support Tool on Developing Forestry and Land Use Policy in the Context of Climate Change*, based on engagement with national forest policy makers from Greater Mekong Subregion (GMS) countries, was published. The decision support tool sought to address shortcomings such as insufficient stakeholder engagement and inadequate analysis of existing policies and laws and proposed reform options.

USAID LEAF focused on five thematic areas related to regional priorities to inform policy dialogue and reform: drivers of deforestation and forest degradation; nesting/integrated accounting and incentive allocation; financing emissions reduction and REDD+; private sector engagement in AFOLU sector emissions reduction; and mangrove carbon stock estimation and financing for mangrove protection.



Drivers of deforestation and forest degradation

A centerpiece of the program's efforts was the *Decision Support Tool on Identifying and Addressing Drivers of Deforestation and Degradation*. This publication was founded on Article 55 of the ASEAN Economic Community Blueprint, which supports mitigation of GHG emissions through effective policies and measures, and was developed in collaboration with ARKN-FCC members, with financial and technical support from USAID LEAF.

Following the launch of the tool at COP 20, a major program focusing on drivers of forest change began based on the framework. The work assessed drivers of forest change in the GMS countries (Cambodia, Laos, Myanmar, Thailand and Vietnam) and culminated in a regional overview assessment and a GMS action plan for which financing is being sought.



Nesting/integrated accounting and incentive allocation

USAID LEAF support for sub-national efforts to reduce emissions and improve forest management propelled efforts to provide technical guidance and associated capacity building in integrating regional landscapes into national level frameworks. Different aspects of this effort included development and dissemination of technical and policy guidance on integrated carbon accounting and incentive allocation. USAID LEAF provided support for the development of sub-national policy harmonized with overarching national frameworks, particularly in Vietnam, Cambodia and Papua New Guinea.

A key focus of this work was defining how jurisdictions and programs at the sub-national level can fit into a national REDD+ framework to harness capacity and existing investment in accelerating improved forest management and emissions reduction. Ensuring the efficiency of emissions reduction efforts while maintaining equity and inclusiveness in forest and land management was a related focus.



Financing emissions reductions and REDD+

In building capacity among forestry policy makers in ASEAN member states, support was provided for the ARKN-FCC Australia-New Zealand Forestry and Climate Change Policy Exchange. In collaboration with the GAP-CC, the FAO, the Australian government and the Asia-Pacific Association of Forestry Research Institutions (APAFRI), the exchange provided 22 forestry officials from ASEAN member states and Papua New Guinea the opportunity to learn lessons on establishing national frameworks to incentivize forest carbon emissions reductions and removals from global pioneers. The visits to Australia and New Zealand included discussions with government agencies and the private sector, and although emissions trading schemes in both countries had encountered significant difficulties, the activity was well received for the lessons learned in incentivizing AFOLU sector emissions reductions.

During the program implementation period, emphasis shifted from policy support aimed at attracting international public climate change funding towards accessing broader sources of support and financing for AFOLU sector emissions reductions. This was in response to the low transfer of finances to developing countries under national REDD+ projects and the paucity of available carbon-related incentives for action. Limited political will and institutional difficulties also promoted a move towards the private sector as potentially more responsive actors in AFOLU emissions reduction efforts.

The first major regional event on financing AFOLU emissions reductions organized by the program brought together experts from the private and public sectors at the 2014 Asia LEDS Partnership Forum in Yogyakarta, Indonesia. The forum examined the gap in financing for low emissions development in the AFOLU sector, broadly defined as the gap between demand for finance at the field level and the supply of public and particularly private finance at the international level. Based on the outcomes of this meeting and experience from USAID LEAF core landscapes, the program organized the 2015 Regional Forum on Developing and Financing Low Emissions Development Strategies for the Agriculture, Forestry and Other Land Use Sector. The key outcomes of this meeting included calls for combined private and public action in AFOLU emissions reduction efforts, particularly the establishment of an enabling policy environment attractive to private investors; greater focus on the main sources of AFOLU emissions in national policies and programs; clearer definition of outcomes or products associated with low emissions development in the AFOLU sector; greater efforts from Asian banks and investors to implement environmental, social and governance (ESG) standards; and realignment of existing domestic AFOLU sector funding to encourage emissions reductions.

The outcomes of the forum formed the basis of subsequent discussions and follow-up work under the AFOLU Working Group of the LEDS Global Partnership and should inform design of future donor activities in sustainable landscapes.



Private sector engagement in AFOLU sector emissions reductions

Complementing the program's initial focus on governmental organizations as the main actors in global emissions reduction efforts, USAID LEAF initiated multiple reviews examining the potential role of the private sector in this area. In addition to private engagement in financing work, a major assessment of *The Potential of Voluntary Sustainability Initiatives to Reduce Emissions from Deforestation and Forest Degradation* was undertaken as a strategic step in assessing the progress of private sector efforts to reduce deforestation. Related studies were carried out in USAID LEAF core landscapes in Lam Dong, Vietnam and Madang, Papua New Guinea.

Overall, the assessments suggested that private efforts to reduce AFOLU sector emissions are likely to be limited by low profitability and limited potential impacts of individual companies or supply chains at the national level. That most commodities produced in rural landscapes are from agriculture and not forests also limits the potential of the private sector in achieving REDD+ objectives, a situation that could potentially change if private actors were to become custodians of forest areas or undertake reforestation activities. Otherwise, a government-supported forest protection framework will be necessary, both to protect forests directly and to ensure that well-meaning private actors do not incur relative reductions in profitability by curbing deforestation individually.



"I'm proud to be a Papua New Guinean. There are so many people committed to promoting economic growth while preserving this country's incredible natural resources, and a provincial government very supportive of promoting green growth."



– Dr. Lowong Balun
Sr. Lecturer, Biology Dept.
University of PNG



Mangrove carbon stock estimation and financing

In 2012, USAID LEAF signed a memorandum of understanding with the IUCN Mangroves for the Future initiative aimed at facilitating collaboration in relation to carbon markets, climate change mitigation and livelihood strategies. A major part of this engagement concerned USAID LEAF partnering with the FAO/UN-REDD/IUCN-MFF project on Income for Coastal Communities for Mangrove Protection. USAID LEAF contributions to this project included providing overall technical coordination and guidance and also specific work on development of a simple mangrove carbon stock estimation methodology; drafting a template agreement; and associated guidance for engaging coastal communities in mangrove protection in return for financial incentives. Reviews were produced on funding availability for financing mangrove protection and restoration and of policy and institutional frameworks and models for mangrove financing in Pakistan, Thailand and Vietnam. USAID LEAF contributed to establishing a low-cost mechanism through which coastal communities can be incentivized to protect and restore mangroves. The mechanism will be piloted and scaled-up to channel funding from private investors and international public funds into mangrove protection.

Key Outcomes

Key outcomes included the Vietnam National REDD+ Fund proposal and the Lam Dong PRAP, which together represent the most advanced and complete elements of a functioning national REDD+ system in the region. Associated policies and plans at a number of levels supported by the program include a measurement, reporting and verification framework document; the sub-national reference level agreement; a sustainable forest management plan for the Don Duong State Forest Company in Lam Dong; and inputs to the Environmental and Social Safeguards for the National REDD+ Action Plan.

A further outcome was significantly strengthened policies and legislation in PNG and greater multi-stakeholder engagement in civil society dialogue. In total, 11 laws, policies, agreements, decisions, strategies or plans addressing REDD+ in PNG were submitted for adoption or revision as a result of USAID LEAF assistance. In particular, USAID LEAF inputs significantly improved the structure and clarity of draft policy and legislation, greatly increased stakeholder engagement and improved the quality of technical analysis. While PNG is still in the early stages of efforts to reduce deforestation and forest degradation, USAID LEAF inputs have provided a foundation for others to build upon

and capacity developed in relation to forest policy and emissions reductions will undoubtedly support efforts by the government, UN-REDD and other partners to improve forest management.

In building capacity relevant to policy discussions in the region, USAID LEAF work on financing for AFOLU sector emission reductions stands out. Meetings in Yogyakarta and Bangkok introduced regional stakeholders to important information given the emissions reduction commitments being made at the time in Intended Nationally Determined Contributions (INDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC) by countries around the world.

USAID LEAF support to ARKN-FCC significantly strengthened the group, in particular through the Australia-New Zealand Forestry and Climate Change Policy Exchange. Development of the ARKN-FCC *Decision Support Tool: Identifying and Addressing Drivers of Deforestation and Forest Degradation* provided members a chance to contribute to the regional dialogue on forests and climate change and put forward a methodology reflecting ASEAN values. Launch of the decision support tool at COP 20 demonstrated ASEAN commitment to forest and climate-related goals at the international level.



Challenges

USAID LEAF began during a period of relative confidence in sustained growth in international demand for carbon emissions reductions. In spite of growing urgency and the scientific and economic basis for action to combat climate change, global and national climate change-related efforts underwent a period of hesitancy during the program implementation period. This was partly due to reverberating impacts of the 2008 global financial crisis and lack of a strong international agreement on climate change. Subsequently, global demand for emissions reductions weakened and confidence in international financing for climate change mitigation declined.

This situation was at odds with the observed growth in international public funding pledges for emissions reductions in the forestry and land use sector, and the financing gap appeared to be more associated with challenges faced in accessing funding. In particular, meeting carbon accounting, financial management and monitoring and evaluation standards posed a significant barrier. Governance standards were often insufficient to give potential financiers necessary confidence, particularly in the forestry sector. Technical challenges associated with developing reference levels and with forest measurement and monitoring also slowed establishment of REDD+ frameworks. Many countries required a significant

upgrade in capacity to meet the standards required for large scale international public funding.

Another challenge encountered was the seeming lack of government enthusiasm in efforts to address drivers of deforestation and forest degradation. Addressing drivers requires the commitment of powerful players, including government officials and business representatives, some of whom may have limited incentive to take action. Without their engagement, processes to address drivers are likely to remain academic. Attempts were made to engage actors in discussions in Cambodia, but without success. Other initiatives in the region had similar experiences.

As doubts grew that international public or private financing would be a significant near-term source of funding for forest and land use emissions reduction efforts, attention expanded to an assessment of other potential financing sources. Due to the limited period during which the program focused on these areas, outputs were mainly in the form of disseminating knowledge. Key findings are detailed in the workshop report from the Regional Forum on Developing and Financing Low Emissions Development Strategies for the Agriculture, Forestry and Other Land Use Sector.



Lessons Learned



Policy approaches to AFOLU sector emissions reductions

Sustainable financing should be a key consideration during the design phase of AFOLU sector emissions reduction efforts.

Drivers of deforestation and degradation and the means by which they will be addressed should be identified during the design phase of AFOLU sector emissions reduction efforts.

Replicable, low cost, local-level monitoring and investment and accounting frameworks are needed to enable scaling of AFOLU sector emissions reduction efforts to the national level.

Private sector engagement

There is widespread agreement among representatives of the private sector engaged in AFOLU activities that a conducive policy environment is necessary for investment in emissions reductions and sustainability efforts.

Private and public sector dialogue on reducing deforestation and AFOLU sector emissions currently takes place in relative isolation. To improve integration and understanding between the two streams, initiatives that bring both sets of actors together are necessary.

Although the private sector may efficiently attain profit-related goals, production of environmental services may fall outside their interests and if sustainability labeling is not profitable, a sole producer acting on good intentions may incur competitively disadvantageous costs. In this situation, it is essential for governments to implement standards for adoption across the board. This is also necessary because private actors have jurisdiction over limited areas and other actors may continue to clear forests if they are selling to markets where there is no demand for sustainably produced goods.

Earlier we just gave money for corporate social responsibility projects, but never saw the results. Now the villagers have more knowledge and tools and they are invested in caring for their environment.”



– Chokchai Tocharoentanapol
Chief Operating Officer
Tipco Foods PCL

To reduce the cost burden on sustainable supply chains and increase adoption of sustainability standards, field extension support could be provided to help farmers change practices.

Because agriculture is the dominant economically productive activity in the AFOLU sector and generally takes place in areas cleared of forests, the extent to which the private sector is able to achieve REDD+ objectives will be limited unless private actors protect and expand forest areas within their concession areas. Marine aquaculture certification schemes (e.g., Aquaculture Stewardship Council, Naturland) often include minimum mangrove crown cover limits, and such criteria could be adopted by other agricultural certification initiatives with technical and financial support for implementation offered by donors.

3. TECHNICAL TRAINING

USAID LEAF employed a wide range of approaches to strengthen individual and institutional capacity, mindful of country-specific contexts as well as the borderless nature of the challenges inherent in climate change mitigation programming. Capacity building efforts were designed to be cross-cutting and deliver specific interventions to address opportunities for partner organizations to improve their work.

Activities solidified the technical understanding required by target countries to make informed policy decisions to contribute to reductions in GHG emissions, and created the technical expertise essential to monitor and verify the impact of those decisions. This increased technical capacity provides a foundation for future application of tools, resources and planning processes to improve forest and land management and mitigate climate change.

The program employed a two-track approach to capacity building. Track 1 focused on immediate impacts and short-term results, and developed and delivered targeted, needs-based technical trainings on forest management and climate change topics. Track 2 focused on long-term capacity building of future climate change professionals, with the majority of resources devoted to development of a climate change curriculum; increasing the capacity of practitioners to integrate gender into climate change policy and practice; and development of professionals with the skills to deliver results in sustainable land use practices.

Track 1 activities strengthened partner governments, civil society and non-governmental organizations, other climate change programs, and individuals including community leaders, educators and youth. These technical trainings focused on the country level, tailored to specific country contexts, as well as regionally, bringing together professionals and practitioners from throughout Southeast Asia to learn and share best practices on highly technical topics. Targeted trainings resulted in individuals and organizations better equipped and positioned to produce meaningful and sustainable reductions in

greenhouse gas emissions from the forestry and land use sector.

Track 2 activities focused on long-term engagement of professionals—gender champions in the Asia-Pacific Leadership Initiative on Gender and Climate Change and professors and educators in a curriculum network—to build their capacity and strengthen their ability to sustain USAID LEAF efforts. The 24 gender champions became a *de facto* extension of the USAID LEAF program and are now strengthening the next generation of gender champions in government and civil society organizations in their own countries. Similarly the network of professors trained in USAID LEAF's climate change curriculum are not only educating today's students and tomorrow's professionals, but continue to expand the network of educators and professors—now numbering more than 700—who are using and adapting the curriculum. There now exists a network of professionals who not only have greater capacity, but who have developed deep relationships amongst one another, contributed to building and strengthening regional platforms to address common issues related to climate change, and who are poised to continue working together.



Participatory planning and trainings by USAID LEAF empowered communities to implement new forest restoration techniques and engage in natural resource management.”



– Alyssa Cochran
Assessment Team Member
George Washington University

CAPACITY BUILDING

OUTPUT SUMMARY



79

Training events



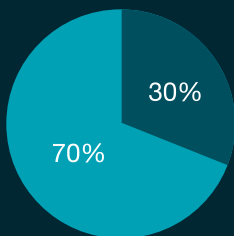
2,186

Participants

39,621

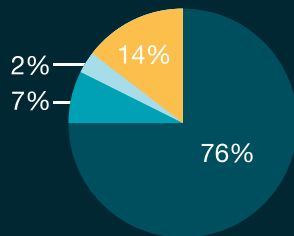


Total person hours



By gender

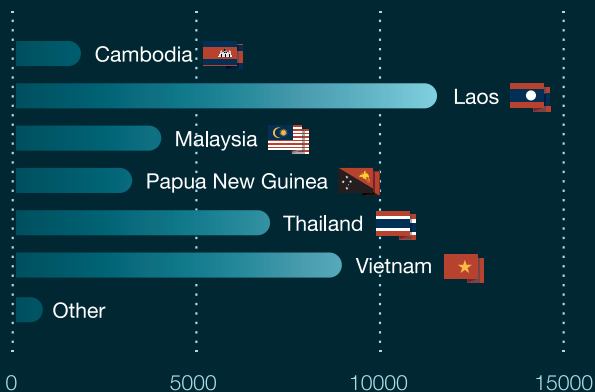
Female
Male



By sector

Government
Private sector
Civil society organization
Community members

By country



OUTCOME SUMMARY



Increase in knowledge or skills:

Did the participants learn from the training?

86%

270 of 313 respondents reported gaining **improved knowledge** on the training's main topic

89%

236 of 264 respondents reported gaining **improved practical skills** from the training

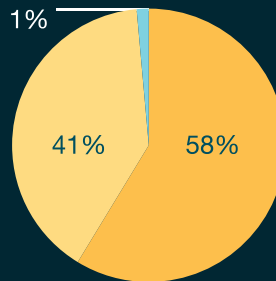
91%

63 of 69 respondents retrospectively said they **learned** new knowledge or skills



Application of knowledge or skills:

How applicable is the training content to your job?



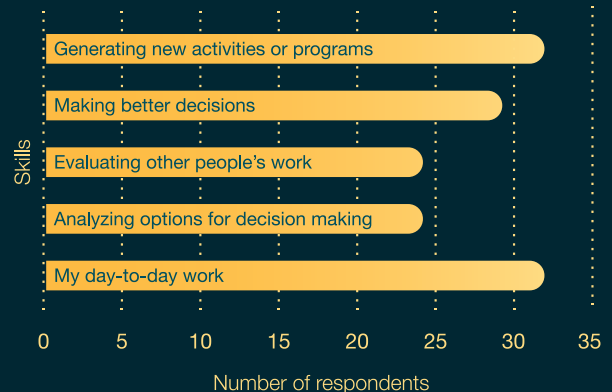
Significant
Adequate
Insignificant

Six months post-training

88%

62 of 69 respondents said they were able to **apply the new knowledge or skills** in their work

I used the new knowledge or skills for...



Technical Training Highlights

USAID LEAF delivered technical trainings with and for its local partners as part of an integrated approach to improving forest and land management. Training events ranged from traditional classroom settings to a more interactive ‘learning by doing’ approach, with USAID LEAF staff working side-by-side with local partners to apply new tools and techniques to climate change planning efforts. The program also worked closely with other donors and programs to leverage resources and access additional sources of technical training material and expertise.

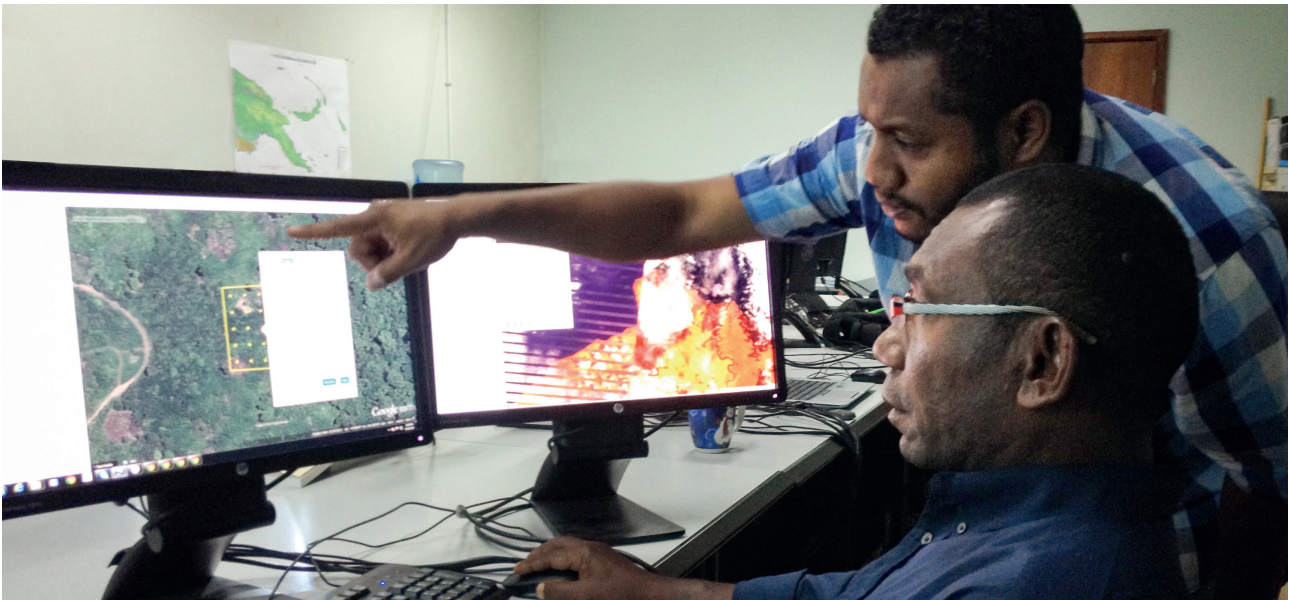
Improved Forest Management

The USFS International Programs was a key USAID LEAF partner in the development and delivery of the climate change curriculum, as well as training and tools related to fire management and estimation of greenhouse gas emissions from fire. Together with USFS, USAID LEAF developed guidance and training on how to account for historical fire emissions, using the Mae Sa-Kog Ma Man and Biosphere Reserve in Chiang Mai as a practical training site. Professionals from around the region learned methodologies and received guidance on the necessary steps to estimate historical emissions, coupled with fire management training and on-the-ground practice and demonstrations with local communities implementing improved management practices.

Biomass trainings were held in Laos, Vietnam, Papua New Guinea and Malaysia to build capacity of local forest managers on the latest terrestrial biomass and carbon assessment techniques. Using standard operating procedures developed by USAID LEAF, these trainings strengthened the capacity of USAID LEAF staff and partners in forest carbon assessment through field methods for measuring forest carbon stocks and for destructive sampling of trees for biomass estimation; laboratory procedures for estimating carbon content in samples collected from forests; classroom training on data entry and data analysis methods for tree biomass estimation; and quality assessment and quality control of data collection. In a number of cases, including in Laos

and Vietnam, the trainings were designed so that data collected could be integrated into local forest inventory processes and be used to develop forest reference emission levels. This is a clear example of USAID LEAF’s strategy to make training events practical and applicable to beneficiaries’ needs and work. These trainings in particular were so well received that a number of countries, including Laos and Papua New Guinea, have used the USAID LEAF standard operating procedures as the basis for their official field measurement protocols within their national forest inventory.

USAID LEAF’s first regional training, held in Bangkok in 2011, was an overview of forest reference levels for counterparts from each of the program’s countries. The training covered foundational elements of REDD+ and the Intergovernmental Panel on Climate Change (IPCC), an overview of reference levels, development of activity data and emission factors, estimation of historical emissions, and projection of future emissions for development of a reference level. This workshop was followed by a second workshop in Laos in 2012, and by targeted reference level trainings in Vietnam and Laos that trained geospatial analysts and foresters on reference level development using updated land cover maps and carbon data. These country-specific trainings included hands-on exercises to stratify forest carbon and use emission factors and activity data to estimate historical GHG emissions. These targeted trainings were instrumental in enabling local government



counterparts to develop historical emissions estimates used to project the reference level used in development of low emissions strategies, such as the PRAP in Lam Dong, Vietnam.

USAID LEAF delivered technical assistance and training for participatory forest monitoring (PFM), including a training in Laos in early 2015 with the Capacity Building for REDD+ Readiness (CBRR) program and the Asian Development Bank's Biodiversity Conservation Corridors Initiative (ADB/BCCI). The PFM training was facilitated by staff of the forestry faculty of collaborating universities and focused on forest ecosystems, forest monitoring methodologies, establishment of sampling plots, and conducting tree inventories in newly reforested areas. USAID LEAF and Multiple Benefits REDD+ (MB-REDD) completed on-the-job mentoring on geographic information systems (GIS), database management and website management for those stakeholders responsible for the collection of field data and operation of a variety of forest monitoring and reporting systems. Building on this success, in late 2015 USAID LEAF supported a Regional Knowledge Exchange Event on Participatory Forest Monitoring hosted by the Lam Dong Department of Agriculture and Rural Development (DARD), and co-organized by USAID LEAF, SilvaCarbon and the German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. This event provided a regional forum for projects and governments to share experiences on piloting

participatory forest monitoring approaches.

In Thailand, USAID LEAF worked closely with Chiang Mai University's Forestry Research and Restoration Unit (FORRU). FORRU provided a series of trainings over several years on forest restoration and monitoring, complementing USAID LEAF's reforestation efforts in the Mae Sa-Kog Ma Man and Biosphere Reserve in Chiang Mai. FORRU's work extended to other villages that were involved with the award-winning PES scheme developed with Tipco Foods PCL/Aura, by providing training on improved nursery techniques and planting.

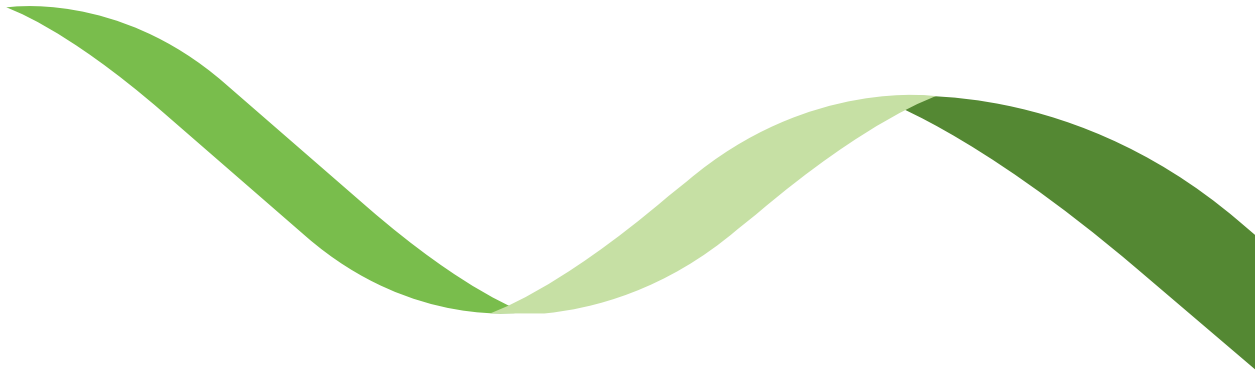
Application of Science and Technology

USAID LEAF was proactive in working with its partners to use free, readily available software, datasets and other technology widely used for technical aspects of climate change mitigation and adaptation programming. Program staff developed expertise in these technologies and delivered training to others.

A series of training events was developed using Google Earth Engine (GEE) imagery and CLASlite software to detect historical forest degradation rates and patterns. Participants gained understanding, knowledge and access to GEE's image database and learned how to use basic scripts to assemble and prepare cloud-free image mosaics that can be used in time series change detection analysis to address forest change. Using the CLASlite software, a free, publicly available resource, to provide estimates of historical deforestation and degradation rates, trends and patterns, makes the entire package of tools invaluable for beneficiaries going forward.

To enhance the capacity of target beneficiaries in Madang province, USAID LEAF worked with the PNGFA and FAO/UN-REDD to deliver Collect Earth workshops in Papua New Guinea. The workshops improved the ability of Madang stakeholders to interpret historical forest and land use change using the Collect Earth software. Participants examined over 700 virtual sample plots, systematically laid out across Madang province, and examined forest and land use change since 1999 using GEE Landsat imagery for validation. Because the technology used for this work is freely available, those institutions trained in use and interpretation of the data can continue to use it to improve land use planning.

Together with USAID MTV Exit and the Asian Disaster Preparedness Center (ADPC), USAID LEAF supported USAID's first-ever mobile technology application design contest, Students with Solutions 2012. The contest provided an outlet for Thailand's talented university students to apply their creativity and compassion to developing innovative, mobile technology solutions to development challenges. USAID LEAF staff provided mentoring support to several student teams including Team VANA, consisting of four computer engineering students from KMUTT who won the contest's popular vote for its deforestation app called "A-Eye." The app was designed to capture details of illegal logging and report information to park officials while also providing helpful information to tourists. Team VANA also won Thailand's National Software Competition in February 2013, and in March 2013 continued to the finals of the Microsoft Imagine Cup Thailand, where they were the winner of the World Citizenship category.



Improving Livelihoods

USAID LEAF work in Attapeu and Houaphan provinces in Laos contained elements of support for livelihoods, recognizing that the economic well-being of remote villages in these areas, heavily dependent upon livestock and coffee production, was directly linked to the health of the surrounding forest environment. Villagers in Houaphan province gained new skills in veterinary care and animal husbandry through a Village Veterinary Worker (VWW) training program. The decision to focus on livestock came out of an assessment by USAID LEAF in conjunction with the Provincial Agriculture and Forestry Office (PAFO). Livestock are valuable to these poor villages and represent an investment requiring several

years' return and are a form of savings. They are also used as labor in the fields in the absence of tractors or other automated machinery and losing an animal to disease has significant economic impact on livelihoods. Improving the ability of villagers provides them with greater livelihoods, earning money through the sale of livestock and providing food for their families. Because they live in or near protected forest areas, the efforts of USAID LEAF directly helped to reduce forest degradation and deforestation by reducing the amount of resources villagers typically extract from the forest.





Biomass Trainings Improve Management of Papua New Guinea Forests

USAID LEAF conducted the first ever forest biomass measurement training in Papua New Guinea in Urumarave, where residents were taught to measure trees to determine the amount of carbon sequestered in the forests. Estimating the carbon stored is essential to understanding how much CO₂ will be released into the atmosphere when the forest is disturbed or destroyed through fire, logging or clearing for agriculture. Urumarave and the nearby village of Wagedave hosted the USAID LEAF training after an extensive consultation process focused on community needs and sustainable development. The two villages welcomed more than 30 participants from government agencies, universities and NGOs for the training.

Less than six months after the training, rather than idly watching their forests being destroyed, villagers have new knowledge and are managing the forest's rebirth. With USAID LEAF support, they have begun planting trees to repopulate the forest, which in turn stabilizes the landscape and prevents flooding and erosion during heavy rains. They are using improved agricultural practices and monitoring to prevent excessive harvesting of non-timber forest products. The training also benefited young villagers, the next generation of stewards of these lands, with skills they can pass on to others in the area. The inhabitants of Urumarave and Wagedave were a valuable local resource for Papua New Guinea's first ever National Forest Inventory conducted by the

PNG Forest Authority using the standard operating procedures for determining biomass developed by USAID LEAF.

The training uses a 'Ridges-to-Reef' approach to managing Madang's natural resources, which considers the connectivity between management in the mountains and on the coasts, across all forest types. It is built on 10 years of conservation efforts in Adelbert communities by USAID LEAF partner The Nature Conservancy. USAID LEAF also completed biomass trainings in Laos, Malaysia, Thailand and Vietnam, furthering its regional approach to capacity building for key stakeholders who manage forests and natural resources.

“ The forest is our life! In the past, trees and wildlife were disappearing because of over hunting, poor planting and harvesting habits and excessive logging. Now, new species are growing and wildlife is coming back. Seeing these changes has lifted the spirits of the entire village.”

- Kelly Basesbas, Chief, Urumarave Village

Key Outcomes

Significant results were achieved when measured by the number of person-hours of training delivered and the number of individuals who participated in training and capacity building activities. Beyond these outputs, there are notable outcomes—examples of how individuals and institutions took knowledge, tools and expertise gained through USAID LEAF activities and put them to practical use in their countries, resulting in greater achievements than simply increased capacity. These achievements demonstrate the cross-cutting nature of USAID LEAF capacity building efforts, as they resulted in outcomes related to other program components, including strengthened regional partnerships and platforms, policy development and the development of low emission land use strategies. Examples include practitioners in Lam Dong province developing their own reference level as part of the PRAP based on USAID LEAF reference level and biomass assessment trainings; Laos' adoption of USAID LEAF standard operating procedures for terrestrial carbon assessment for their national forest inventory protocol; Dalat University's adoption of the USAID LEAF climate change curriculum, mandatory for all incoming students, as well as the development of a new graduate program at the National University of Laos; the Cambodian Ministry of Women's Affairs being tasked with integrating gender into a new National REDD+ Strategy; and the development of a gender mainstreaming strategy for the Lao Department of Forestry, led by a USAID LEAF gender champion from Laos.

Challenges and Lessons Learned

Delivering technical capacity building on the scale achieved by USAID LEAF was not without its challenges. To the extent possible, the program continually adapted and tailored content, means of delivery and partners to ensure maximum impact. One critical lesson from USAID LEAF is that regional capacity building approaches need to be targeted for unique country contexts. This was clear in USAID LEAF's gender work, where despite

having common gender equality issues, countries have different needs. One-off regional capacity events without national on-site support pose a challenge to building meaningful capacity.

One revelation from training events was participants' preference for on-site technical demonstrations and practical exercises over in-class explanation of theoretical concepts and awareness raising activities. In technical training activities such as carbon monitoring and measurement and estimating historical emissions, participants were more active when given the opportunity to establish sample plots or use specific tools to measure tree heights and dimensions, or estimate GPS locations. USAID LEAF made efforts to focus on activities that generated enthusiasm among participants and developed training to strike a balance between necessary classroom and theoretical knowledge and field-based activities to build on and enhance existing capacities.

To the greatest extent possible, USAID LEAF utilized the expertise of a core group of individuals to develop training materials, and built in a training-of-trainers approach to its capacity building efforts. This was most evident in the climate change curriculum and gender leadership initiative. In developing the climate change curriculum, a core group of 70 professors from across the region worked with USAID LEAF to create four modules. For three years, that initial group of professors became master trainers, eventually teaching the materials and instructing others on how to deliver it to students and a growing cadre of professors, resulting in more than 700 professors from more than 60 universities having been trained and now part of a network of professionals skilled in this curriculum.

4. GENDER INTEGRATION AND LEADERSHIP

Gender equality was not an explicit program component when USAID LEAF began, but together with USAID, the program recognized early on the need to better address gender equality in climate change and REDD+ programs throughout the region. Additional financial support from USAID allowed the program to engage a gender specialist and develop activities to directly support the development of equitable policies and strategies to empower women and advance gender equality in climate change programming.

Main Activities

The 2012 USAID RDMA regional gender assessment² identified three main barriers to achieving gender equality in climate change programming in the Asia-Pacific region. First, gender equality and women's inclusion was not identified as an important issue in early climate change initiatives and dialogues in the Asia-Pacific. Second, climate change policymaking and capacity building processes in land use sectors had limited participation from women, which restricted women's access to climate decisions and benefits. Third, there was no consolidated network of individuals working in gender and climate change. USAID LEAF developed three activities to address these findings: Gender-Integrated Programming within USAID LEAF activities; a Joint Initiative for Women's Inclusion in REDD+; and the Asia-Pacific Leadership Initiative on Gender and Climate Change.

By The Numbers



Gender-Integrated Programming within USAID LEAF Activities

USAID LEAF gender-integrated programming ensured that gender issues were systematically addressed, embedding gender equality as a cross-cutting issue. A Gender Mainstreaming Strategy and Checklist was developed as an implementation tool that situated gender inequality both as a core climate change mitigation issue and a human rights issue. It identified several entry points for gender integration into thematic areas of interventions, including climate policies, capacity building and national level pilots. USAID LEAF staff were actively engaged with gender awareness communication, trainings and one-on-one communication, and gender focal points were identified in each program office to coordinate on gender issues within USAID LEAF. These efforts were complemented through leadership support, a revised monitoring and evaluation (M&E) system to incorporate gender inputs, and periodic measures to sensitize USAID LEAF staff on gender equality. While a workplan was crafted to integrate gender issues, a shortage of funds was evident given that there was no budget to implement gender activities. During this process, periodic dialogue and engagement with gender advocates within USAID and USAID LEAF enhanced leverage for networking, resources and direction. As a result, USAID provided additional funding to implement strategic and targeted activities to promote gender equality in USAID LEAF work.

Joint Initiative for Women's Inclusion in REDD+

Efforts to include gender-integrated programming were complemented by effective engagement with regional and national stakeholders to spark the gender equality debate in climate change and REDD+. This required collaboration with organizations such as Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN) and UN-REDD that have complementary expertise and converging influence to consolidate gender integration in climate change and REDD+ in the Asia-Pacific. With the Joint Initiative for Women's Inclusion in REDD+, USAID LEAF entered into a strategic partnership with UNREDD and WOCAN in 2012 to identify the practical entry points for women's inclusion in REDD+. The joint initiative included regional dialogues that sparked gender debate, gathered best practices through regional scoping studies, validated the efficacy of those best practices in the national context (Philippines, Sri Lanka and Cambodia), and disseminated knowledge for further replication and sharing³.

Additionally, USAID LEAF took steps to build regional and national capacity to promote gender considerations and women's empowerment activities into climate change and REDD+ activities by mobilizing government partners, civil society and women's groups in the Asia-Pacific. USAID LEAF tracked early policy developments in the region and provided policy reviews, contributed to policy forums and provided knowledge materials on gender and climate change.

Asia-Pacific Leadership Initiative on Gender and Climate Change

Creating transformative change in the key institutions focused on REDD+ in the region required supporting individuals within these organizations who could leverage, negotiate and lead. USAID LEAF designed the Asia-Pacific Leadership Initiative on Gender and Climate Change to strengthen the capacity of these individuals to better understand gender issues, gain analytical skills to

identify strategic entry points to integrate gender into their organizations, and build negotiation and networking skills to promote systemic change. The network of individuals that participated in the program became known as the USAID LEAF gender champions.

USAID LEAF led a series of workshops over a two-year period to strengthen 24 gender champions from six countries. The initiative supported these champions in a consistent manner, and as an alternative to one-off training events that often struggle to achieve lasting impact. As these champions gained skills and confidence, they took on specific challenges in their own institutions. In Laos, two gender champions led a collaborative effort of decision makers, managers and staff from the Department of Forestry, the Commission for Advancement of Women and the Lao Women's Union to develop a gender mainstreaming strategy and action plan for the Department of Forestry. The action plan enhanced the institutional environment of the department to improve program outcomes.

A similar champion-led workshop was held in Cambodia, where gender champions facilitated discussions with staff from the Cambodian Ministry of Women's Affairs, Forestry Administration and Ministry of Environment. Participants identified gender issues in climate change and forestry, conducted gender analysis in key forestry activities and applied gender integration into their planning.

The technical competency, leadership and negotiation skills of gender champions were strengthened, allowing them to better advocate and implement gender equality in their work. They continually assessed and led efforts to address their organizations' gender needs, trained government staff, led gender task groups, developed gender action plans and ensured that new strategies were gender-responsive. These champions are leading efforts inside their organizations and in the region to maximize impacts and promote sustainability.

Asia-Pacific Leadership Initiative on Gender and Climate Change

Selected activities and outputs



2013

2014

Leadership

20 gender champions identified and their leadership needs assessed

Champions exposed to gender issues and best practices of integration in climate change

Champions' workplans developed after gender analysis of their work

Capacity Building Strategy Developed



Key Outcomes

Through strategic engagement and knowledge sharing, USAID LEAF successfully positioned gender equality as an integral component of climate change and REDD+ in the region. USAID LEAF conducted research, identified best practices and developed educational materials, including training tools, videos, posters and infographics for a broad audience. These materials enhanced the resources of regional platforms and helped partners incorporate gender into their programming.

USAID LEAF supported regional platforms like MFF and the REDD Desk with technical inputs and resource materials on gender and climate change and strategic guidance for gender integration. With USAID LEAF assistance, MFF conducted a Rapid Gender Survey, designed and launched a gender strategy, and monitored and evaluated its progress. This resulted in more resources and tools on gender

and climate change and REDD+ and concurrently strengthened the capacity of MFF as a regional platform.

Due to USAID LEAF's early attention and timely inputs to several policies, gender inputs have been incorporated into components of REDD+ assessments, policies, programming and proposals throughout the region. Additionally, a regional network of gender champions is now actively working to influence political decision-making in six countries.

USAID LEAF, UN-REDD and the Lam Dong Department of Agriculture and Rural Development (DARD) conducted a gender assessment of the Lam Dong PRAP, resulting in recommendations to strengthen gender responsiveness. The adopted version of the Lam Dong PRAP incorporated

2015
January

Strategic Planning for Safeguards in Climate Change

2015
May

Training-of-Trainers on Gender-integration in Climate Change

2015
November

Learning Workshop: Evaluation & Lessons Learned

2015

2016

Demonstration Activities in Laos, Cambodia and Vietnam

Champions' workplans strengthened with planning and negotiation skills

Training materials on gender and climate change developed and practiced

Champions document and share best practices and lessons learned



gender elements across key areas including financial management, implementation arrangements, monitoring and evaluation, and the role of ethnic minorities. Two USAID LEAF gender champions supported the process through internal team building and in-house capacity building within the Lam Dong DARD.

From November 2013 to November 2015, the Asia-Pacific Leadership Initiative on Gender and Climate Change strengthened 24 gender champions from Vietnam, Thailand, Cambodia, Laos, Malaysia and Papua New Guinea. The Leadership Initiative provided champions a space to reflect, share and build a common understanding of gender issues in climate change. The gender champions increased technical knowledge and skills, resulting in more confident, visible leaders, and networked with each other to address gender issues in climate change.

They took on important roles, influencing attitudes and behaviors to build support among staff and management for gender equality, leveraging resources from their organizations to initiate, support and scale-up the practices they learned. The impact of the Leadership Initiative is wide ranging and impressive, with over 365,000 people in six countries having benefited from the champions' increased commitment and networking leading to increased awareness of gender issues in climate change; nine institutions with strengthened gender equality practices in their organizations; contributions by gender champions to 16 policy measures that include gender inputs to promote and safeguard gender equality; and an established regional network of gender champions across the Asia-Pacific for knowledge exchange and replication.



Integrating Women into Climate Change Programs

Chinneth Cheng never heard of “gender equality” until she was recruited to join the Cambodia Ministry of Women’s Affairs (MoWA) in 2007, where her education in Law and Development Cooperation led her superiors to give her a leadership position on gender and climate change and she was tasked with mapping MoWA’s engagement with other ministries, NGOs and development programs on the topic.

Chinneth admits it’s a challenge to address gender equality issues in climate change in Cambodia. Her professional duties and growing personal interest in this area led her to participate in USAID LEAF’s Asia-Pacific Leadership Initiative on Gender and Climate Change. The Initiative trained government staff to identify gender gaps in climate change policy, equipped them with tools and developed skills to advocate for gender integration in climate change and REDD+ policies. “Through USAID LEAF I improved my leadership and negotiation skills and am better equipped to promote gender integration in other ministries,” says Chinneth.

Cambodia’s ministries charged with climate change mitigation are now actively reaching out to MoWA on gender and climate. As a leader of the MoWA team addressing gender integration in government climate change and REDD+ policies, Chinneth says that working with the Forestry Administration is crucial. “The gender champions training gave me the opportunity to connect directly with them, and

I have found there are many areas in which we can collaborate. Many ministries charged with climate change policies are now actively engaging MoWA for guidance,” she says.

A November 2013 workshop in Thailand recommended solutions for better gender integration into REDD+ and climate change activities. As a result, comprehensive capacity building and mentoring mechanisms were developed to enhance champions’ competencies in strategic planning for gender integrated programming. Using these skills, champions like Chinneth are poised for success in integrating gender issues into climate change policies and plans.

“ I am no longer alone among my colleagues and friends in believing women have as great a role to play as men in addressing climate change. Knowledge and skills I have gained from USAID programs has inspired me to keep advocating for greater gender integration in the climate change work of my country.”

- Chinneth Cheng

Challenges

Stakeholders initially viewed gender equality largely as a human rights issue. This made negotiating for greater gender integration into climate change activities a challenge. The perception of gender equality as a human rights issue is often interpreted as standalone activities for women only, and not blended with program activities and M&E. Considerable time and negotiation must be invested to establish gender equality as a technical issue in climate change.

Lessons Learned

While it is important to strengthen individuals' skills and competencies, programming must also address the organizational context. The USAID LEAF experience shows that having staff dedicated to gender work is important for timely inputs, strategic guidance and to provide leadership support to influence programming. Having dedicated resources for gender integration work gives programs credibility with partners and stakeholders to initiate serious dialogue on gender equality.

Strategic capacity building that strengthens commitment through participatory approaches to climate change initiatives is critical to sustaining policy and capacity changes in climate change and REDD+. Capacity building programs need to envision an explicit strategy of change by designing a series of events rather than singular trainings.

While it is important to strengthen gender champions' skills and competencies, programming must also address the individuals' organizational context. USAID LEAF observed that many organizations support gender equality as part of their mandate but fail to address internal practices that inadvertently undermine the promotion of gender equality. This imbalance should be addressed by supporting both individuals as well as the organizations in which they work.



USAID LEAF's gender champions are a chorus for gender equality and women's leadership across Asia and the Pacific. Their leadership has led to system-level changes in their own countries and regionally."



*– Patty Alleman
Sr. Regional Gender Advisor
USAID RDMA*

USAID LEAF's 24 gender champions are an excellent resource for further expansion and leveraging on gender equality issues in the region. Strategically placed, they can be tapped to advance national level strategies and institutional responsiveness on gender and climate change.

5. CLIMATE CHANGE CURRICULUM DEVELOPMENT

To train future climate change professionals, USAID LEAF designed and launched a comprehensive regional climate change curriculum, a first of its kind in Southeast Asia. The curriculum was developed with leading academics from 14 universities in six Asian countries and three U.S. universities and experts from the USFS.

Curriculum Development Process

USAID LEAF deployed a highly participatory curriculum development process, reflecting the experiential learning cycle, with steps built in for intensive workshops where developers tested materials, reflected on the process and products, and refined content. This approach promoted ownership from the partner universities and professors.

The process started in October 2012 with a training needs assessment and collaborative prioritization of technical topics, followed by the development of four modules: Basic Climate Change, Social & Environmental Soundness, Low Emission Land Use Planning, and Carbon Measurement & Monitoring.

In August 2013, more than 60 professors from 12 universities in six countries joined their U.S.-based counterparts to develop, test and revise the curriculum materials. After the training, professors returned to their respective countries and conducted test teaching in their classrooms. Feedback and comments were shared among the entire team and used to improve the materials.

In January 2014, nearly 30 professors and climate change experts met at a regional training-of-trainers on two modules. At this event, members of two module teams conducted meta-presentations of

By The Numbers

 **4** curriculum modules developed

 **60** universities introduced to curriculum

 **700** professors trained

 **30,000** undergraduates receiving instruction each year

 **730** graduate students receiving instruction each year

curriculum materials and refined them based on feedback. In May 2014, USAID LEAF organized the second regional training-of-trainers on the two remaining modules. To ensure broader dissemination and use of the curriculum in the future, this training brought in participants from USFS, USAID VFD, USAID LEAD, PACT Mekong Partnership for the Environment, the Stockholm Environment Institute, and IUCN Mangroves for the Future.

The reception the curriculum received was greater than expected, with increased demand for further training. In response, the program brought together more than 100 professors, university leaders and climate change experts in August 2014 for an intensive training-of-trainers in Kuala Lumpur, Malaysia. To enhance the learning and replication process, core team members delivered teaching demos to their peers, and the teams received feedback on both content and delivery methods, which facilitated further refinement of the materials.

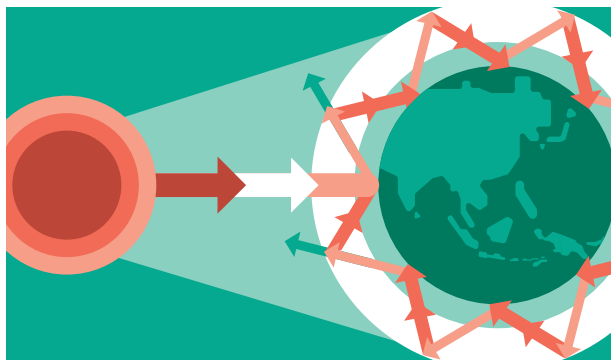


With all four modules complete, several participating professors took on the role of master trainers to lead curriculum rollout events in Thailand, Vietnam, Cambodia and Laos. The Thailand rollout in December 2014 was led by a team of interdisciplinary master trainers from Kasetsart, Chiang Mai and Phayao universities, who introduced the curriculum to a network of 16 universities in Thailand. In Vietnam, Vietnam Forestry University, Dalat University and Vinh University, with support from USAID VFD, took the lead in advancing climate change education in the country by organizing interactive seminars in five locations. In Cambodia and Laos, the curriculum rollout took place in multiple seminars led by master trainers with participation from the U.S. Embassy Vientiane and U.S. Embassy Phnom Penh.

After nearly two years employing the curriculum in specific country contexts, more than 70 professors from 14 universities joined climate change experts from several donor-funded low emissions programs in August 2015 to share successes and lessons learned in teaching the curriculum and to develop plans to advance climate change education regionally and in their respective countries.

Curriculum Modules

The climate change curriculum consists of four modules. These modules are comprehensive and ready to use, with clear guidance on how to incorporate the materials, including PowerPoint presentations, lecture notes, role plays, case studies, handouts and class exercises. The modules are an excellent source of teaching materials for university professors, lecturers and climate change training experts and are freely available for download.

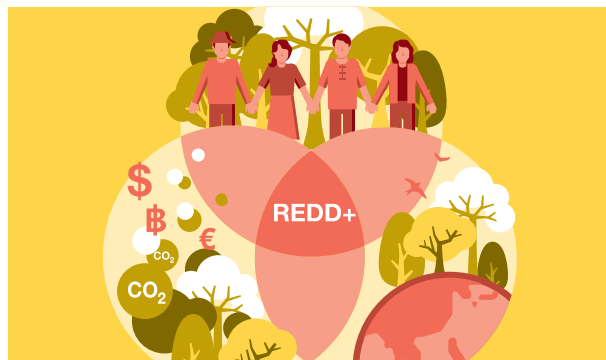


Module 1 *Basic Climate Change*

Basic Climate Change (BCC) explores a broad range of climate change topics, including causes and effects, mitigation and adaptation, application of tools and technology and effective communication.

Understanding climate change has relevance for students across many disciplines because it includes learning topics related to the physical sciences, biological sciences, environmental science, social science, agriculture, forestry, health and medicine, communications, and public service.

The BCC module includes a syllabus, 19 PowerPoint presentations and a database of references, tools, videos and glossary.



Module 2 *Social & Environmental Soundness*

Social & Environmental Soundness (SES) provides a rich source of teaching materials related to social and environmental issues and extends beyond the core topics of climate change mitigation and adaptation. This module addresses gender integration and the varied social impacts of climate change project implementation, including REDD+ and PES.

This module is divided into three parts, each including multiple sections. Sections and sub-sections are accompanied by teaching materials, including an overall structure for class delivery, section-specific learning objectives, suggested active-learning activities, and a short topical list of references.

The SES module includes a syllabus, 24 PowerPoint presentations, case studies, reading cards, handouts and references.



Module 3

Low Emission Land Use Planning

Low Emission Land Use Planning (LELUP) explores five critical steps to help land use planners and policy makers balance social, economic and environmental needs. A unique feature of this module are role plays to provide learners with a realistic context in which they must define an environmentally sustainable, socially just and economically sound land use plan.

The LELUP module consists of a syllabus, 22 PowerPoint presentations, lecture notes, LELUP guidance, case studies, a facilitator's guide for LELUP role plays and a LELUP role play video tutorial.



Module 4

Carbon Measurement & Monitoring

Carbon Measurement and Monitoring (CMM) prepares practitioners to contribute to national carbon inventories by integrating field measurements, remote sensing data and models, as signatory countries to the UNFCCC must comply with requests for transparent, reliable and accurate inventories of carbon emissions and stocks. In each USAID LEAF landscape these materials were applied in technical trainings, including those for biomass, reference levels, stratification, GIS and mapping.

The CMM module includes a syllabus, 21 PowerPoint presentations and a manual of standard operating procedures (SOP) for terrestrial carbon measurement, including carbon calculation tools.

Training Needs Assessment

- Conducted with universities and partners
- Relevant topics prioritized to develop climate change curriculum
- Four module teams formed
- Module outlines developed

Refining Curriculum

- Active learning exercises created
- Training scenarios designed
- Lesson plans, lecture notes, key messages developed
- Teaching demo conducted
- Feedback provided for module improvement
- Curriculum materials refined

Curriculum Rollout in Vietnam

- Strong leadership by Vietnam Forestry University, Dalat University and Vinh University
- An interdisciplinary team of professors established to advance climate change education
- Curriculum initiative supported by USAID Vietnam Forests & Deltas
- Interactive seminars organized in five locations: Hanoi, Dalat, Vinh, Thanh Hoa and Long An

Oct 2012
Bangkok

Aug 2013
Bangkok

Jan &
May 2014
Bangkok

Aug 2014
Kuala Lumpur

Jun, Aug &
Dec 2014
Vietnam

Dec 2014
Bangkok

Materials Development and Curriculum Testing

- Module teams expanded
- Learning objectives defined
- Necessary knowledge, skills and attitudes identified
- Four packages of module materials developed
- Test training on four modules conducted

Training-of-Trainers for the Asia-Pacific

- Intensive Training-of-Trainers for the Asia-Pacific conducted
- Four parallel interactive trainings delivered
- Innovative ideas exchanged across four modules
- Series of active learning activities applied

Curriculum Rollout in Thailand

- Curriculum initiative led by three universities: Kasetsart, Chiang Mai and Phayao
- Competent team of interdisciplinary master trainers established
- Interactive seminar delivered for a network of 16 universities
- Additional support by USAID LEAD and RECOFTC

Key Outcomes

From a core group of 12 professors, the USAID LEAF climate change curriculum grew over three years to encompass a network of more than 700 instructors from 63 universities. Every year over 30,000 students across the Asia-Pacific receive instruction with materials from the USAID LEAF climate change modules.

The core curriculum has been adapted to local and national contexts and the participating professors have been using these materials to train the next generation of leaders in the fight against climate change. These numbers go beyond initial expectations because professors continue to train many more educators in different universities and schools as well as governmental officials across the region. Owing to its flexibility, the curriculum has been adapted by USAID VFD to train government

officials and field technicians on climate change topics in Vietnam.

Due to their engagement in the USAID LEAF curriculum process, participating professors have gained confidence in teaching climate change topics and applying diverse tools and techniques to improve climate change education. These professors have not only mastered the subject matter, but have also applied interactive teaching methods to engage students in the learning process with dynamic class activities and field work.

Curriculum Rollout in Cambodia

- Curriculum initiative led by the Royal University of Phnom Penh and the Royal University of Agriculture
- Committed team of master trainers created to advance climate change education
- Support provided by the U.S. Embassy Phnom Penh
- Interactive seminar delivered to 8 universities

Curriculum Rollout in Laos

- Strong leadership by the National University of Laos
- Solid team of master trainers created to advance climate change education
- Support provided by the U.S. Embassy Vientiane
- Interactive seminar delivered for a network of 6 universities

Success Stories in Climate Change Education in the Asia-Pacific

- Success stories in advancing climate change in the Asia-Pacific
- Success stories and lessons learned documented and shared
- Key messages sent to university leaders and development actors
- Planning ways forward

Jan 2015
Phnom Penh

Feb 2015
Bangkok

Apr 2015
Vientiane

May 2015
Bangkok

Aug 2015
Bangkok

Sept 2015 onward

Regional Training on LELUP Role Plays

- A series of dynamic trainings on LELUP role plays conducted
- Realistic set of common circumstances and challenges in a complex context of land use planning created and tested
- Strategies on how to teach LELUP role plays designed

Advanced Training on Climate Change Curriculum in Thailand

- Intensive Training-of-Trainers for the Asia-Pacific conducted
- Four parallel interactive trainings delivered
- Innovative ideas exchanged across four modules
- Series of active learning activities applied

Next Steps

- E-learning platform developed
- Curriculum materials including presentations, lecture notes and references published online at:
 - leafasia.org/curriculum
 - courses.recoftc.org
- Curriculum promoted at USAID climatelinks.org website

Challenges

Most collaborating universities faced a lengthy approval process to implement a newly-developed curriculum. In Laos, a new master's degree program based on the curriculum has been submitted to the Ministry of Education, but remains under review. In Vietnam, institutional change is difficult and requires high level approvals that often delay adoption of a new curriculum. Aware of this challenge, the team designed the curriculum materials to be easily integrated into existing courses, without necessarily needing the same approvals.

Many universities cited limited financial and human resources for new curriculum development and lack of learning opportunities for new, younger teaching staff. Frequently, professors have obligations beyond instruction and thus limited time for research and development of teaching materials. To mitigate these

challenges, USAID LEAF designed the materials to be downloaded and accessible at no cost by users. A further challenge arises in that educators who download the materials will not have the advantage of training or support on delivery, especially in cases where these topics are new for them and students alike.

The professors who collaborated with USAID LEAF have been champions of the process and have created awareness among a large group of potential users. To ensure the materials are maintained and updated, USAID LEAF engaged RECOFTC to incorporate the curriculum materials in an e-learning platform. Other programs, such as USAID VFD, continue to promote the curriculum and are translating it into Vietnamese, greatly increasing the pool of potential users.



Innovative Climate Change Curriculum Impacts Students and Professors Alike

Somvilay Chanthalounnavong used to be nervous standing in front of her land use planning class at the National University of Laos. A sense of frustration filled Freddie Alei, a lecturer in the School of Natural and Physical Sciences at the University of Papua New Guinea. Both believed the material for their classes was ineffective, outdated and boring for students.

Somvilay and Freddie have noticed big changes in both themselves and their students thanks to their engagement in the USAID LEAF climate change curriculum development process. USAID LEAF, the U.S. Forest Service, and nearly 120 professors from six countries across Asia-Pacific engaged in a collaborative process of developing a new climate change curriculum. The network of professors developed four curriculum modules comprised of presentations with associated lecturer notes, all complemented by case studies, role plays and teaching guides.

Somvilay says she is now much more confident standing in front of her students, using the USAID LEAF curriculum she helped to develop. Freddie says his class at the University of Papua New Guinea used to have just over 100 students, but the number has grown since he implemented the USAID LEAF

climate change curriculum. Because the materials and references are up to date and reflect actual issues in PNG, Freddie's students are more engaged. Somvilay and Freddie say they are more confident, are better instructors and their students are getting a better education. With the help of USAID LEAF and its partners, more than 30,000 students a year are receiving instruction using the climate change curriculum, and are poised to become a new cadre of professionals able to address the challenges of climate change throughout the Asia-Pacific.

“ It’s easier for me to prepare lessons because the material is ready to use. There are examples, case studies and guides for the instructor about...how to use the material, including role plays, Q&A and quizzes.”

*- Mrs. Somvilay Chanthalounnavong
Lecturer, National University of Laos*

Lessons Learned

When introducing an activity to program partners, it is best to engage them with a series of sequential activities. Participants see the ongoing application and future value of what they are learning and do not see it as an isolated event or skill that may not connect directly to their work.

The capacity building component should take into account the application of the cascade training approach, where a core group of master-trainers who have been instructed in the materials then train others. USAID LEAF trained key professors on the curriculum and they in turn trained their peers.

Curriculum Sustainability

To ensure the curriculum is widely shared, USAID LEAF collaborated with RECOFTC on an e-learning platform, where all materials are available for download (<http://courses.recoftc.org/>). Plans are underway to develop interactive and facilitated online learning, so that the network expands and educators and climate change experts can benefit from the experiential learning cycle.

The curriculum materials are also featured on USAID's ClimateLinks website (<https://www.climatelinks.org/training>), a global knowledge portal for USAID staff, implementing partners and the broader community working in climate change and international development.



You would be surprised at how engaged social science students are. If you show scientific evidence for climate change, students really get it. They get excited when I talk about ice cores and tree rings. They see the evidence and are more engaged.”



*– Dr. Pimonrat Tiansawat
Professor of Biology
Chiang Mai University*



6. LOW EMISSION DEVELOPMENT STRATEGIES

USAID LEAF worked on the ground with targeted communities, government counterparts, development partners and land management agencies to pilot and demonstrate lasting and impactful low emission development strategies. Targets for the program in these demonstration activities included one million hectares of forested land under improved management; one thousand households with improved well-being, i.e., improved governance, security and opportunities; and eight million tons of CO₂ emissions avoided through improved forest and land management.

The challenge of achieving these targets and demonstrating climate change mitigation models in the forestry-land use sector was ensuring impact longevity through host government endorsement; accountability through increased knowledge and capacity of partners; equity through gender leadership; and accuracy through research, data and information generation.

USAID LEAF and USFS collaboratively developed a framework in 2012 to track change, measure progress and provide guidance on the necessary elements of a successful low emission development strategy. This section provides a progress summary against those elements for each of the program's four core landscapes. In addition to describing key activities, partnerships and lessons learned, progress in each landscape is graphically represented at three points in time using the illustration on the facing page.

By The Numbers

 **8,020,262**
tons of CO₂ equivalent GHG emissions
reduced or sequestered

 **\$4,128,788**
leveraged from private & public
sources for climate change activities

 **1,075,622**
hectares under improved natural
resource management

 **1,075,622**
households with improved well-being

- Completed
- Nearly completed, approval required
- Progress midpoint
- Started, buy-in/support needed
- Not started or not required



1. Understanding the Enabling Environment

- 1.1 Context assessment
- 1.2 Stakeholder engagement, roles and responsibilities
- 1.3 Development of goals and objectives

2. Assessment of Historic and Current Conditions

- 2.1 Environment, social and economic data needs
- 2.2 Understanding historical land use change and current condition
- 2.3 Data and capacity gap assessment

3. Analysis of Future Options

- 3.1 Modeling future trends
- 3.2 Business as Usual construction
- 3.3 Scenario assessment

4. Negotiate and Prioritize Implementation Plan

- 4.1 Negotiate options
- 4.2 Prioritize and sequence implementation activities
- 4.3 Implementation needs

5. Monitor, Evaluation and Adaptive Management

- 5.1 Define M&E framework
- 5.2 Monitor, measure and evaluate progress
- 5.3 Adaptive management

Site Selection

USAID LEAF conducted a site selection process in 2011 to identify key landscapes for program implementation. While this process followed a science-based analysis including criteria such as carbon stocks and deforestation rates, government approval processes were a guiding factor in final site selection in several cases. In Laos and Vietnam, program approval processes involved detailed discussions with host government partners to ensure their strategic focus landscapes were prioritized.

In Thailand, the Department of National Parks, Wildlife and Plant Conservation (DNP) directed USAID LEAF to work in the four Man and Biosphere Reserves (MAB), focusing initially on Mae Sa-Kog Ma MAB in Chiang Mai province. A field presence was not permitted in Cambodia due to USAID internal coordination issues.

The initial list of selected landscapes for USAID LEAF included:

- **Laos:** Houaphan Province (Viengxay and Xam Tai Districts), Attapeu Province (Sanamxay District)
- **Malaysia:** Pahang State, Selangor Peat Forest (Selangor State), Sabah State
- **Papua New Guinea:** Madang Province (Almami Local Level Government, Bogia District)
- **Thailand:** Mae Sa-Kog Ma Man and Biosphere Reserve, Chiang Mai province, three other Man and Biosphere Reserves
- **Vietnam:** Lam Dong Province (Cat Tien and Bao Lam Districts), Nghe An Province (Con Cuong District)

A number of important decision points guided the selection process and subsequent focus of resources over the five years of implementation.

Decision Point #1

Voluntary Carbon Markets or National Regulated Systems?

USAID LEAF explored several opportunities to support voluntary carbon markets (VCM) programs as a way to provide value to initiatives already underway that could potentially provide quick results at scale. However, analysis of the Da Nhim watershed VCM program in Vietnam, initially scoped under the earlier USAID Asia Regional Biodiversity Conservation Program (ARBCP), revealed a complex unplanned deforestation project with little government buy-in, poor integration with the government regulatory frameworks and relatively poor financial returns. Similar conclusions were reached when examining the potential of a VCM program in the Adelbert Range in Madang, Papua New Guinea with The Nature Conservancy, so the program decided to focus on initiatives with greater local government buy-in and integration with government planning processes. In Vietnam, this became the Provincial REDD+ Action Plan in Lam Dong province and the Low Emission Land Use Plan in Madang province in Papua New Guinea.

The exception to this trend was the Selangor Peat Forest project, overseen by the GEC, which showed potential due to the large avoided emission reduction potential and local government support. USAID LEAF provided technical inputs into this project.

Decision Point #2

Scale and Impact

The initial focus of USAID LEAF was to support district-level, land-based low emission strategies. Early progress, particularly in Laos and Vietnam, was made describing historical drivers and rates of forest and land use change. But district level limitations in capacity, authority over land use decisions, scaling up, and three layered 'nesting' challenges (e.g., district, provincial, government) ensured that USAID LEAF and host governments precipitated a move from district to province-level efforts.

Decision Point #3

Technical Focus and Capacity Value-Add

Technically, USAID LEAF consistently focused on sub-national efforts to define and quantify historical forest and land use change and the actors involved; establish reference levels as the critical building block in any REDD+ mechanism; and build capacity on forest biomass and carbon stock assessments to derive emission factors and remote sensing and GIS applications to calculate activity data.

These three technical areas were identified as foundational areas that other development partners were ignoring. Sophisticated, complex and resource intensive monitoring, reporting and verification (MRV) systems were being developed and increasingly complex national safeguard and benefit distribution systems were proposed by other donors. USAID LEAF believed robust reference levels and a thorough understanding of land use dynamics were a necessary foundation that the program could support.

Decision Point #4

Partnerships or Independence

Relatively small investments were realized in each of USAID LEAF's landscapes, while ambition and complexity remained large. USAID LEAF therefore consciously partnered with organizations and development partners with similar mandates to increase impact and scale. This was particularly important given the complexity of land management issues faced in each landscape as neither USAID LEAF, nor any other individual organization or program, had the knowledge or resources to overcome these challenges. Partnership development was balanced with a necessity to remain independent to fulfill gaps the program identified.

Decision Point #5

Focus and Concentrate

Resulting in part from the USAID LEAF mid-term review, as well as evolving priorities within USAID RDMA, four landscapes were selected within which USAID LEAF resources would be prioritized:

- Lam Dong Province, Vietnam
- Madang Province, Papua New Guinea
- Houaphan Province, Laos
- Mae Sa-Kog Ma Man and Biosphere Reserve, Thailand

Work in other landscapes continued, but at either a reduced scale (e.g., Sanamxay district, Laos) or phased out earlier than anticipated (e.g., Pahang State and Selangor Peat Forest in Malaysia).

CORE LANDSCAPES

Lam Dong Province, Vietnam



By The Numbers

624,380 hectares under improved natural resource management

4 institutions with improved capacity to address climate change

8 laws, regulations or policies developed, revised, adopted or implemented

3,199,181 tons of CO₂ equivalent GHG emissions reduced or sequestered

During 2011, the regulatory and legal framework for REDD+ was still relatively immature in Vietnam, with a decree from the government to reduce GHG emissions from the agriculture and rural development sector by 20% by 2020, but with little guidance on how this was to be achieved. Given the uncertainty and reluctance to pursue a VCM approach, USAID LEAF committed to a modest series of interventions at the district level. Considerable consultation with Ministry of Agriculture and Rural Development (MARD), VNFOREST and Lam Dong authorities and the use of USAID LEAF's own assessment criteria, Cat Tien and Bao Lam districts were identified as key jurisdictions to support the development of low emission development plans. Early work completed for these two districts included a social economic assessment, forest cover change analysis and forest threat assessment.

While this early work was critical in building capacity and knowledge of district-level agencies by defining data needs and accuracy levels and examining the role of sub-national REDD+ efforts in Vietnam, it was also recognized as providing important contributions to REDD+ development in Vietnam.

The release of Vietnam's National REDD+ Action Plan (NRAP) in June 2012 coincided with a request from VNFOREST for USAID LEAF to shift its focus from the district level to the province level to provide technical support for the development of

a Lam Dong Provincial REDD+ Action Plan. As one of six mandated provincial pilot projects under the NRAP, the Lam Dong PRAP built upon early district work, but required a significant scaling up of effort and integration across USAID LEAF's work on policy, gender, education and carbon accounting.

Starting in 2012 and throughout 2013-2014, these efforts were brought under an ambitious timeframe to ensure completion of the Lam Dong PRAP by the end of 2014. Training on reference level development and remote sensing and GIS was held in late 2012 in Lam Dong for provincial and national agency staff. As these were the first trainings on reference level development in Vietnam, they were keenly anticipated, highly valued and provided the knowledge for Lam Dong's DARD and the People's Provincial Committee (PPC) to agree on a number of critical reference level decisions.

Forest biomass and carbon stock assessment training for Forest Inventory and Planning Institute (FIPI) staff and other national and provincial stakeholders was held in early 2013, while July 2013 saw the establishment of the Lam Dong REDD+ Steering Committee and PRAP Working Group. Both groups provided the basis for ongoing discussion, debate and consultation on the scope, scale, ambition, resources and capacity required for the approval for the PRAP by the Lam Dong PPC.

The completion of a number of technical reports systematically and accurately explored changes in Lam Dong's forest and land use between 1990 and 2010. Those reports included: Land Use, Forest Cover Change and Historical GHG Emissions, 1990-2010; Establishment of Forest Status Maps, 1990-2010; Analysis of Raw Data of Sample Plots in National Forest Inventory and Monitoring Program, 2000-2010; Accuracy Assessment for Forest and Land Use Maps, 1990-2010; and Establishing a Reference Level for REDD+, 1990-2010.

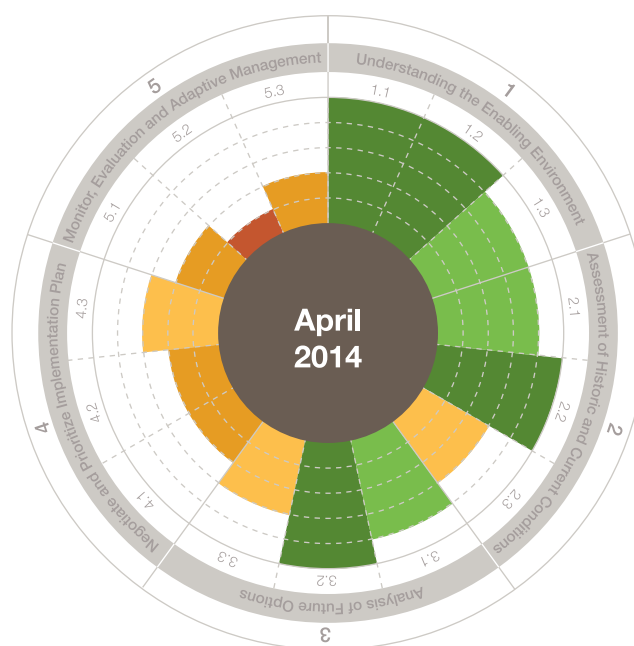
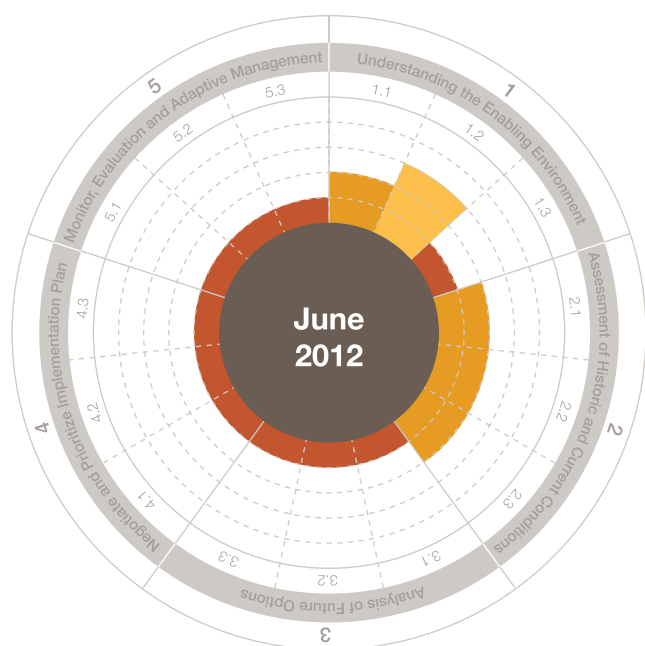
Throughout 2014 a consultative and capacity building program on scenario development was held. The starting point was to examine if actions detailed in the 2011-2020 Lam Dong Forest Protection and Development Plan would achieve the 27% emission reduction target and what alternative scenarios could be enacted if this was not the case⁴.

USAID LEAF and UN-REDD Vietnam jointly supported stakeholder consultation meetings to identify entry points to better address and integrate gender issues into the PRAP. Recommendations made to improve the gender equity of the PRAP were subsequently incorporated by DARD. Given the critical role of agri-business and the private sector in land management decisions, USAID LEAF reported on *Opportunities for Private Sector Emissions Reduction from the Agriculture, Forestry and Land Use Sector in Lam Dong Province, Vietnam*.

USAID LEAF, UN-REDD, and MB-REDD provided substantial support to the Don Duong State Forest Company in Lam Dong on the development of a sustainable forest management (SFM) plan for the company. This included a Forest Stewardship Council (FSC) pre-evaluation or audit report, completed in March 2015, and a sustainable forest management plan that recommends actions to rectify many of the shortcomings detailed in the FSC pre-evaluation report.

The drafting of the Lam Dong PRAP was completed in late 2014, formally approved by the Lam Dong People's Provincial Committee in January 2015, and launched in March 2015. It represents a major achievement for the Lam Dong DARD. While not the first one approved in Vietnam, it is the most accurate, robust and comprehensive PRAP, setting a benchmark for future PRAP development in Vietnam. Key climate change mitigation actions detailed in the PRAP are now being implemented.

Progress Summary



Context and Relationships

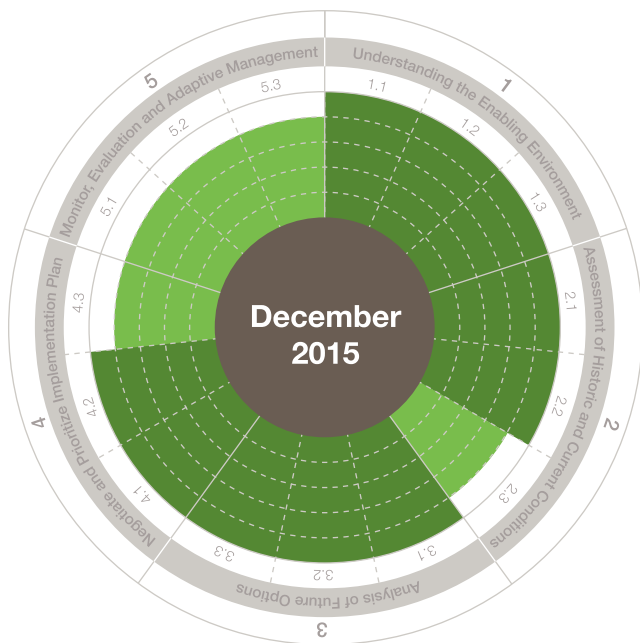
The USAID LEAF program built upon the relationships already established by previous programs working in Lam Dong province. The trust and goodwill between the program and government was essential in allowing USAID LEAF to establish and relatively quickly outline a joint program of activity.

The forest cover and land use change assessments and socio-economic surveys for Cat Tien and Bao Lam districts generated new data and consolidated the partnership between the program and government. When VNFOREST requested USAID LEAF to support the development of the Lam Dong PRAP in June 2012, a strong platform had been established.

Capacity and Technical Knowledge

From early 2013 to late 2014, USAID LEAF invested considerable resources in building the technical capacity of Lam Dong and central-level technicians to complete historical forest and land use change assessments, historical GHG emission estimates, forest measurement and monitoring and the development of a preliminary provincial reference level.

This capacity building process, while focused on the technical issues of carbon accounting, built trust and understanding among a broad range of stakeholders. It also prompted discussions on policy and mitigation actions to stop destructive drivers of deforestation.



- Completed
- Nearly completed, approval required
- Progress midpoint
- Started, buy-in/support needed
- Not started or not required

1. Understanding the Enabling Environment

- 1.1 Context assessment
- 1.2 Stakeholder engagement, roles and responsibilities
- 1.3 Development of goals and objectives

2. Assessment of Historic and Current Conditions

- 2.1 Environment, social and economic data needs
- 2.2 Understanding historical land use change and current condition
- 2.3 Data and capacity gap assessment

3. Analysis of Future Options

- 3.1 Modeling future trends
- 3.2 Business as Usual construction
- 3.3 Scenario assessment

4. Negotiate and Prioritize Implementation Plan

- 4.1 Negotiate options
- 4.2 Prioritize and sequence implementation activities
- 4.3 Implementation needs

5. Monitor, Evaluation and Adaptive Management

- 5.1 Define M&E framework
- 5.2 Monitor, measure and evaluate progress
- 5.3 Adaptive management

Negotiation and Approval

Commencing in early 2014, work on scenario planning moved the PRAP development from a technical process into a policy process. This period was characterized by a series of negotiations between key Lam Dong stakeholders on policy and future development pathways for the province.

Political leadership and willingness to enact policies and measures to conserve Lam Dong's forest resources was a difficult task, occupying many formal and informal meetings between stakeholders, but was essential to approval of the Lam Dong PRAP by the PPC.

The role of the private sector in PRAP implementation, securing of additional funds for the full implementation of the PRAP, results-based payment mechanisms and full integration of the PRAP into Vietnam's forest and land use planning systems are actions that have commenced, but not yet completed.

Partnerships

Lam Dong Department of Agriculture and Rural Development. The main government partner at the provincial level, and an essential collaborating partner. Early efforts were to build capacity and REDD+ understanding within the department and over time the partnership evolved with Lam Dong DARD taking on ownership and leadership of the process with USAID LEAF supporting and facilitating.

Dalat University. The university was a technical contributor to the PRAP process, particularly in the scenario development work. Dalat was also a leading partner in the USAID LEAF curriculum development program and in the development of the low emission land use planning role play.

Delivering Environmental and Social Multiple Benefits from REDD+ in Southeast Asia (MB-REDD) Project (funded by the German Federal Ministry of Environment, Nature Conservation & Nuclear Safety). Exploring safeguard systems within the PRAP and expanding the forest measuring and monitoring system in Lam Dong, the partnership

maximized the technical capacity of both USAID LEAF and MB-REDD to provide expertise over a broad range of technical areas that neither program could provide independently.

UN-REDD (in Lam Dong and at the central level). Partners in co-sponsoring trainings and regional events, but also as spirited debaters of different approaches to REDD+. USAID LEAF consistently advocated for an important role by sub-national jurisdictions in testing REDD+ mechanisms, prior to a full rollout at the national level. UN-REDD focused efforts at the central level and suggested sub-national reference levels are unnecessary. Differences in thinking generated debate, but also spurred national discussion on the role of sub-national jurisdictions in a national REDD+ system. It will eventually be a Vietnamese national government decision, but the partnership between UN-REDD and USAID LEAF was an important one in exploring the technical and architectural issues in establishing a national REDD+ system with broad buy-in from sub-national stakeholders.



Achievements

- Vietnamese government approval of the Lam Dong PRAP in early January 2015.
- Completion of the Don Duong State Forest Company sustainable forest management plan, an important PRAP stakeholder and action as stipulated under the PRAP.
- Strengthening of a wide range of stakeholders on carbon accounting in the forestry-land use sector, including the significant partnership and capacity of Dalat University.

Lessons Learned

Ownership and Inclusion. The process to develop an appropriate emissions reduction target and mitigation actions was owned and driven by Lam Dong DARD. The USAID LEAF program in Vietnam, as a relatively small program compared to other investments such as UN-REDD, helped facilitate the process and provided valuable technical inputs, but throughout the process ownership remained with Lam Dong DARD and VNFOREST at the central level.

Partnerships and Collaboration. The importance of USAID LEAF's partnership cannot be underestimated in increasing the program's scope, scale and impact. Working with UN-REDD and the MB-REDD project in Lam Dong was critical in achieving success and in replicating efforts to other provinces. Partnerships with Lam Dong DARD and Dalat University were critical in building ownership and policy direction.

Capacity and Knowledge. A PRAP is a complex policy statement that requires significant, multi-disciplinary expertise to develop and implement. In Vietnam, USAID LEAF made a considerable investment in training and capacity building across a broad range of disciplines, including forest biomass and carbon stock assessment, forest reference level development, remote sensing and GIS application, gender integrated planning, scenario assessment,

community based forest management and forest measuring and monitoring. As the complexity of the national REDD+ regulatory framework develops and the sophistication of sub-national approaches expands, capacity building will need to develop to keep pace and continually train those entering the REDD+ space in Vietnam.

Sustainability and Integration. One of the largest challenges in developing the Lam Dong PRAP was simply determining where a PRAP 'fit' into provincial and national regulatory frameworks. While the PRAP was developed under the NRAP, its early development tended to be outside any other forest and land use planning regulation and its sustainability was questionable. The PRAP's financial sustainability was also difficult to confirm once its full implementation budget (USD 82 million) was detailed. Recognizing these challenges, USAID LEAF advocated that the PRAP be integrated into the Forest Protection and Development Planning process, the inclusion and access to the emerging national REDD+ fund and exploration of possible co-investments in PRAP implementation actions through the private sector.



Houaphan Province, Laos



By The Numbers

70,000 hectares under improved natural resource management

2 institutions with improved capacity to address climate change

5 laws, regulations or policies developed, revised, adopted or implemented

327,189 tons of CO₂ equivalent GHG emissions reduced or sequestered

205 households with improved well-being

USAID LEAF's target districts in Houaphan province, Xam Tai and Viengxay, are poor, remote and straddle one of Laos' more significant, but least resourced, national protected areas, the Nam Xam National Biodiversity Conservation Area (NBCA). At the start of USAID LEAF work in Laos in July 2011, the GIZ/KfW-funded Climate Protection Through Avoided Deforestation (CliPAD) project was also beginning its implementation designing

REDD+ strategies to conserve forest areas within and surrounding the Nam Et-Phou Louey National Protected Area (NPA) in the province. The complementarities of the two projects, made even stronger as CliPAD broadened its scope to support a province-wide REDD+ strategy, established a framework for USAID LEAF to ensure its focus on land use planning and village-level development was effectively integrated into an emerging provincial REDD+ strategy.

One of the key challenges of USAID LEAF's work in Laos was the lack of government clarity, capacity and ownership for REDD+ in the country. In mid-2012, certain responsibilities for REDD+ implementation were transferred from the Department of Forestry to the newly created Department of Forest Resource Management (DFRM), a department under the Ministry of Environment and Natural Resources. The establishment of the new ministry and DFRM considerably slowed REDD+ developments as DFRM recruited staff, built capacity of those staff and initiated its own national REDD+ program. These institutional changes and uncertainty in

REDD+ mandates between the ministries and departments significantly impacted USAID LEAF's operations, as well other donor-funded programs. For instance, the early USAID LEAF workplans for Laos detailed considerable support for the establishment and technical development of the Houaphan Provincial REDD+ Office and national Technical Working Groups. These critical groups necessary to drive REDD+ developments were never established during the life of USAID LEAF.

REDD+ Compatible Livelihood Actions

USAID LEAF's Laos 2013 community baseline survey and livelihood assessment report for the program's targeted villages in Xam Tai and Viengxay districts identified improving livestock health and management and better land use planning, zoning and management as priority community issues. As such USAID LEAF focused on participatory land use planning (PLUP) and animal husbandry, both of which were compatible with CliPAD's community actions. The early intention was to build a province-wide land use planning process that linked community and provincial plans necessary for the anticipated Houaphan Provincial REDD+ Strategy.

The PLUP process was carried out in 2014-2015 by the Village Forest and Non-Timber Forest Product Division of the Department of Forestry in four villages in Xam Tai and Viengxay districts. In total, 205 households were involved, representing 1,214 people and covering 10,000 hectares. The completion of the PLUPs was an important achievement as it dealt directly with the absence of a consistent and approved land or natural resource management plan and provided community security and tenure over land and forest resources.

Building upon these efforts, USAID LEAF also supported modest livestock efforts to improve animal health and management, increase community incomes and reduce forest grazing pressure. In



The forest restoration activity from USAID LEAF... has greatly contributed to the objective of the village authorities and local community to preserve the surrounding forest area."



*– Representative
Hat-Oudomxay village*

mid-2014, USAID LEAF and Lao provincial and district counterparts, including the Department of Forestry and the Provincial and District Agriculture and Forestry Office, and village representatives commenced planning with the Houaphan Livestock Unit to improve both forage and livestock health management by training village veterinary workers and providing access to vaccines. Forty-one village representatives were trained as Village Veterinary Workers (VWV) and received training on animal housing, forage management and feeding, livestock disease prevention, and general animal husbandry for goats, cattle, buffalos, pigs and chickens.

As a result animal death rates were greatly reduced across almost all of the animal types and better animal health and nutrition has led to increased household incomes. In Tiphou, chicken deaths were reduced from 43% in 2014 to 10% in 2015 and in Sobpeng, pig deaths were reduced from 49% to 2%⁵.

Capacity for a Provincial REDD+ Strategy

During 2013, USAID LEAF directed considerable effort toward building the capacity of the Forest Inventory and Planning Division of DoF (FIPD) and provincial forestry staff through two important trainings on forest biomass and carbon assessments and reference level development. The forest biomass assessment was particularly important in increasing the knowledge and skills of FIPD staff and other stakeholders in designing processes to systematically measure forest biomass and carbon stocks across Laos. A national approach was further promoted with the publication of harmonized standard operating procedures (SOP) for terrestrial carbon measurements in Laos, which combined SOPs from CliPAD, the Japan International Cooperation Agency (JICA) and USAID LEAF. In 2014, a second biomass training was held with CliPAD that focused on strengthening the skills and knowledge of FIPD and provincial forestry staff using the harmonized

SOPs to complete a province-wide assessment of forest biomass and carbon stocks across Houaphan.

At the same time, USAID LEAF was supporting an historical assessment of forest and land use change in Xam Tai and Viengxay districts (1995-2010) and a threat assessment to understand drivers of land use change. This work used the same methodology employed by CliPAD and was intended to contribute to a province-wide assessment.

Unfortunately the lack of provincial and national leadership on REDD+, limited technical capacity and resourcing at the provincial level, lack of a REDD+ Provincial Office in Houaphan and on-going policy delays meant USAID LEAF, CliPAD and other REDD+ development partners had to re-evaluate and re-think support for the development of a Provincial REDD+ Strategy.



Management Support to the Nam Xam National Biodiversity Conservation Area

The limited opportunities to develop a Provincial REDD+ Strategy in Houaphan re-focused USAID LEAF attention on its targeted districts and PLUP as a key strategy to reduce deforestation and forest degradation, particularly in the Nam Xam NBCA. In 2014, coinciding with the program's mid-term review, USAID LEAF committed resources to the development of a management plan and financing strategy for the Nam Xam NBCA, with the hope the NBCA would eventually benefit from the intended Provincial REDD+ Strategy. The 2012 drivers assessment and historical land use change report was updated to focus on the Nam Xam NBCA and policy and mitigation actions recommended for Nam Xam NBCA staff and district authorities⁶.

A participatory planning process commenced with an updated socio-economic survey and forest and land use change maps; a study tour to the Nam Et-Phou Louey NPA for Nam Xam NBCA staff to investigate management strategies, funding sources and to coordinate protected area management across the province; consultative meetings with Nam Xam NBCA staff to set the goal, objectives and result areas for management of the Nam Xam NBCA; and consultative workshops on the outcomes of the management planning process and revised NBCA regulations on community access and rights to land and forest resources within the NBCA. Outcomes from this process were reviewed and agreed upon during a provincial consultation workshop in January 2015, with the Nam Xam NBCA Management Guiding Document 2016-2020 approved in September 2015.

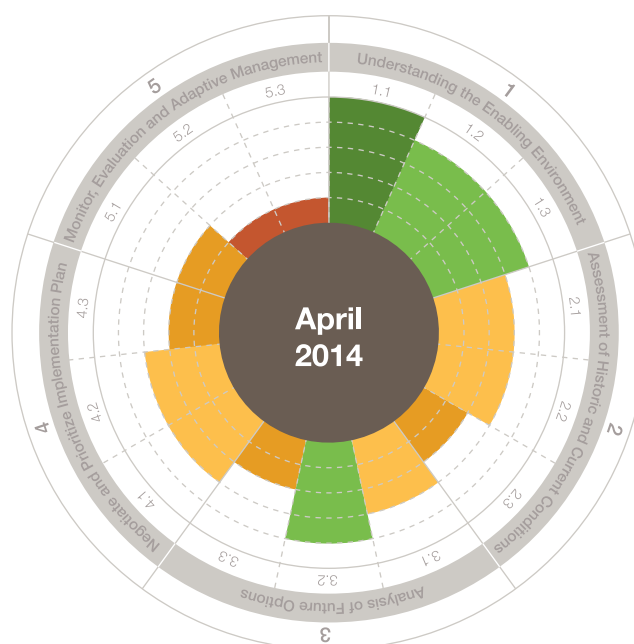
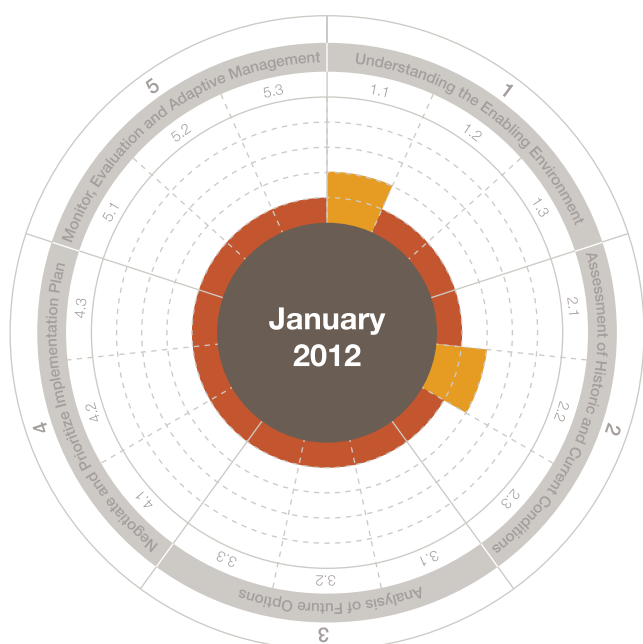


Before we just let the animals roam. Now with the new shelter, it is easier to care for them, giving us time to do other things. We can also protect our investment because medicines we didn't have before are available to cure animal illnesses."



*– Farmer
Sobpeng village*

Progress Summary



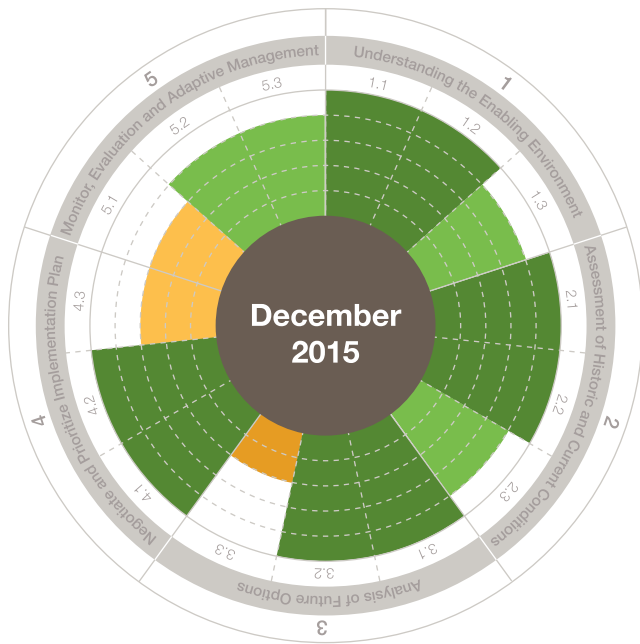
Context and Relationships

USAID LEAF commenced work in Houaphan province intending to partner with the CliPAD project to jointly support the development of a Provincial REDD+ Action Plan. But local knowledge, understanding and political leadership were absent, further compounded by a lack of capacity and political direction at the national level.

USAID LEAF therefore commenced work in Houaphan on a very weak basis and considerable efforts were required to establish relationships, explain the program and adapt to the local political, economic and environmental context.

Capacity and Technical Knowledge

By mid-2014, a number of capacity building activities had been completed and historical data on forest and land use change had been collected. However, knowledge and understanding were never deeply institutionalized at the provincial level. Localized efforts were achieving impact, but lack of political leadership was significantly impacting the collaborative work program between USAID LEAF and CliPAD. This meant USAID LEAF had to scale back efforts to a more localized low emission land use planning work program, focusing on the Nam Xam NPA.



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- 5.1 Define M&E framework
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Negotiation and Approval

Focusing on a small geographical area provided USAID LEAF the platform to support forest conservation efforts, strengthen livelihoods and implement actions that are consistent with a broader Provincial REDD+ Strategy, once developed.

Building upon the capacity established and focusing on Nam Xam NPA management goals, actions and management responsibilities, the Nam Xam NBCA Management Guiding Document was approved in September 2015. Scenario planning was not a completed task as emission reduction goals were of secondary importance to the Nam Xam NPA management staff. Likewise the financing strategy of the management plan has yet to be realized.



Partnerships

CLIPAD project. The most significant partner for the USAID LEAF program in Laos, focusing on REDD+ planning and forest management in Houaphan province.

District Agriculture and Forestry Office, District Office of Natural Resource and Environment, Nam Xam NPA staff, local community leaders.

These were essential in achieving localized successes. USAID LEAF staff in Houaphan invested considerable time and effort building these partnerships, explaining processes and anticipated benefits, and communicating program timelines and reasons for any delays or deviations. At the local level, USAID LEAF partners were essential in ensuring benefits could be delivered to local communities through strategic program interventions.

Achievements

- The Houaphan Provincial Office of Natural Resources and Environment, Forestry Resources Management Section, and Nam Xam National Protected Office approved the Nam Xam NBCA Management Guiding Document in September 2015, the first such management plan for this protected area.
- A financing strategy was drafted and is ready for submission to the Laos Environmental Protection Fund once the Nam Xam NBCA Management Office is established as a legal entity.
- Increased capacity and understanding of a broad range of stakeholders on the role of protected areas in any future provincial REDD+ strategy and benefits that may emerge from this strategy.
- 10,000 hectares under participatory land use plans, which are linked to the Nam Xam NBCA management plan and consistent with a province-wide approach to land use planning.
- Proof of concept on REDD+ compatible livelihood development options for poor and remote communities of northeastern Laos.

Lessons Learned

Collaboration and Partnerships. USAID LEAF always sought to build upon the work of other REDD+ development partners to ensure consistency, replication and scalability. In 2011 the Lao government strongly encouraged all REDD+ projects to seek collaboration to avoid overlaps and replication of tasks. In 2012 CliPAD, the JICA Forest Information Management (FIM) program and USAID LEAF began to identify programmatic gaps and opportunities for project harmonization at the national level and in Houaphan province. This joint effort was designed to achieve overall provincial performance to reduce deforestation and degradation and/or to increase forest carbon stocks and to establish a nested system in which these emission reduction and removals could be measured, monitored and reported to central agencies and international organizations.

Unfortunately even this strong partnership was influenced by limited political direction and drive on REDD+ from central agencies. Early joint ambition to support a comprehensive, integrated and robust REDD+ mechanism for Houaphan province was still not delivered upon. Lack of guidance at the national level, no province-level authority/agency with the mandate to lead the process, and limited capacity and resourcing across multiple levels meant the CliPAD-USAID LEAF partnership was unable to generate the impact originally intended.

Participation and Inclusion. In Laos there is a significant emphasis on the role of local communities and their needs and facilitating fair and equitable outcomes for communities. Local communities and district authorities jointly designed USAID LEAF's livelihood strategies, PLUP work and Nam Xam NBCA actions. This significantly strengthened program outcomes and sustained efforts to monitor and protect threatened forest resources within the NBCA.

Ownership. Unfortunately ownership at the provincial and national levels was difficult to encourage due to a shifting and vague regulatory environment. This resulted in USAID LEAF downsizing support from national policy dialogue, but increasing efforts at a local level. At the district level, local stakeholders were committed to USAID LEAF work and took ownership and pride in the successful outcomes achieved.

Flexibility and Adaptation. Over the five-year program, international, national and sub-national policy and regulatory changes impacted USAID LEAF programming and activity scheduling in Laos. Adaptation was essential, particularly in Laos where the REDD+ regulatory framework continues to evolve.



Mae Sa-Kog Ma Man and Biosphere Reserve, Chiang Mai Province, Thailand



USAID LEAF work in Thailand differed from other countries because of a local government emphasis on PES and not REDD+. DNP, the USAID LEAF government counterpart in Thailand, directed the program to focus its activities in DNP country's four Man and Biosphere Reserve (MAB) sites, with an initial focus on the Mae Sa-Kog Ma Man and Biosphere Reserve in Chiang Mai province. The MAB work provided an opportunity for USAID LEAF and DNP to collaborate on integrating ecological and economic dimensions into forest ecosystem planning and service valuation, thereby promoting strong incentives to maintain the ecological integrity of Thailand's forests and enhancing the livelihoods of forest-dependent communities.

As in all USAID LEAF landscapes, an overarching policy framework or management plan had to be established to allow for innovative financing mechanism development. In this case the Mae Sa-Kog Ma MAB required a management plan to be developed and approved in order for a PES scheme to emerge. The initial challenge for USAID LEAF was that the Mae Sa-Kog Ma MAB was a designation on paper only; its boundaries, regulations, mandate and guiding principles were largely unknown to communities and local stakeholders.

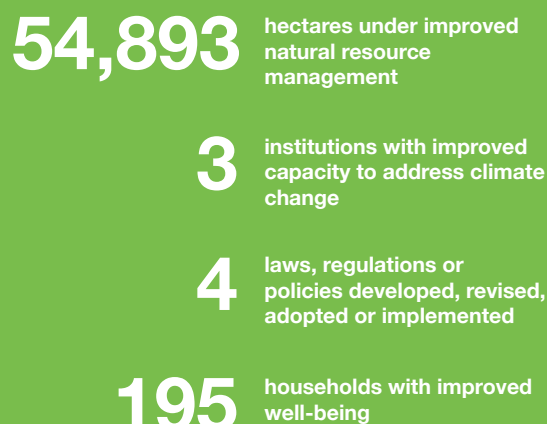
USAID LEAF's early work therefore focused on building awareness and understanding of the MAB philosophy and management principles for Mae Sa-Kog Ma MAB and catalyzing a multi-stakeholder process that could lead and sustain the MAB management philosophy for the Mae Sa-Kog Ma area.

Building Capacity for Participatory Management Planning

Raising awareness of the benefits of a MAB system in Mae Sa-Kog Ma and the capacity to implement a comprehensive and participatory management plan were key tasks for USAID LEAF in Thailand. In February 2012, a PES technical study tour for officials from DNP and representatives of the Mae Sa-Kog Ma communities traveled to Vietnam to examine the national PES scheme and stakeholder roles and responsibilities. The June 2013 Man and the Biosphere and Participatory Natural Resource Management Planning workshop brought together stakeholders and representatives for the first time from all four MAB reserves in Thailand and established a participatory process to draft management plans for all four reserves, starting in Mae Sa-Kog Ma.

In mid-2013, informed by a series of community stakeholder consultations, drafting of the Mae Sa-Kog Ma MAB management plan was completed. This multi-stakeholder process was instrumental in catalyzing action among a diverse group of stakeholders from local communities, DNP, the business community and district and provincial authorities. The Mae Sa-Kog Ma MAB management plan was approved in early 2014 by the Director of Protected Area Regional Office 16 (PARO, Chiang Mai) and DNP. The approved plan represents a considerable achievement for the USAID LEAF program in building a coalition of stakeholders committed to the protection of the natural and community assets of the Mae Sa-Kog Ma region.

By The Numbers



To further strengthen awareness and understanding of the management plan, USAID LEAF supported a Training of Facilitators workshop that established and trained a group of facilitators from the Mae Sa-Kog Ma MAB office on facilitation techniques, the importance of the MAB reserve and how to further promote awareness and engage people living in the MAB reserve to conserve and protect of this critical landscape.

Given the general lack of awareness of the MAB designation, the development of the Mae Sa-Kog Ma MAB management plan was built from a very low base and was highly participatory. Importantly the process facilitated by USAID LEAF extended DNP's traditional consultative processes, with the process and result being so successful that DNP requested USAID LEAF to support a similar process for the Lampang MAB reserve.

Community Actions and Learning

In March 2014, PARO 16 approved the Mae Sa-Kog Ma MAB management plan with responsibility for ongoing implementation of the management plan with DNP. USAID LEAF committed to partnering with DNP to consolidate and build upon already committed actions and work towards the goals laid out in the management plan.

A participatory action research (PAR) program was completed in six targeted communities within the Mae Sa-Kog Ma MAB. The program aimed to raise awareness of the importance of local and traditional ecological knowledge and management; develop mechanisms for local communities to self-manage and safeguard local traditional ecological knowledge on ecosystems in the MAB; and implement models of knowledge management for local communities to self-manage and safeguard local and traditional ecological knowledge on ecosystems in the MAB. Each community considered their own needs and examples of work undertaken including the difference between mulching and not mulching trees planted for forest restoration; surveying and mapping forest spring water sources; and completion of a forest herb inventory.

Collaborative fire management practices were also strengthened. During 2014, USAID LEAF, in partnership with DNP, identified fire hotspots in the Mae Sa-Kog Ma MAB and identified the central and

eastern section of the MAB reserve as high priority locations for support. USAID LEAF worked with two villages to improve communication in their firefighting efforts. In 2015, USAID LEAF further strengthened collaborative arrangements to control fires between Khun Chang Khian village and the neighboring village of Huay Theung Thao. Both communities have a history of conflict over fire management and this work has increased cooperation and collaborative fire management arrangements.

USAID LEAF partnered with FORRU to complete several trainings with local communities on forest restoration techniques in the Mae Rim district of the MAB reserve. These included forest restoration on degraded lands of communities within the Mae Sa catchment and involved in the PES pilot.

In 2014 USAID LEAF targeted efforts to build the capacity and the networks of young people in measuring and monitoring environmental resources of the Mae Sa-Kog Ma MAB. Two youth training camps provided the technical skills and tools for measuring and monitoring water quality, with participants then implementing these actions through their local schools. This work helped develop a greater appreciation and understanding of the environment among Thai youth.



Catchment Management and Payment for Ecosystem Services

The PES scheme is the flagship work of USAID LEAF in Thailand. It leveraged private sector funding for a modest pilot in the Mae Sa catchment that has the potential to deliver sustainable financing for forest and water conservation across the MAB reserve and also served to demonstrate the proof of concept that PES schemes can be developed in Thailand.

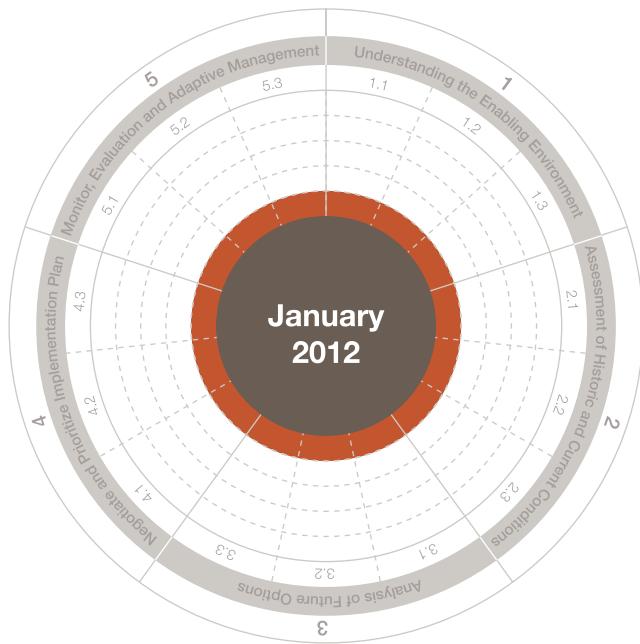
Building upon the early PES study tour and subsequent trainings on this issue, USAID LEAF targeted key private sector organizations operating in the Mae Sa catchment. Beginning in 2013 in collaboration with the HAPPEN and CBFCM programs, the program led a multi-stakeholder effort including donor-funded projects, local communities, local government and private sector actors in the Mae Sa catchment area. This collaborative work was combined with an assessment of community and private sector perceptions of the commercial benefits of ecosystem services in the catchment and their willingness to pay for these services. The long-term plan was to establish a funding structure with private sector partners to support local communities.

The launch of the PES scheme in June 2015 was the result of years of awareness raising, relationship building and coordination between government, community and private sector stakeholders. The final PES agreement established a pilot scheme in which Aura Water (a subsidiary of Tipco Foods PCL), as the buyer, provides funding to restore degraded forests near their processing facility, using the FORRU methodology for restoration and monitoring. The Baan Pong Khrai community serves as the provider, and is responsible for planting, managing and monitoring the restored forest area. A payment system was agreed upon by all parties and an Aura PES Committee was established as a neutral third party with responsibility to monitor payment, forest conditions and compliance with the overall agreement. The committee collaborates with FORRU to provide technical support to villagers on restoration activities such as conducting rapid site surveys, producing a work plan and budget for restoration, restoration training and monitoring techniques.

In preparing for the launch, USAID LEAF collaborated with FORRU to provide technical support to the Baan Pong Khrai community on forest restoration to ensure that local participants understood all the processes involved in site preparation such as rapid survey techniques, setting up monitoring plots, identifying the number and type of plant species on the site and devising a work plan and budget details. The launch was of great significance, as the first PES pilot site in the Mae Sa-Kog Ma MAB reserve and also one of the first PES schemes in Thailand. After the launch event, the partners celebrated with a tree planting day, with more than 300 people participating, including representatives from FORRU, volunteers from the community of Baan Pong Khrai and children from local schools.

The Aura PES scheme is expected to be an initial pilot, which will be expanded to include other companies and communities in a more comprehensive agreement in Chiang Mai. Throughout 2015, USAID LEAF and the CBFCM project organized consultative meetings with the private sector, local authorities, community leaders and government organizations in the Mae Sa catchment to further strengthen collaborative efforts among stakeholders in the catchment to better manage natural resources and resolve issues such as water crises, forest fires and other conflicts. These collaborative efforts resulted in the finalization of the Mae Sa Collaborative Committee with responsibility for the development of the Mae Sa catchment management plan and ongoing support for sustainable land management.

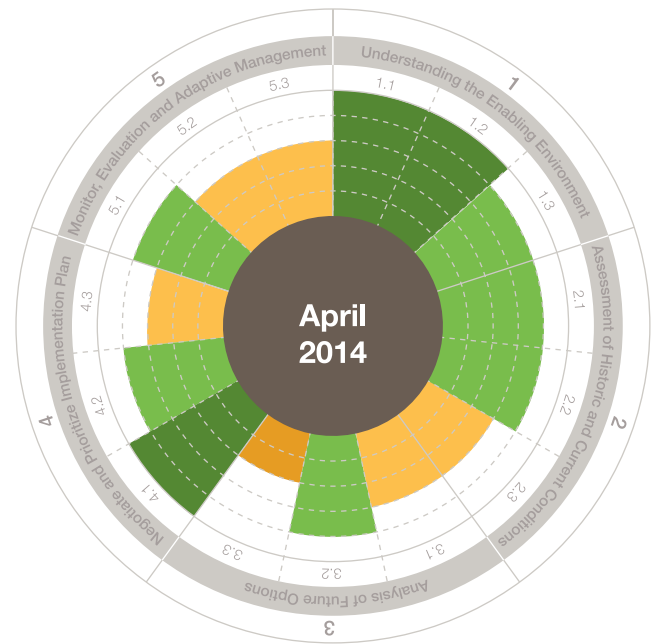
Progress Summary



Context and Relationships

The Mae Sa-Kog Ma MAB was formally designated a UNESCO reserve in 1977, but when USAID LEAF began work in Chiang Mai, almost no local community members and few government officials were aware of the designation. This meant that the program had to do a tremendous amount of basic awareness raising early on to establish a foundation for a planning process.

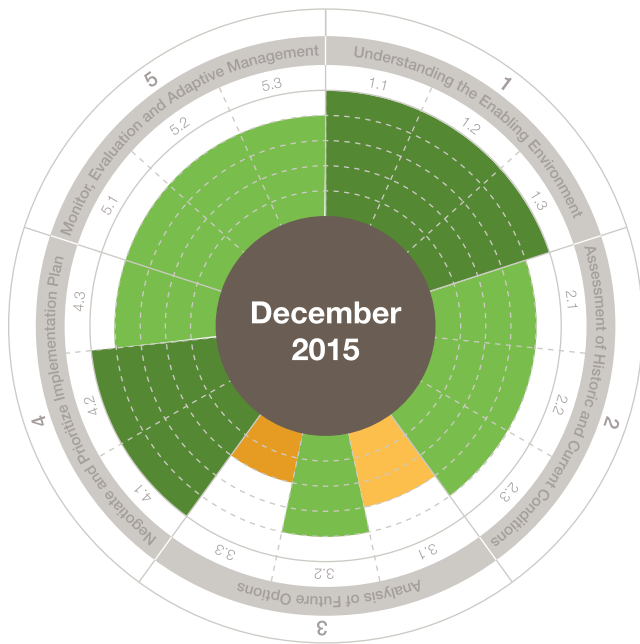
In addition, DNP had no budget support or institutional structures in place to back the implementation of such a plan.



Capacity and Technical Knowledge

After two years of extensive outreach and coordination with communities, a real appreciation and sense of pride began to grow around the MAB. Communities were brought into the planning process, which was a relatively new phenomenon in protected area planning in Thailand. This allowed them to identify their priority areas and concerns and see them integrated into a planning process.

The management plan was formally approved by Protected Area Regional Office 16 in May 2014, representing a significant accomplishment for the program. Priority areas revolved around fire management and water resource management, including payment for ecosystem services. Emissions estimates and scenario planning received less attention and did not progress as quickly as other areas.



- Completed
- Nearly completed, approval required
- Progress midpoint
- Started, buy-in/support needed
- Not started or not required

1. Understanding the Enabling Environment

- 1.1 Context assessment
- 1.2 Stakeholder engagement, roles and responsibilities
- 1.3 Development of goals and objectives

2. Assessment of Historic and Current Conditions

- 2.1 Environment, social and economic data needs
- 2.2 Understanding historical land use change and current condition
- 2.3 Data and capacity gap assessment

3. Analysis of Future Options

- 3.1 Modeling future trends
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4. Negotiate and Prioritize Implementation Plan

- 4.1 Negotiate options
- 4.2 Prioritize and sequence implementation activities
- 4.3 Implementation needs

5. Monitor, Evaluation and Adaptive Management

- 5.1 Define M&E framework
- 5.2 Monitor, measure and evaluate progress
- 5.3 Adaptive management

Negotiation and Approval

With approval of the plan, DNP was able to allocate national budget resources for the first time for plan implementation.

The low emissions component of USAID LEAF's work continued to be a relatively low priority, hence limited progress on scenario analysis and emission trend modeling. The program focused in 2015 on supporting the development of the PES scheme, which would promote forest and watershed conservation.

Partnerships

DNP and PARO 16. Critical local government partners; led the Technical Working Group responsible for official coordination with USAID LEAF.

Tambon Administration Offices. The sub-district administration across the Mae Sa-Kog Ma MAB.

Forest Restoration Research Unit. Part of Chiang Mai University, community-led forest restoration training and planting.

HAPPEN and CBFCM. For collaborative work on the PES scheme in the Mae Sa catchment.

Achievements

- Approval by PARO 16 of the Mae Sa-Kog Ma MAB management plan, providing the first official framework for MAB management in Thailand, and subsequent funding from the national government for its implementation.
- Community knowledge, awareness and pride in the Mae Sa-Kog Ma MAB reserve was re-established and grew.
- Establishment of a pilot PES scheme in the Mae Sa catchment, one of the first of its kind in Thailand. The PES model was recognized for its innovative approach by the Biodiversity-based Economy Development Office (BEDO) in August 2015 with the Thailand PES Award, given to Tipco Foods PCL and subsidiary Aura Water for their work with USAID LEAF in launching the PES scheme.



Lessons Learned

Collaboration and Partnerships. USAID LEAF relied heavily on valuable partnerships in the Mae Sa-Kog Ma MAB, without which it would have been extremely difficult to achieve success. From the earliest stages, when the entire MAB concept was introduced to communities, local partners were open and eager to learn more about how they could protect their natural resources.

The partnership with the Technical Working Group of PARO 16 was also critical, without which government buy-in and support would not have been possible. This partnership was tested following the 2014 coup in Thailand, after which USAID regulations no longer allowed direct technical or financial support to government counterparts. This strained the relationship between the program and local government partners, who felt slighted by

the restriction and the fact that the USAID LEAF team had to focus their efforts on communities. The team redoubled efforts to clearly communicate and build greater trust with government counterparts to help them see the value of continued collaboration. Ultimately, the collaboration emerged stronger than ever, and culminated in the shared success of the PES scheme.





Madang Province, Papua New Guinea



Papua New Guinea and Costa Rica were the first countries to propose a mechanism within the UNFCCC to reduce emissions from deforestation. However, PNG struggled to establish a national climate change and REDD+ policy and regulatory framework or articulate a role for the country's provinces in REDD+ developments.

USAID LEAF worked with local partners to explore how it could add value to sub-national forestry and land use management efforts in PNG. After a thorough site selection process in late 2012, Madang

province was selected as the target province. An important component for this decision was the established field presence of TNC in the Adelbert Range and the strong, collaborative relationship with communities established through TNC's participatory land use management planning (PLUMP) efforts to improve land management in rural communities.

The partnership with TNC provided an excellent base for USAID LEAF to build upon, but there were still a number of important challenges to overcome, including: no national or provincial land use plan and no mechanism in which a land use plan or REDD+ project could be embedded; no national REDD+ framework with fluctuating political leadership; extremely limited capacity and knowledge at the provincial and district levels; extremely limited resources and financing for any action; absent, inconsistent, inaccurate and difficult to obtain data; private sector, as a key driver of deforestation, only engaged on sector-specific issues, e.g., logging plans, and not in any cross-sector provincial planning process; and most stakeholders thought of REDD+ as only a project, and generally a bad one, as community expectations had been consistently raised, but never delivered upon.

By The Numbers

245,045 hectares under improved natural resource management

2 institutions with improved capacity to address climate change

11 laws, regulations or policies developed, revised, adopted or implemented

1,874,084 tons of CO₂ equivalent GHG emissions reduced or sequestered

Moving from REDD+ Projects to a Provincial Low Emission Land Use Plan

In 2014, TNC, with the support of USAID LEAF, facilitated province-wide consultations to identify environmentally sensitive sites and landscapes in Madang⁷. This conservation-based approach would reduce emissions from Madang's forest and land use sector, but there was no consideration of economic growth, future infrastructure needs or agri-business investments in the province. USAID LEAF sought to build on this by engaging with the Madang Provincial Government (MPG) to build capacity and knowledge on emissions reduction actions through a provincial land use planning framework to balance economic growth with environmental conservation and social equity outcomes.

From the end of 2013 to early 2015, USAID LEAF held a number of consultative meetings and trainings to strengthen capacity and understanding on GHG emissions from forest and land use change and how improved land use planning at the community and provincial scale could reduce emissions, yet still allow for sustained and balanced economic growth.

Capacity Building, Knowledge Development and Awareness Raising. A REDD+ introductory training for Madang civil society organizations (CSOs) was held in November 2013 to increase understanding of REDD+ for CSO representatives from which accurate information on REDD+ could be disseminated to their communities. Forest biomass and carbon calculation training occurred in July 2014 in the Adelbert Range for both national and provincial stakeholders, and in 2015 two ground-truthing exercises of remote sensing data were completed.

Identifying Provincial Drivers of Forest and Landscape Change. In 2014 two workshops for stakeholders and the Madang REDD+ Technical Working Group were held to map drivers of landscape change, detail possible policy actions

and explore the opportunities and challenges in developing a highly ambitious Madang Low Emission Land Use Plan. This was the first time that provincial stakeholders had agreed on drivers of landscape change.

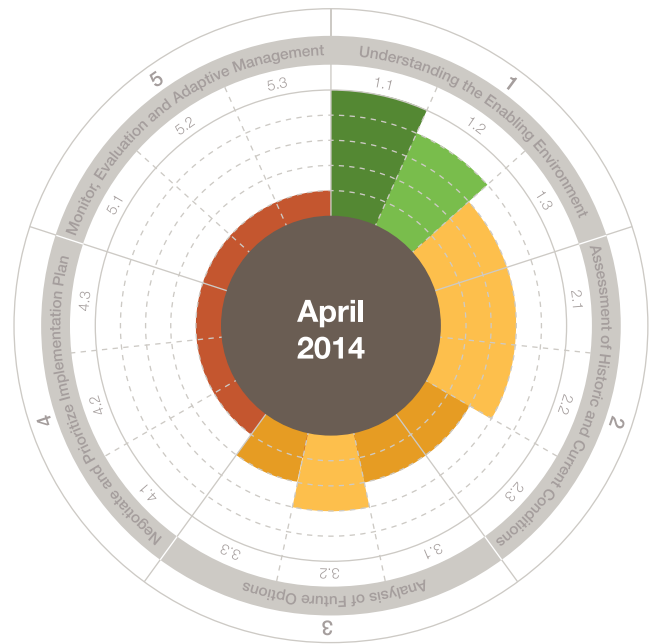
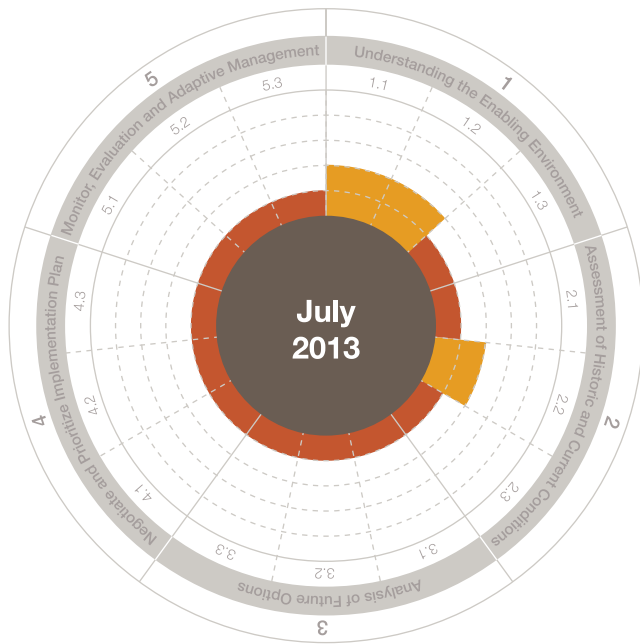
Historical Emissions and Future Development Scenarios. In October 2014 a consultative workshop with stakeholders was held to confirm historical emissions from forest and land use change in Madang; consult on likely development scenarios and underlying assumptions; and examine policies, laws and mitigation actions that the MPG could introduce in pursuit of a low emission or 'green-growth' strategy.

Final National and Provincial Consultative Workshops. In March 2015, one-on-one meetings with a range of national, provincial and NGO stakeholders were held to present the outcomes of the LELUP work and seek feedback and revisions for the final report. A final consultative meeting followed where national and provincial stakeholders met to discuss and review final outcomes of the LELUP work and recommend revisions to the report.

Submission of Final Report and Implementation. The report *Low Emission Land Use Planning for Madang Province: Options and Opportunities* was submitted to the MPG upon which the MPG committed USD 500,000 to scale-up the PLUMP work started in the Adelbert Range through TNC.

The Madang low emission land use plan is a preliminary assessment and will need to be revised as new, more locally accurate data is developed. But it was a worthwhile process that built understanding and knowledge of future development scenarios for the province and likely GHG emission impacts and dove-tailed into other provincial and national planning processes. It also built upon TNC's work to conserve Madang's unique natural assets and started the conversation on the critical role the private sector will play in balancing the economic, environmental and social needs of the province while contributing to a low emission development pathway.

Progress Summary



Context and Relationships

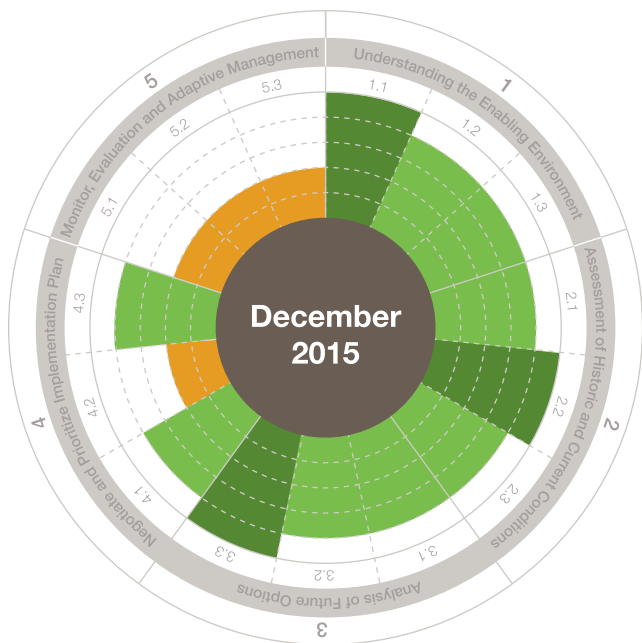
USAID LEAF's early work in Madang was deciding on scale and scope. TNC had an established field program in the Adelbert Range and established relationships with local landholders. Their desire was to convert their land use planning and development of conservation agreements into a bankable REDD+ voluntary carbon market project. Based upon experience in other USAID LEAF landscapes, the missing element was a supportive regulatory framework at both the provincial and national level. USAID LEAF therefore targeted efforts at the provincial level. While there was very strong political leadership at the provincial level, capacity, understanding and resourcing was extremely low.

Capacity and Technical Knowledge

During 2013 and 2014 a number of trainings and consultative meetings were held that slowly built awareness and understanding of REDD+ and a regulatory framework in which a national REDD+ system could be linked to local land use planning and forest conservation efforts.

By mid-2014, data upon which to make and validate decisions was still limited and difficult to collect with various partner assertions on the best way forward.

USAID LEAF's work in Madang benefited the most from experiences gained in other landscapes. As such, a decision was made with the MPG to move forward on a highly ambitious project to chart options and opportunities for a low emission development pathway for the province.



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Negotiation and Approval

The key to success in Madang province was USAID LEAF's scenario planning work. Several consultative meetings were held to define alternative scenarios to model and the assumptions underpinning those scenarios. Further consultative meetings explained and validated the findings from the scenario planning work.

The resulting document clearly defines a Business-As-Usual development pathway, and strategies to achieve lower emissions from the AFOLU sector. The role of agri-business and private sector interests in the mining and logging industries are clearly identified as having a critical role in shifting toward a new development pathway for the province. The introduction of supporting regulation further defines the framework in which future developments may occur in the province.



Partnerships

The Nature Conservancy. The fundamental basis of success of USAID LEAF in Madang province. TNC's established relationships with the MPG and landholders in the Adelbert Range provided an entry point for USAID LEAF, and the joint support to the Madang Forest and Marine Protection Law provided a more secure regulatory framework for REDD+ and forest conservation work in the province. TNC also benefited with their own increased capacity on forest carbon accounting and REDD+ mechanisms.

Madang Provincial Government and Planning Division. Tremendously important in providing a political mandate to operate in the province, facilitated access to central and provincial agencies and their data.

PNG Forest Authority and Office of Climate Change and Development. National-level partners who were equally important in providing the mandate to examine actions that Madang province could explore. USAID LEAF support helped these national agencies examine REDD+ mechanisms at the provincial and district levels, and built capacity on technical issues, such as forest biomass and carbon stock assessment, that could further enhance PNG's first National Forest Inventory.

Achievements

- Completion and acceptance by the MPG of the *Low Emission Land Use Plan for Madang: Options and Opportunities Report*. This was the first time in PNG that a strategy and role was articulated for sub-national REDD+ development and a major advance in helping policy makers and community leaders understand the implications of various policy options on future GHG emissions and related economic, environmental and social indicators.
- Significant increase in stakeholder capacity to engage, debate and question REDD+ data and information being presented to them, plus a greater understanding of actions to be completed for a jurisdictional REDD+ program to be successful.
- Financial commitment by the MPG to invest USD 500,000 in scaling-up and replicating the Adelbert Range PLUMP work across the province.
- Comprehensive review and national consultation process for forest and REDD+ policy and legislation to identify areas of improvement and integration of new climate change considerations.

Lessons Learned



Partnerships and Collaborations. The collaboration with TNC was essential to the success of USAID LEAF's work in Madang, as their strong relationships with local landholders facilitated access to land that might otherwise have taken years to access. USAID LEAF also cultivated a relationship with the MPG, and particularly staff within the Planning Division to ensure knowledge and ownership of process and outcomes. The program invested considerable time and effort in strengthening the capacity of partners, raising awareness of complex technical issues, consulting with government and communities, and ensuring the potential trade-offs necessary to achieve a low emission development pathway for the province were communicated to all stakeholders. The province is the most ready to work with national-level agencies on the introduction of an integrated REDD+ mechanism across PNG. National partnerships with PNGFA, OCCD and UN-REDD also provided implicit support for the sub-national work that USAID LEAF was supporting.

Communication of Data and the Story Told.

The limited data available in PNG meant much of the work was based upon global data sets. This ensured some criticism of USAID LEAF outputs, but also allowed a story of historical land use change and future development scenarios to be told and for decision makers to quickly grasp the issues. REDD+ and low emission development can be data heavy, but the USAID LEAF program was able to communicate relatively complex data patterns and modeling approaches to allow a story of change to be told.

If our remote villages in the Adelberts can adopt measures to preserve and protect the environment for our children and future generations, then anyone should be able to do it. We hope that our example leads to an even stronger management plan for the lands and forests of the entire province.”



*– Nicholas Dilol
Village Magistrate
Wagadave village*

Capacity Building and Communication. Capacity in PNG is low. Time was therefore invested to build capacity through both formal trainings but also through frequent and informal discussion of ideas and concepts. The USAID LEAF staff in PNG was excellent in communicating a vision of what was possible and the process to reach it. The formalized training combined with the informal discussions and teachings provided a strong approach to building understanding and awareness across a diverse stakeholder group.



SECONDARY LANDSCAPES

From the mid-term review onwards, USAID LEAF focused on the four core landscapes previously described. The program also worked at various periods in secondary landscapes:

- Con Cuong district, Nghe An Province, Vietnam
- Sanamxay district, Attapeu Province, Laos
- Selangor Peat Forest, Selangor State, Peninsula Malaysia
- Lampang MAB, Lampang Province, Thailand

Con Cuong District, Nghe An Province, Vietnam



USAID LEAF's work in Con Cuong district, Nghe An province, was focused on community resilience and the linked issues of sustainable forest management for the Con Cuong State Forest Company.

The socio-economic baseline survey of targeted communities in Con Cuong district⁸ detailed relatively poor communities dependent on small-scale agricultural activities and local forest resources. The survey also revealed ongoing forest degradation

due to fuel wood extraction and potential for conflict between communities and the state forest company from unauthorized extraction of timber and non-timber forest products. USAID LEAF implemented an integrated set of activities focused on improved cook stoves, the introduction of community-based forest management and support to move the state forest company toward sustainable forest management.



Improved cook stoves. USAID LEAF supported efforts to reduce fuel wood consumption by replacing the traditional open, iron bar frame for cooking rice wine and animal feed, with a more efficient, closed cooking system. A small trial program of 100 improved cook stoves (ICS) was tested in the Mon Son and Yen Khe communities, with results suggesting fuel wood consumption declined by 30-40%, women spent less time cooking and more time on other income generating activities and reduction in exposure to harmful smoke⁹. The outcome of this work has been adopted by USAID VFD for replication elsewhere in Nghe An province.

Community Based Forest Management (CBFM). Building upon the ICS work, USAID LEAF encouraged community response to improve access and management of forests. A feasibility study concluded that current community forestry approaches in Nghe An were not suited to Con Cuong district. In September 2014, USAID LEAF released new CBFM guidelines for trial in Son Khe and Lang Yen communities.

The new guidelines were rolled-out in both communities in early 2015 through training and consultations with community and district stakeholders¹⁰. Evaluation of the new guidelines¹¹ indicated that all officials interviewed thought the new CBFM guidelines worked more effectively than individual household contracts and that deforestation and forest degradation rates were likely to be reduced. It also indicated that all community stakeholders interviewed believed they were now better consulted on forest management and that their access and tenure to forest resources had been strengthened.

Based upon the success of the new CBFM guidelines and introduction in Con Cuong district, USAID LEAF conducted a training on CBFM in Lam Dong province in July 2015 to further promote the lessons learned from the CBFM model.

Sustainable Forest Management (SFM). During USAID LEAF's forest cover and land use change assessment from 1990-2010 in Con Cuong district,

These (maps) are what we have been longing for. Without knowing what we have, we cannot successfully manage forest resources.”

*– Dr. Nguyen Duc Son
Director*

Con Cuong State Forest Company

it became apparent that the Con Cuong State Forest Company was reliant on outdated and inaccurate forest cover maps. This severely restricted the effectiveness of overall forest management practices including harvesting, plantation and planning activities. A new forest cover and classification map was developed in 2013 and commenced USAID LEAF's ongoing support for the development of an SFM plan for the Con Cuong State Forest Company, including a new inventory of the company's forest lands.

The inventory and new forest status map were officially approved by the Nghe An Forest Department and the company's SFM plan was presented in early 2015¹². Based on the success in Con Cuong, a similar process was followed to develop an SFM plan for the Don Duong State Forest Company in Lam Dong province.



Sanamxay District, Attapeu Province, Laos

USAID LEAF’s original site selection process identified Savannakhet province as the second province for work along with Houaphan. However, during 2012, a number of important discussions were held with Lao stakeholders on site locations and a decision was made to shift the focus in Laos from Savannakhet to Attapeu province. This decision was made to build upon the work of the ADB/BCCI program and help lay the groundwork for the roll-out of the World Bank’s Forest Investment Program.

As in Houaphan, USAID LEAF’s focus was on supporting REDD+ compatible livelihood developments, targeting Sompoy and Nonghin village clusters in Sanamxay district and strengthening local forest management systems.



Our whole village decided to let USAID LEAF help us restore our forest after some of us went on a study tour to a protected national park in Chiang Mai. We saw the benefits that taking better care of the forests provided. I think we will now have cleaner water and better soil for our crops.”



– Representative
Sompoy village

Livelihoods Strengthened. Two important livelihood assessment reports¹³ and an August 2014 consultative meeting with Attapeu government representatives confirmed coffee and rice as priority crops in the targeted villages, with USAID LEAF focusing on supporting coffee producers. USAID LEAF worked with community members to develop more efficient hulling methods, establish a management committee and provided bookkeeping training to the committee. The village coffee processing now sees less contamination of husks and other impurities and the committee overseeing the use of the coffee huller were able to increase the price of their product. In Xaydonekxong, the average household net income is expected to increase by USD 72 per year, an increase of 13%.

Forest Restoration. Timber extraction and conversion from subsistence to commercial farming, coupled with population increase are the main drivers of deforestation and forest degradation in Attapeu province. USAID LEAF staff, Sanamxay DAFO and Sompoy village cluster representatives completed forest surveys and boundary demarcations; mapped community forest resources; established enrichment plantings; protected naturally regenerating areas; and established community regulations governing access to the forest areas.



North Selangor Peat Forest, Malaysia

The North Selangor Peat Swamp Forest (NSPSF) covers an area of 73,660 hectares in the state of Selangor in Peninsular Malaysia, has significant biodiversity values, and plays an important role in supplying water for domestic and agricultural uses. Prior to its designation as a Permanent Forest Estate, the area was heavily logged and drained. Drainage and subsequent fires have resulted in ongoing degradation, with an estimated 1.5 million tons of CO₂ emitted from the oxidizing peat soils every year. The GEC, the Selangor state government, State Forestry Department and private landholders were all interested in expanding work to block canals, prevent fire, rehabilitate degraded forests, extend the current logging moratorium and convert intact state forest land into conservation or permanent forest reserves. The question was whether these efforts would be enough to present a financially viable and bankable voluntary carbon market.



USAID LEAF assisted GEC with a feasibility study to estimate the impact of a peat rewetting intervention on water levels to evaluate options, costs, monitoring measures and associated emissions reductions. Support was also provided to complete the North Selangor Management Plan, approved by the state government in 2014.



Huay Tak Teak Man and Biosphere Reserve, Lampang, Thailand

Following the successful development of the Mae Sa-Kog Ma MAB management plan, USAID LEAF and DNP replicated the management plan development process in the Huay Tak Teak MAB Reserve in Lampang. The process was a chance for DNP to take a leading role in the consultation process, with USAID LEAF providing a supporting role. Beginning in early 2015, DNP Protected Area Regional Office 13 (PARO 13) and USAID LEAF began a series of consultative meetings with community and government stakeholders in and around the Huay Tak MAB. The Mae Sa-Kog Ma MAB management plan was seen as a more inclusive process than the traditional top-down planning that DNP undertook in the past, and as in Chiang Mai, the Lampang stakeholders greatly appreciated the opportunity to be a part of the planning process.

By the middle of the year, the team was working closely with community leaders to conduct a rapid



socio-economic survey of the communities in Huay Tak, which was one of the first efforts of its kind in the area. In November 2015, the plan was finalized and approved. This plan was a great success for PARO 13 and Huay Tak Teak MAB, and also served as an excellent example of the scalability and replicability of USAID LEAF's initial investment and work in Chiang Mai.



MONITORING AND EVALUATION

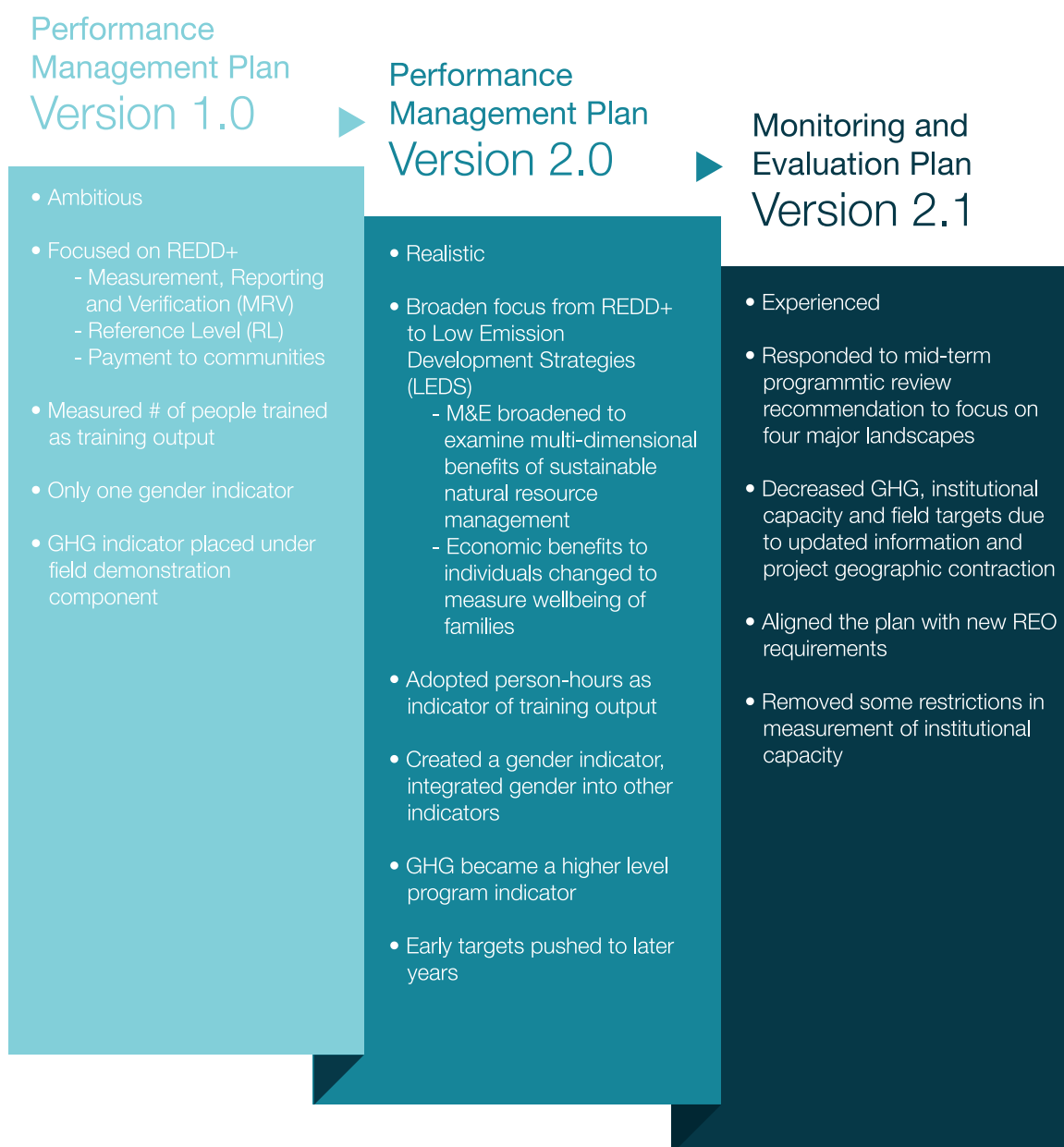
Designing the monitoring and evaluation (M&E) system for USAID LEAF presented several challenges, including operating in six countries, having only one M&E specialist based in the regional office, no dedicated M&E staff in field offices, reporting requirements to both USAID and host country governments, and technical challenges that arose from the program being at the intersection of climate change and forestry.

Technical challenges included accurately measuring changes in GHG emissions in forests with reasonable costs; tracking how analyses are translated into drafted or revised policies and laws; measuring capacity enhancement of individuals, institutions and regional platforms; assessing improved management of natural resources through multiple criteria; and understanding livelihood benefits to forest-dependent communities through sustainable natural resource management.

Monitoring and Evaluation Concept

M&E systems were created to address operational and technical challenges. While the M&E function needs to establish a solid foundation for proving results and improving the program, it has to be realistic considering human and financial resources. USAID LEAF's system was designed to bring together data and inputs from beneficiaries, implementers, partners and governments in the

target countries, then report back to them on the results and lessons learned. The aim was to create useful information, compiled and analyzed not only to the benefit of the donor, but facilitating adaptive management and communication within the team and among partners and stakeholders. To achieve this while minimizing burden on staff, the system emphasized quality over quantity.



The M&E plan for any program should be a living document. New information from the field necessitates adjustments in strategies and scope so the M&E framework needs to be responsive to those changes. At the same time, reliability of data must be adhered to. Adjustments in data collection instruments could render the collected data before and after the adjustment incomparable, so a balance is needed to keep the M&E system adaptive and reliable over time.

The international context of climate change negotiations and carbon markets had a transformative impact on the program. When it was first conceptualized, USAID LEAF was to take advantage of the emerging REDD+ framework. However, it became clear that apart from a few cases globally, payments for reducing deforestation and degradation in developing countries had not become widely available. All of the program's activities aimed at benefiting the governments, communities and other stakeholders regardless of whether or not REDD+ funds would materialize within the program duration. The M&E system was subsequently revised to measure the broader effects of sustainable natural resource management. Leveraged funding became more about co-leveraging funding from governments, the private sector and other international projects or programs. Measuring benefits to the communities became more about well-being, which includes opportunity, security and empowerment, as opposed to strictly counting payments.

At the beginning of 2013, USAID LEAF received additional funding for gender work from USAID. This enabled the program to intensify activities to promote gender equality and female empowerment in the forestry-land use sector. As a result, gender was mainstreamed into M&E work and organizational improvements on gender were measured under the institutional capacity indicator. Several other indicators including models, policies, training and area under improved management were modified to track gender inputs and outcomes through data disaggregation and explicit gender linkages. A new indicator was developed to track changes in the

capacity of gender champions and staff became more aware of the gender dimension in their work, including M&E.

The mid-term review was another milestone that led to the final revision of the M&E plan. One of the key recommendations from the evaluation was to phase out field implementation in Cambodia and Malaysia. With resources transferred from these countries to regional-level work, field related targets were reduced accordingly. The affected targets were households with improved well-being, strengthened institutions, area under improved management, and GHG emissions. The decrease in the GHG target was also due to the target being set too high in the original solicitation. This expectation was lowered after studies on forest cover change and carbon storage conducted in the program's core landscapes showed that the quantity of GHG emissions to be reduced in those areas was limited. With the curriculum development and gender work ramping up at the time, the indicator on improving institutional capacity was tailored to measure the changes in universities' capacity to teach climate change subjects and government organizations' ability to address gender issues.

Conducting M&E: Addressing the Technical Challenge

In practice, each of the indicators for measuring change is unique. Even the standard indicators were tailored to the program by having precise definitions and methods under the standard framework. Where the indicator does not fully measure the intended change, particularly at the outcome level, additional efforts and resources were expended to further study the results. Interconnection among the various outcomes exist because change does not always follow a linear path. USAID LEAF drew these linkages in its M&E system, and often evidence for one result is connected to other results. Therefore one would only see the complete picture if information from multiple interrelated indicators are considered together.

Managing M&E: Addressing the Operational Challenge

The three areas of operational challenge were wide geographical spread of the program, lack of human resources for M&E, and having to comply with reporting to host governments in each country in addition to reporting to the funder.

Physical distance cannot be shortened but social distance can. The first step to operationalizing USAID LEAF's M&E was to have all staff on the same page in their understanding of the measurement for the program's success. Informal, interactive training and discussion sessions were provided to the staff in each country office as well as the program component leads. When there was staff turnover, training was provided to new staff which doubled as refresher training sessions for existing personnel. M&E planning was conducted regularly with relevant team members for each country and program component. Even though the theory of change for each landscape was created to address one of the indicators, it actually helped to clarify the field activities, their interconnection and expected results. A quarterly M&E internal report was also compiled so team members could access up-to-date information on program progress and achievements. Overall, the M&E process was designed to be interactive and with participation from technical and management staff.

The initial lack of human resources for M&E was addressed by creating new positions or focal points on M&E in each country office. These focal points were responsible for ensuring evidence for activities and results were collected, compiled and communicated to the regional office. A conscious decision to provide M&E training to all staff raised the awareness of other technical team members and managers. With a better understanding of how the program tracked progress and studied the results, cooperation and coordination were improved. USAID LEAF also made use of voluntary services from educational institutions. An intern was hired to work on compiling survey results and interpret them into meaningful information and a team of highly capable master's degree students from

George Washington University was commissioned to conduct an outcome assessment on the Mae Sa-Kog Ma Man and Biosphere Reserve in Thailand as part of their final practicum.

For reporting to governments, performance indicators were negotiated at the onset. Where possible, indicators for reporting to host country governments were selected to be in line with those already being reported to USAID to avoid duplication of work. In most cases this was relevant, but in some cases specific locally appropriate indicators were designed. USAID LEAF's M&E system then doubled as a repository of information for reporting to partner agencies as well as USAID.

At the conclusion of the program, USAID LEAF's M&E function could be described as light but surefooted. It passed all three data quality assessments throughout the life of the program. It addressed issues identified in the mid-term review and ensured that the program was on track and steered towards optimum impact. M&E planning, data collection, evidencing and reporting became increasingly automatic over time, with staff understanding and appreciating M&E as a source of reliable information for the program. Innovative M&E related approaches used by USAID LEAF include theory of change and contribution analysis; gender integration; cohesive multi-level capacity framework; and tailored plans, criteria and milestones for measuring institution-level capacity building. In-depth studies were conducted beyond the requirement of the indicators that shed light into landscape level changes, community well-being and capacity outcomes.

Lessons Learned

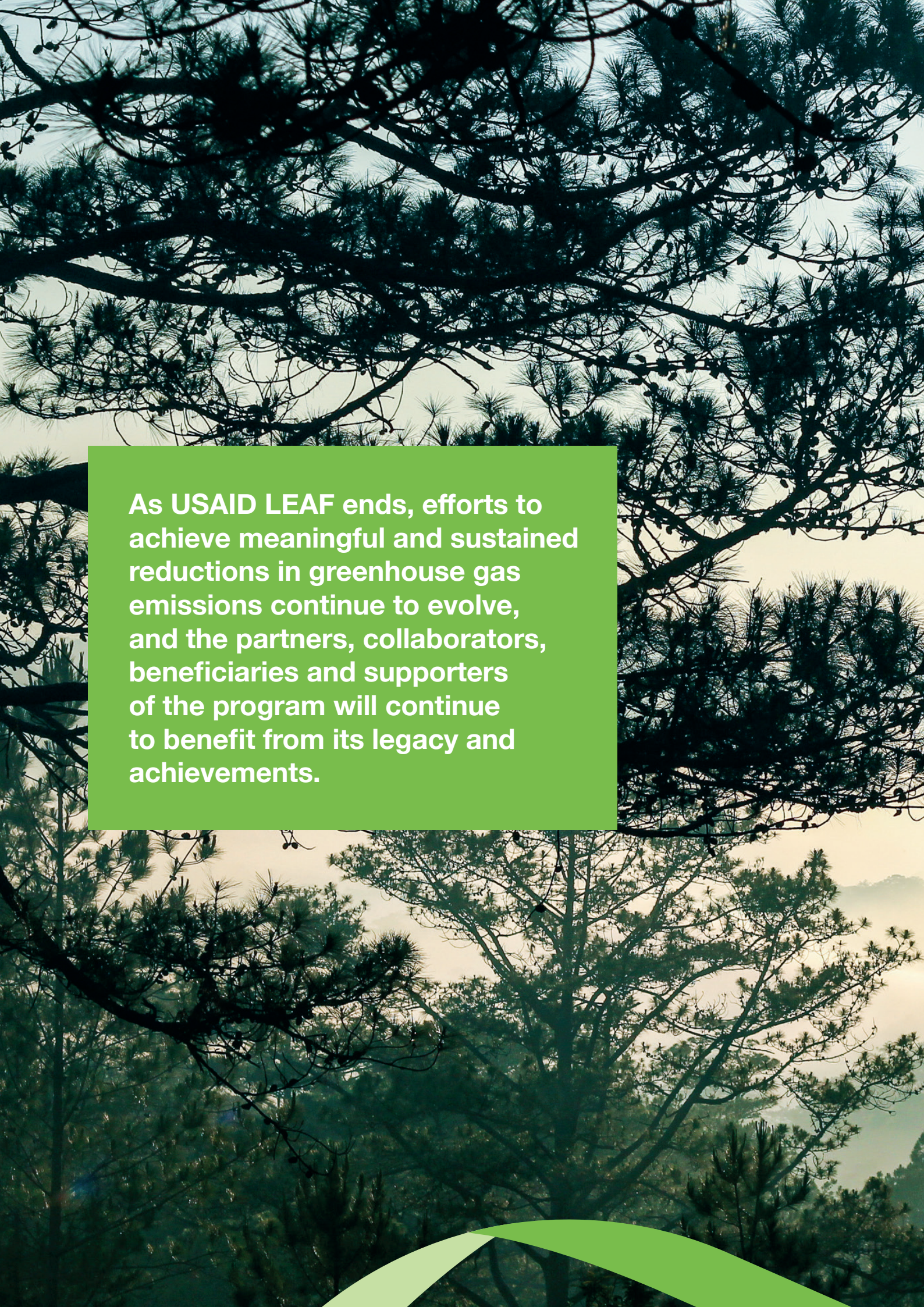
More participation from stakeholders to select and design the M&E indicators results in more useful information being produced for the stakeholders and not only the implementer and funder. However, this requires time and commitment by all parties involved.

Leadership support is crucial for smooth M&E function. This is particularly true when resources are needed to accomplish M&E tasks such as regular internal reporting, conducting specific studies or simply adding weight behind a message on M&E compliance.

Instead of one-way communication of data up from the field to the country offices, regional office and the funder, two-way communication with a feedback loop increases appreciation of M&E by the team. USAID LEAF utilized quarterly M&E reports that shared the compiled M&E data with staff on the overall picture of the program progress and how each piece of the result fit into the whole.

Having a complete set of relatively few indicators allowed time and resources for more in-depth outcome studies and learning to take place. It is also manageable as a centralized system with strong quality control.

Data quality assessments, meetings and relationship building among the program and funder staff are fruitful channels to ensure mutual understanding on M&E and facilitates meeting of expectations. M&E has a function to provide objective criteria for success which are agreed upon by both the donor and implementer.

The background of the image is a lush, green pine forest. The foreground is dominated by the dark, silhouetted branches and needles of a pine tree, creating a complex, web-like pattern. The background shows a vast expanse of similar trees, with some distant hills visible under a bright, slightly hazy sky. A solid green rectangular box is centered in the middle of the image, containing white text. At the bottom of the image, there is a decorative graphic element consisting of two overlapping, curved shapes in shades of green, resembling a stylized mountain range or a wave.

As USAID LEAF ends, efforts to achieve meaningful and sustained reductions in greenhouse gas emissions continue to evolve, and the partners, collaborators, beneficiaries and supporters of the program will continue to benefit from its legacy and achievements.



ANNEXES

QUARTERLY SUMMARY FY16 Q1 & Q2

Learning Workshop: Evaluation and Lessons Learned from the Asia-Pacific Leadership Initiative on Gender and Climate Change

In November 2015, USAID LEAF held an evaluation and lessons learned workshop in Trat, Thailand, for the 24 gender champions of its Asia-Pacific Leadership Initiative on Gender and Climate Change. The workshop was the culmination of the focus on strengthening the technical and leadership skills of these champions to better address gender issues in forestry and climate change. Participants used the event to celebrate their success stories and identify the impacts of the Leadership Initiative as well as discuss key recommendations for replication and upscaling. Sharing her successes in Vietnam, Hoai Nam Hoang Cong of the Lam Dong DARD, talked about how she was grateful that “USAID has given me the necessary skills to make me more confident.” The gender champions also joined local women leaders on a field trip to a mangrove forest to see first-hand activities that address conservation and livelihood issues in the Mairoot community. Patty Alleman, Senior Regional Gender Advisor at USAID RDMA, said the gender champions are “a chorus for gender equality and women’s leadership across Asia and the Pacific. Their leadership has led to systemic changes in their own countries and regionally.”

Chiang Mai Lessons Learned Workshop

In November 2015, USAID LEAF and its partners in Chiang Mai held a lessons learned workshop to discuss the five-year experience of the program. Forty participants from DNP, PARO 16, USAID LEAF, local universities and local community leaders summarized project activities and experiences, identified successes and challenges during the project implementation, and made suggestions and recommendations for future initiatives. Participants highlighted the Aura PES model and the development of the Mae Sa-Kog Ma Man and Biosphere Reserve management plan as significant successes. The group also identified several key recommendations for future initiatives, including involving all project partners in project scoping and initial design and decision making; ensuring an effective mechanism is in place from the beginning for sharing information and decision making, such as the Technical Working Group that USAID LEAF and PARO 16 developed after the program began; and focusing on capacity building to help local leaders understand project activities and objectives and empower them to provide further support in activity implementation and decision making.

2015 United Nations Climate Change Conference (COP 21)

USAID LEAF, along with USAID’s Low Emissions Asian Development (USAID LEAD) and GREEN Mekong programs, highlighted their successes in supporting improved forest management and reducing greenhouse gas emissions in Southeast

Asia at key side events at the COP21 Global Landscapes Forum in Paris, France, in December 2015. The events were to promote partnerships of the Agriculture, Forestry, and Other Land Use (AFOLU) Working Group, a platform to provide technical assistance, tools and trainings among policy makers and experts. USAID LEAF showcased several key results, including the PRAP in Lam Dong, Vietnam, a model being replicated in other provinces in the country to help reduce emissions from the forestry sector by 27%. RECOFTC also shared findings from the USAID Green Mekong program and highlighted the regional consultation report Equity in forests and REDD+ that reveals how perceptions of equity in REDD+ differ within countries and across the Mekong region, whereas participation, access to information and benefit sharing are challenges. Due to USAID’s work in Southeast Asia, leaders and policy makers are now able to evaluate different scenarios of economic growth and their social and environmental impacts, and then develop a more balanced, equitable, and sustainable development pathway for their communities and the region.

In addition, USAID LEAF presented innovative work on measuring and monitoring forest degradation at a side event at the IUCN Pavilion on “Forest Degradation: Discussion of Global Significance and Responses.” As many countries are just beginning to consider incorporation of degradation into their mitigation strategies, participants were anxious to hear some of the technology methods that USAID LEAF explored including the Global Forest Change product and CLASlite software, as well as to see the results of some of the analysis conducted by USAID LEAF in collaboration with USFS scientists.

Accelerating Investment in Low Emission Land Management in Asia

USAID LEAF continued its work to explore innovative ways to engage the private sector in investments in emissions reductions from the AFOLU sector. The program and its partners continue to see consistent trends around the region of analysts reporting billions of dollars of private sector capital available for conservation finance, but with very little actually being invested in activities that reduce greenhouse gas emissions from this sector. Along with the USFS and USAID LEAD program, USAID LEAF hosted a two-day workshop in February 2016 in Bangkok that examined several promising mechanisms to attract more private sector finance to conservation efforts. Experts discussed how developing and implementing improved ESG safeguards for the banking sector can facilitate both increased returns and improved outcomes, and also explored how a green bond mechanism that has been most commonly used for clean energy efforts could be a model for landscape bonds in the AFOLU sector. The group also examined the role that business incubators can play in developing a pipeline of investable projects, and opportunities for accelerators to support fund managers building their portfolios. Participants discussed strategies such as de-risking instruments and the provision of technical assistance for using public donor finance to leverage private investment to achieve more sustainable forest and land management in the region.

Program Operations and Close-out

Close-out of the USAID LEAF program, with offices in four countries, was a significant task. Planning began in July 2015 and closure of USAID LEAF offices occurred as follows:

- Papua New Guinea: Madang (September 18, 2015), Port Moresby (September 30, 2015)
- Lao PDR (SNV sub-contractor office): Vientiane and field offices (October 30, 2015)
- Vietnam (SNV sub-contractor office): Hanoi (December 18, 2015)
- Thailand: Chiang Mai (January 8, 2016), Bangkok (April 8, 2016)

USAID LEAF held one key meeting in each country prior to the close-out date, with key government counterparts and beneficiaries. During these meetings, USAID LEAF and its host country counterpart officially closed the program, provided some final summary remarks and reports on accomplishments in that particular landscape, and completed the handover of expendable/non-expendable property for each country office. USAID LEAF completed the upload of all required program documents to the Development Experience Clearinghouse (DEC) and instituted plans to ensure the USAID LEAF website remains active until 2018.

MAJOR PUBLICATIONS AND TOOLS

Forest and land related law and policy and associated processes

- Rapid Assessment of the Political, Legal and Institutional Setting (Country reports for Cambodia, Laos, Malaysia, Papua New Guinea, Thailand, Vietnam and regional report)
- Review of Forest and REDD+ Related Policy and Legislation in Papua New Guinea
- Review of International Experience with REDD+ and National Forest Funds
- Land Tenure and PES in Northern Thailand: A Case Study of the Mae Sa-Kog Ma Man and Biosphere Reserve
- Provincial REDD+ Action Plan, Lam Dong Province
- Decision Support Tool on Developing Forestry and Land Use Policy in the Context of Climate Change

Drivers of deforestation and forest degradation

- ARKN-FCC Decision Support Tool: Identifying and Addressing Drivers of Deforestation and Forest Degradation
- Drivers of Forest Change in the Greater Mekong Subregion (Country reports for Cambodia, Laos, Myanmar, Thailand, Vietnam and regional report)

Nesting/integrated accounting and incentive allocation

- REDD+ in Vietnam: Integrating National and Sub-national Approaches
- Decision Support Tool: Integrated REDD+ Accounting Frameworks—Nested National Approaches
- Survey and Analysis of REDD+ Projects in Cambodia
- Planning Guide: Integrating REDD+ Accounting within a Nested Approach
- Decision Support Tool on Incentive Allocation for Integrated REDD+ Accounting

Financing emissions reduction and REDD+

- Financing Emission Reductions in the AFOLU Sector
- Regional Forum on Developing and Financing Low Emission Development Strategies for the Agriculture, Forestry and Other Land Use Sector: Moving from Promise to Practice Workshop Report

Private sector engagement in AFOLU sector emissions reduction

- The Potential of Voluntary Sustainability Initiatives to Reduce Emissions from Deforestation and Forest Degradation
- Scoping Study to Identify Emission Reduction Opportunities from the Private Sector in Papua New Guinea
- Opportunities for Private Sector Emissions Reduction from the Agriculture, Forestry and Land Use Sector in Lam Dong Province, Vietnam

Mangrove carbon stock estimation and financing

- Review of Funding Availability for a Sustainable Financing Mechanism for Mangrove Restoration and Protection
- Review of Policy and Institutional Frameworks and Models for Mangrove Financing In Pakistan, Thailand and Vietnam
- Mangrove Biomass and Carbon Stock Estimator
- Mangrove Protection Template Agreement and Guidance Notes

Gender Integration

- Lessons Learned Factsheet: Gender Equality and Women's Empowerment in REDD+
- Scoping Study of Good Practices for Strengthening Women's Inclusion in Forests and Other Land Use Sector
- Women's Inclusion in REDD+ in Sri Lanka: Lessons from Good Practices in Forest, Agriculture and Other Land Use Sectors
- Women's Inclusion in REDD+ in the Philippines: Lessons from Good Practices in Forest, and other Natural Resource Management Sectors
- Workshop Summary Report: Asia-Pacific Workshop on Women's Inclusion for Sustainable Forests and Climate—What Works?
- USAID LEAF Gender Mainstreaming Strategy & Checklist
- Lessons Learned Factsheet: Gender Equality and Women's Empowerment in REDD+
- Scoping Study of Good Practices for Strengthening Women's Inclusion in Forests and Other Land Use Sectors
- Women's Inclusion in REDD+ in Cambodia: Lessons from Good Practices in Forest, Agriculture and Other Land Use Sectors in Cambodia
- Women's Inclusion in REDD+ in Sri Lanka: Lessons from Good Practices in Forest, Agriculture and Other Land Use Sectors
- Women's Inclusion in REDD+ in the Philippines: Lessons from Good Practices in Forest and other Natural Resource Management Sectors
- Asia-Pacific Workshop on Women's Inclusion for Sustainable Forests and Climate: What Works?
- REDD+ and Gender Policy Brief 1. Findings and Lessons Learned: Barriers and Entry Points for Women's Inclusion in REDD+ in Asia-Pacific
- REDD+ and Gender Policy Brief 2. What Strategic Directions are Needed to Strengthen Gender Equality in REDD+ in Asia-Pacific?
- A Fair Climate: Gender Equity in Forestry and REDD+

INPUTS TO POLICY AND LEGISLATIVE PROCESSES

FY2012

- A Guide to Establishing FPIC for REDD+ Projects in PNG (OCCD)
- The Criteria for Government Endorsed REDD+ Readiness Projects, PNG (OCCD)
- MRV Framework Document, Vietnam
- Lao Forestry Law revision

FY2013

- COP 18 ASEAN Joint Submission to AWG-LCA and SBSTA, ARKN-FCC
- Papua New Guinea National Climate Compatible Development Policy
- Papua New Guinea National Climate Compatible Development Bill
- Draft Carbon Regulation, Vietnam
- Sub-national Reference Level Agreement in Lam Dong, Vietnam
- Readiness Preparation Proposal Civil Society Inputs, Thailand
- Laos National Land policy
- Scaling Up Participatory Sustainable Forest Management Project Appraisal Document, Laos
- Environmental and Social Safeguards for the National REDD+ Action Plan, Vietnam
- Proposed Management Plan (2013-2016), Thailand Country Report, 25th Session of the International Coordinating Council of the Man and Biosphere Programme, UNESCO
- Mae Sa-Kog Ma Man and Biosphere Reserve Management Plan, Thailand

FY2014

- Decision on REDD+ fund establishment, Vietnam
- Provincial REDD+ Action Plan, Lam Dong, Vietnam
- National Protected Areas Systems Policy, Papua New Guinea
- Laos: National Forest Carbon Assessment Standard Operating Procedures
- Madang Provincial Development/Spatial Plan, Papua New Guinea
- UNDP "Report on Strengthening the Legal Framework for Climate Change in Cambodia"
- Papua New Guinea Readiness Preparation Proposal Implementation Guide
- Gender and Climate Change Action Plan, Cambodia
- Sustainable Forest Management Plan for State Forest Company, Nghe An, Vietnam

FY 2015

- Forestry Act review, Papua New Guinea
- Nepal REDD+ Strategy
- Madang Low Emission Land Use Strategy, Papua New Guinea
- Papua New Guinea National REDD+ Policy
- Aura Payment for Ecosystem Services Agreement, Thailand
- Madang Forest and Marine Protection Law, Papua New Guinea
- Nam Xam National Protected Area Management Plan, Laos
- Don Duong Sustainable Forest Management Plan, Vietnam

Gender Integration

- Lam Dong's Provincial REDD+ Action Plan
- Gender Analysis of Provincial REDD+ Action Plan in Lam Dong
- Vietnam's Roadmap to Climate Change Safeguards
- Laos Forestry Law revision
- Nepal REDD+ Strategy
- Papua New Guinea OCCD Policy
- Laos Department of Forestry Gender Action Plan
- National Social Economic Development Plan, Laos
- Lao Women's Union 5-year Women's Development Plan, 2016-2020
- Cooperation Memo with the Vietnam Women's Union in Forestry Protection in Lam Dong, Vietnam
- Gender inputs to Green Growth Action Plan in Thanh Hoa, Vietnam
- Drafted inputs for Cambodia National Policy on Gender Equality
- Inputs to Cambodia's National Action Program to combat land Degradation 2016-2025
- Provided inputs to consultants for preparing Cambodia's Gender Standardized Guidelines for Climate Change
- Inputs to Cambodia's Gender Mainstreaming Policy and Strategy Framework in Agriculture
- Gender and Climate Change Plan in Cambodia
- Inputs to Policy and Strategy Framework for Gender and Childhood Development and Protection in Agriculture 2016-2020
- Inputs to developing Cambodia's MAFF Gender Mainstreaming Policy of Agriculture
- Drafted ASEAN document for Gender Mainstreaming in Climate Adaptation and Mitigation, Ministry of Women's Affairs, Malaysia
- Gender inputs to Cambodia's REDD+ Strategy
- Gender-based Violence Strategy for Papua New Guinea

WORKSHOPS AND MEETINGS

Forest and land related law and policy and associated processes

- National Consultation on Papua New Guinea Forest and REDD+ Related Policy and Legislation, July 2014
- Consultations and technical meetings on Vietnam National REDD+ Fund development:
 - National REDD+ Fund Consultation, August 2013
 - REDD+ Fund Technical Meeting, October 2013
 - VNFOREST-USAID LEAF Vietnam meeting, November 2013
 - National Consultation Workshop on the Third Draft Proposal on Establishment of Vietnam REDD+ Fund, November 2013
 - USAID LEAF-VNFOREST consultation meeting, December 2013
 - Learning from international experiences for the development of Vietnam National REDD Fund, March 2014
 - National Consultation Workshop on the Third Draft Proposal on Establishment of Viet Nam REDD+ Fund, May 2014
 - Consultation Workshop on Proposal for Development of Vietnam REDD+ Fund, October 2014
- Workshop on Development of a Decision Support Tool on Forestry and Climate Change Policy Formulation, January 2015

Drivers of deforestation and forest degradation

- ARKN-FCC Decision Support Tool on Identifying and Addressing Drivers of Deforestation and Degradation:
 - Conceived during 6th meeting of ASEAN Regional Knowledge Network On Forest And Climate Change, Jakarta, Indonesia, October 2012
 - Developed during Workshop on Identifying and Addressing Drivers of Deforestation and Forest Degradation in the ASEAN region, Bangkok, Thailand, April 2013
 - Further developed during Second Workshop on Assessing and Addressing Drivers of Deforestation and Degradation in ASEAN + PNG Countries, Jakarta, Indonesia, August 2013
 - Presented by ARKN-FCC coordinator at Global Landscapes Forum during COP19, Warsaw, Poland, November 2013
 - Presented and reviewed at the 8th meeting of the ASEAN Regional Knowledge Network on Forest and Climate Change, Bali, Indonesia, March 2014
 - Presented and reviewed during Workshop on Drivers of Deforestation and Forest Degradation, Phnom Penh, Cambodia, March 2014
 - Presented and reviewed during USAID LEAF Vietnam, MB-REDD and Lam Dong Agriculture and Forestry Consulting Company meeting, Dalat, Vietnam, March 2014
 - Presented and reviewed during Workshop on Identifying and Addressing Drivers of Deforestation and Forest Degradation in Madang Province, Papua New Guinea, April 2014
 - Presented and reviewed during Workshop on Identifying Drivers of Deforestation and Forest Degradation in the Philippines, Manila, Philippines, April 2014
 - Presented at event on Lessons from ASEAN-REDD+ Policy Development and Implementation, CIFOR Forest Asia Summit, May 2014
 - Presented and reviewed during Workshop on Identifying Drivers of Deforestation and Forest Degradation in Pahang, Malaysia, December 2014
 - Launched at ARKN-FCC side event on Knowledge Sharing on REDD+ in ASEAN Countries at COP 20, Lima, Peru, December 2014
- Workshop on Drivers of Change Affecting Mekong Forests: Towards formulation of GMS action plans, Bangkok, Thailand, January 2015

Nesting/integrated accounting and incentive allocation

- Series of national workshops on Integrated REDD+ accounting frameworks (Vientiane, Laos, August 2013; Hanoi, Vietnam, October, 2013; Kuala Lumpur, Malaysia, October 2013; Phnom Penh, Cambodia, November 2013)

Financing emissions reduction and REDD+

- ASEAN Regional Knowledge Network on Forest and Climate Change and Australia-New Zealand Forestry and Climate Change Policy Exchange, January 2014
- Asia LEDS Partnership Forum 2014: Expert Meeting and Training Session on Financing Low Emissions Development Strategies in the AFOLU sector, Yogyakarta, Indonesia, November 2014
- Regional Forum on Developing and Financing Low Emissions Development Strategies for the Agriculture, Forestry and Other Land Use Sector: Moving from Promise to Practice, Bangkok, Thailand, July 2015

Mangrove carbon stock estimation and financing

- Carbon Stock Assessment and Emissions Inventory in Asian Mangroves: Executive Summary for Policy Makers, Bangkok, April 2013
- Inception Workshop for Income for Coastal Communities for Mangrove Protection project, Bangkok, Thailand, May 2015

Curriculum Development

- Training needs assessment and module prioritization outline development, Bangkok, Thailand and Hanoi and Dalat, Vietnam, October 2012
- Regional Workshop on Curriculum Testing and Materials Review, Bangkok, Thailand, August 2013
- Regional Training of Trainers for Materials Refinement (BCC, LELUP), January 2014
- Regional Training of Trainers for Materials Refinement (SES, CMM), May 2014
- Curriculum Launch at Vietnam Forestry University, Hanoi, Vietnam, June 2014
- Curriculum Launch at Dalat University, Dalat, Vietnam, June 2014
- Regional Training-of-Trainers on four climate change modules, Kuala Lumpur, Malaysia, August 2014
- Curriculum Launch at Vinh University, Vinh, Vietnam, August 2014
- Climate Change Curriculum Seminar, Thanh Hoa, Vietnam, November 2014
- Curriculum Launch in Thailand, Bangkok, Thailand, December 2014
- Climate Change Curriculum Seminar by USAID VFD, Long An, Vietnam, December 2014
- Curriculum Launch in Cambodia, Phnom Penh, Cambodia, January 2015
- Regional Training of Trainers on Low Emission Land Use Planning Role Play, Bangkok, Thailand, February 2015
- Curriculum Launch in Laos, Vientiane, Laos, April 2015
- Advanced Training on Climate Change Curriculum for Universities in Thailand, Bangkok, Thailand, May 2015
- Regional Workshop on Success Stories in Climate Change Education Advancement in the Asia-Pacific Region, Bangkok, Thailand, August 2015

Gender Integration

- Launch of Leadership Initiative and Capacity Needs Assessment, November 2013
- Regional Knowledge Exchange Workshop, March 2014
- Equality in Climate Change: Training for Practitioners, September 2014
- Strategic Planning for Safeguards in Climate Change, January 2015
- Training of Trainers on Gender Integration in Climate Change, May 2015
- Learning Workshop: Evaluation and Lessons Learned, November 2015

MONITORING & EVALUATION INDICATOR DESCRIPTIONS

Greenhouse Gas

Indicator: Quantity of GHG emissions, measured in metric tons of CO₂ equivalent, reduced or sequestered as a result of USG assistance.

USAID LEAF's approach: This is a high level indicator to measure the project goal. While USAID LEAF made use of the USAID Carbon Calculator to estimate the quantity of GHG reduced or sequestered, in some landscapes, national and sub-national assessments of forest cover change and biomass were utilized to improve upon the default values in the calculator, which were based on a global dataset. As much as possible, USAID LEAF improved the accuracy of the GHG estimation for reporting.

Linkages and framework: The project activities and their results that brought about GHG reduction are captured under the indicator on area under improved natural resource management. These two indicators go hand-in-hand. While the GHG reports the final number of GHG reduced, the hectares under improved management indicator captures what was accomplished that led to the reductions.

Investment Leveraged

Indicator: Amount of investment leveraged, in USD, from private and public sources, for climate change as a result of USG assistance.

USAID LEAF's approach: This indicator is a standard indicator. Nevertheless, USAID LEAF precisely interpreted it by counting funds that have already been transferred from the source to the receiver. Evidence includes the funding agreement and subsequent financial records or confirmation of transfers. Initially, the funding was expected to be in the form of payment from REDD+ or voluntary carbon offset schemes. However, since the context changed, the indicator was used to measure co-leveraged funding and PES instead. The purpose of co-leverage investment is usually clear from the onset, but in the case of PES, USAID LEAF followed up to find out that the payment was reserved by the community to fund future environmental or development work for their village.

Linkages and framework: This indicator is one of two higher level program indicators. It was assumed that the proven results in all four project components would contribute to the project's ability to leverage investments from the public and private sectors. However, it was also noted that investments can only be leveraged if external funding was available.

Innovations

Indicator: Number of model actions, methodologies, protocols, tools and technologies developed for replication by partners and stakeholders as a result of USG assistance.

USAID LEAF's approach: It would not have been plausible to track the number of beneficiaries who adopted and used the models produced by USAID LEAF. The second best option was to track the number of models that were produced and disseminated, then follow up where possible on those who have accessed them from the USAID LEAF website or attended one of USAID LEAF's trainings where the models and tools were taught. The follow up study was completed in August 2015 and the Tools Utilization Outcomes report presents information from the study and provided insight into the awareness, purpose and place of tools utilization.

Linkages and framework: The tools were disseminated through regional platforms as well as training events and forums. These events should be viewed as a practical extension to the tools and these references were made in the M&E database.

Policy

Indicator: Number of laws, regulations, policies, agreements, decisions, strategies or plans addressing REDD+ for which USG assistance has been provided during the revision or development process.

USAID LEAF's approach: Discussions took place on the policy indicator at the beginning of the project. Because policy formulation and revision were essentially national or regional internal processes and a project such as USAID LEAF could only do so much to provide advice, space for stakeholder consultation would benefit decision making. There are many external factors at play which were beyond the project's influence. At the same time, USAID LEAF was supposed to be managed for results, i.e., actual changes in policy, laws or plans and not just for inputs provided. The solution was to utilize a milestone approach where the count towards achieving the target happens early on at the output level, but the results are then tracked and followed up in the future to learn about actual changes in policies.

Linkages and framework: USAID LEAF's policy work ranges from advice and analysis by experts to a participatory process of capacity building and consultation. In some cases policy work is linked to capacity building and improving management of natural resources. The milestones that are used to track each policy, law or plan begin at problem identification, and after going through various stages, ends at implementation. Evidence of actual policy improvements along with the milestone reached were recorded to provide a more dynamic representation of the policy results.

Capacity

Indicators: Person-hours of training completed in climate change supported by USG assistance; number of institutions with improved capacity to address climate change issues as a result of USG assistance; number of regional platforms created or strengthened as a result of USG assistance.

USAID LEAF's approach: Capacity building was a core component of USAID LEAF. Trainings, sharing innovations through regional platforms, improving policies, and demonstrating landscape-level results support improved capacity of countries to mitigate climate change through action in the forestry-land use sector. More specific capacity building efforts involved trainings and targeted activities designed to enhance institutional capacity of organizations and regional platforms. At the most basic level, person-hours of training are tracked with standard disaggregation required by USAID. Follow up studies of outcomes of individual capacity improvement were then undertaken with the results presented in a number of reports. At the institutional level, multiple criteria were used for judging changes in capacities of universities involved in curriculum development and government organizations integrating gender work into forestry and climate change. A similar approach was applied with regional platforms but the criteria were specific to each platform and a process of mutual appraisal of the capacity change was conducted annually or at the end of the support period.

Linkages and framework: The Kirkpatrick Model was used to define and connect the different levels of capacity including reaction, learning, behavior and results. Although the framework is simple, it provides an anchor for USAID LEAF to study and present capacity enhancement outcomes at various levels and from activities under different project components. Monitoring and outcome studies clearly fit into one or more of the Kirkpatrick levels to ensure minimal overlap and support comprehensiveness of the overall M&E efforts on learning about capacity change.

Gender

Indicator: Number of decision makers with increased capacity to act as leaders for gender equality and women's empowerment in climate change as a result of USG assistance.

USAID LEAF's approach: The custom gender indicator was created to measure change in capacity of the gender champions who participated in USAID LEAF's leadership initiative. Through interviews, surveys or participatory exercises, the gender champions were asked to gauge if and how their capacity had improved as a result of the project. The results showed that not only did the gender champions improve their ability to accomplish certain tasks in their work, but also in terms of professional and personal leadership.

Linkages and framework: As a cross cutting issue, USAID LEAF not only documented the gender champions' capacity but also in other areas through disaggregation and evidencing gender-related inputs and outcomes. Changes at the organizational level, which were brought about by the gender champions with the direct support of the project, were measured under the institutional capacity indicator. Policies and tools were disaggregated so that the items receiving gender inputs could be highlighted. Documentation of field demonstration work and training events also had references to the gender aspects of USAID LEAF's contribution.

Area under Improved Natural Resource Management

Indicator: Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance.

USAID LEAF's approach: Utilizing the standard indicator for performance measurement, multiple criteria for improvement were identified and applied for evidencing. The criteria were adhered to and provided an overall definition of improved management. In practice, a theory of change was created together with the country office staff for each landscape. Each piece of evidence was linked with an activity or a result in the theory of change, which was continually reviewed and updated as new developments take place. The number of hectares in each area were justified and references provided for including them as target achievement.

Linkages and framework: Using a theory of change to make sense of the complex web of activities in each landscape, then collecting evidence for each activity and result were part of a process inspired by a contribution analysis approach. Even though these are only the first few steps of the contribution analysis process, it proved useful not only for M&E but also for communicating the program's actions, expectations and results to stakeholders. The approach also dealt effectively with the multiple criteria stipulated as part of the standard indicator. The theory of change for each landscape also showed the connection with activities and results under other project components.

Livelihoods

Indicator: Number of households with improved well-being through sustainable natural resource management as a result of USG assistance.

USAID LEAF's approach: The program's strategy realignment from a focus on REDD+ to broader sustainable land use and natural resource management had a major impact on measuring benefits to target communities. Instead of measuring payments from REDD+ or other voluntary climate change mitigation schemes, USAID LEAF created a new indicator that would measure well-being, which is categorized into opportunity, security and empowerment. This indicator was a much better reflection of the project's activities on the ground. Small scale assessment and evaluation took place to learn about these aspects of well-being as a result of the intervention.

Linkages and framework: The assessments of household's well-being benefited from having a framework to guide its design, from data collection to analysis and presentation of the information. The broad well-being framework captures straightforward socioeconomic aspects of the results, such as payments and production, as well as other aspects of the communities' situation on natural resource management including opportunities for participating in decision-making and rights or tenure for managing land.

MONITORING & EVALUATION RESULTS

P.1.1: Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO₂ equivalent, reduced or sequestered as a result of USG assistance

#	Country	Location	Scope	Activity or Policy Name	Action Type	GHG reduced/avoided/sequestered		
						FY14	FY15	Total
1	VIE	Lam Dong	All forest area	Implementation of Provincial REDD+ Action Plan	Forest protection	1,910,708	1,288,473	3,199,181
2	VIE	Nghe An	Forests under Forest Management Board	Forest and Land Use Plan by Forest Management Board	Forest protection		36,616	36,616
3	VIE	Nghe An	Forests under Con Cuong State Forest Company's ownership	Sustainable Forest Management by Con Cuong State Forest Company	Forest management		684	684
4	LAO	Houaphan	Nam Xam National Biodiversity Conservation Area	REDD+ Mitigation strategies, including Participatory Land Use Planning and Improved Forest Management	Forest protection		327,189	327,189
5	PNG	Madang	Forest area in Bogia District	Provincial wide land use, forest and conservation planning, with a focus on the Almami Local Level Government area	Forest protection		1,874,084	1,874,084
6	MAL	Selangor	North Selangor Peat Swamp Forest	Feasibility study and analysis for North Selangor Peat Swamp Forest Carbon Project	Forest protection		2,540,694	2,540,694
7	THA	Chiang Mai	Mae Sa-Kog Ma Man and Biosphere Reserve	Improved natural resource/forest management	Forest protection		41,814	41,814
Total						1,910,708	6,109,554	8,020,262

Note: All GHG reductions are reduction and not sequestration

P.2.1 Amount of investment leveraged, in U.S. dollars, from private and public sources, for climate change as a result of USG assistance

#	Country	Location	Purpose / Activity	Source	Source type	Agreement type	Fund transferred				
							FY13	FY14	FY15	FY16	Total
1	PNG	Madang	Madang Spatial Planning	Madang Provincial Administration	Local Gov	co-leveraged			149,854		149,854
2	PNG	Madang	Madang Spatial Planning	AusAID	International Fund	co-leveraged	813,933				813,933
3	LAO	Attapeu	Capacity Building for REDD+:	ADB	International Fund	co-leveraged		19,763	20,019	109,083	148,865
4	THA	Chiang Mai	Payment for Ecosystem Services	Tipco Foods PCL	Company	Payment for Ecosystem Service			3,147	1,195	4,342
5	PNG	Madang	Implement Madang Spatial Plan	Madang Provincial Administration	Local Gov	co-leveraged			528,443		528,443
6	REG	Regional	Forest policy exchange visit	GIZ, FAO, Brunei Government	International fund and National Gov	co-leveraged		63,717			63,717
7	REG	Regional	Forest drivers of change study	FAO	International Fund	co-leveraged			67,900		67,900
8	REG	Regional	Income for Coastal Communities for Mangrove Protection project	IUCN	International Fund	co-leveraged			84,924		84,924
9	REG	Regional	Study to support better conservation practices	Australian Government	National Gov	co-leveraged			62,060		62,060
10	VIE	Lam Dong	To support implementation of the Provincial REDD+ Action Plan	UN-REDD	International Fund	co-leveraged			768,980		768,980
11	VIE	Lam Dong	To support implementation of the Provincial REDD+ Action Plan	German Government	National GO	co-leveraged			1,317,770		1,317,770
12	REG	Regional	Activities related to gender integration into REDD+ Policies and Measures	UN-REDD	International Fund	co-leveraged				118,000	118,000
Total							813,933	83,480	3,003,097	228,278	4,128,788

Note: all funds are neither Official Development Assistance (ODA) nor carbon finance

1.1.1 Number of model actions, methodologies, protocols, tools and technologies developed for replication by partners and stakeholders as a result of USG assistance

#	Country	Model name	Type	Publication date
1	REG	South and SE Asia REDD+ Atlas	Tools & technology	Jul-12
2	REG	SOP for Terrestrial Carbon Measurement	Methodology & protocol	Aug-12
3	REG	Manual Carbon Stock Calculation Tool	Tools & technology	Sep-12
4	REG	Destructive Harvest Data Entry Tool	Tools & technology	Sep-12
5	REG	Tool for Estimating Carbon Emissions Factors from Selective Logging	Tools & technology	Sep-12
6	REG	Gender Mainstreaming Strategy and Checklist	Methodology & protocol	Jan-13
7	REG	Technical Guidance on Development of a REDD+ RL	Methodology & protocol	May-13
8	REG	Guideline for Stratification for REDD+	Methodology & protocol	May-13
9	REG	National REDD+ Accounting Framework Decision Support Tool	Tools & technology	May-13
10	REG	Participatory Carbon Monitoring: Operational Guidance for National REDD+ Carbon Accounting	Methodology & protocol	Dec-13
12	REG	Drivers of Deforestation & Degradation Decision Tool	Methodology & protocol	Dec-14
13	REG	Planning Guide: Integrating REDD+ accounting within a nested approach	Methodology & protocol	Mar-15
14	REG	ASEAN Fire Alert Tool	Tools & technology	Apr-15
15	REG	Decision support tool on incentive allocation for integrated REDD+ accounting	Methodology & protocol	Jan-16
16	REG	Developing forestry and land use policy in the context of climate change	Methodology & protocol	Jan-16
17	REG	Guidance on Low Emission Land Use Planning	Methodology & protocol	Jan-16
18	REG	Framework Document	Methodology & protocol	Dec-13
19	REG	Module AD-D: Activity Data for Deforestation	Methodology & protocol	Dec-13
20	REG	Module EF-D: Emission Factors for Deforestation	Methodology & protocol	Dec-13
21	REG	Module EM-H: Estimating Historical Emissions from Deforestation	Methodology & protocol	Dec-13
22	REG	Module STR-NFI: Forest Carbon Stratification Using NFI Data	Methodology & protocol	Dec-13
11	REG	Module C-CS: Calculations for Estimating Carbon Stocks	Methodology & protocol	Oct-14
23	REG	Module FDG-DST: Forest Degradation Guidance and Decision Support Tool	Methodology & protocol	May-15
24	REG	Module EN: Developing a Reference Level for Carbon Stock Enhancements	Methodology & protocol	Jan-16

Note: #6 is a gender focused tool and #18-24 are part of USAID LEAF Technical Guidance Series for the Development of a National or Subnational Forest Monitoring System for REDD+

1.2.1 Number of regional platforms created or strengthened as a result of USG assistance

#	Platform name	Date of appraisal showing capacity increase
1	Forest Carbon Asia	Sep-12
2	The REDD desk	Jan-16
3	ASEAN Regional Knowledge Network on Forest and Climate Change (ARKN-FCC)	Jan-16
4	Mangroves for the Future	Aug-14
5	Asia LEDS Partnership	Oct-14

2.1.1 Number of laws, regulations, policies, agreements, decisions, strategies or plans addressing REDD+ for which USG assistance has been provided during the revision or development process

#	Country	Name of enabling condition document	Type	Level	Gender input	Date of LEAF Input
1	PNG	A Guide to Establishing FPIC for REDD+ Projects in PNG	policy	national		Jun-11
2	PNG	The Criteria for Government Endorsed REDD+ Readiness Projects	policy	national		Jun-11
3	VIE	MRV Framework Document	plan	national		Jun-11
4	LAO	Forestry Law Revision	law	national		Sep-12
5	PNG	National Climate Compatible Development Policy	policy	national	Y	Oct-12
6	PNG	National Climate Change and Development Bill	Law	national		Oct-12
7	REG	COP 18 ASEAN Joint Submission to AWG-LCA and SBSTA	policy	regional		Oct-12
8	REG	ARKN FCC Work program	plan	regional		Oct-12
9	VIE	Draft Carbon Regulation	regulation	national		Dec-12
10	VIE	Decision on REDD+ fund establishment	regulation	national		Aug-13
11	PNG	Forestry Act and Policies	law	national	Y	Dec-14
12	VIE	Sustainable Forest Management Plan for State Forest Company in Nghe An	plan	subnational		Sep-14
13	VIE	Subnational RL agreement in Lam Dong	agreement	subnational		Jan-13
14	VIE	Provincial REDD+ action plan (PRAP) Lam Dong	plan	subnational	Y	Jul-13
15	THA	R-PP Civil Society Inputs	plan	national	Y	Mar-13
16	LAO	National land policy -Draft	policy	national		May-13
17	LAO	Scaling Up Participatory Sustainable Forest Management Project Appraisal Document	plan	subnational		May-13
18	VIE	Environmental and Social Safeguards for the National REDD+ Action Plan	plan	national	Y	Jun-13
19	THA	Proposed Management Plan (2013-2016) in Thailand Country Report for the 25th Session of the International Coordinating Council (ICC) of the Man and Biosphere (MAB) Programme, UNESCO	plan	subnational		Feb-13
20	THA	Mae-Sa Kog Ma Man and Biosphere Reserve Management Plan	plan	subnational		Sep-13
21	PNG	Protected Area Policy	policy	national		Nov-13
22	PNG	Madang Provincial Development / Spatial Plan	plan	sub-national	Y	Feb-14
23	LAO	National Forest Carbon Assessment SOP	plan	national		Sep-13
24	CAM	National Climate Change Legislation	law	national		Feb-14
25	PNG	R-PP Implementation Guide	plan	national		Feb-14
26	CAM	Gender and Climate Change Action Plan	plan	national	Y	May-14
27	PNG	Madang Low Emission Land Use Strategy	strategy	sub-national		Jun-15
28	NEP	REDD+ Strategy	strategy	national	Y	Mar-15
29	PNG	National REDD+ Policy	policy	national		May-15
30	THA	AURA Payment for Ecosystem Services Agreement	agreement	local		Jul-15
31	PNG	Madang Forest and Marine Protection Law 2015	law	sub-national		Sep-15
32	LAO	Nam Xam Management Guiding Document	plan	local		Sep-15
33	VIE	Don Duong Sustainable Forest Management Plan	plan	local		Sep-15

3.1.1 Person-hours of training completed in climate change supported by USG assistance

#	Training name	Start date	End date	Duration	Number of participants	Person hours
1	Road to Readiness – Making RELs Work	23-Aug-11	25-Aug-11	20	24	480
2	Policy and Governance in ASEAN Region	21-Nov-11	26-Nov-11	44	4	176
3	PES Study Tour	06-Feb-12	10-Feb-12	32	14	448
4	Introduction to REDD+ as part of Inception and Awareness Raising WS, Houaphan	16-Feb-12	16-Feb-12	8	36	288
5	REL/RL, MRV, Nesting approach	20-Mar-12	20-Mar-12	4	17	68
6	Introduction to REDD+ as part of Inception and Awareness Raising WS Attapeu	25-Apr-12	25-Apr-12	8	28	224
7	Reduced Impact Logging	03-May-12	04-May-12	16	6	96
8	Low Emission Land Use and Forest Planning at the Sub-National Level in Southeast Asia	03-Jul-12	04-Jul-12	16	14	224
9	Basic REDD+	16-Jul-12	17-Jul-12	12	39	468
10	Road to Readiness – Tools for Reference Level Development and Design of REDD+ Strategies	18-Sep-12	19-Sep-12	16	43	688
11	Remote Sensing and GIS in Forest Mapping	22-Oct-12	24-Oct-12	24	16	384
12	Social and Environmental Soundness in REDD+ (co-sponsored with FCMC)	05-Nov-12	08-Nov-12	32	13	416
13	Synthesis WS on Options for Monitoring Forest Degradation at Sub-Nat Levels in the Mekong	13-Nov-12	14-Nov-12	16	12	192
14	Technical Training on Subnational RL Development	29-Nov-12	04-Dec-12	40	23	920
15	Technical Training on Subnational RL Development	10-Dec-12	14-Dec-12	40	17	680
16	Technical Field Training on Carbon Assessment	12-Feb-13	28-Feb-13	96	22	2112
17	Technical Field Training on Carbon Assessment	04-Mar-13	13-Mar-13	72	32	2304
18	LEAF Livelihood Intervention and Raising Awareness on Forest Protection	17-Apr-13	18-Apr-13	12	54	648
19	Satellite Image Interpretation in Forestry Mapping	06-May-13	09-May-13	32	14	448
20	GIS and GPS Application - Houaphan	06-May-13	17-May-13	72	13	936
21	National Forest Inventory 5 Capacity Building -Sabah	20-May-13	23-May-13	20	26	527
22	Madang Provincial Planning for Sustainable Development (1st)	28-May-13	30-May-13	14	18	248
23	Forest Policies for the 21st Century	27-May-13	06-Jun-13	82	2	164
24	Climate Change awareness raising training	01-Jun-13	06-Jun-13	4	297	1114
25	MAB and Participatory NRM Plan Development	18-Jun-13	20-Jun-13	24	28	658
26	National Forest Inventory 5 Capacity Building -Sarawak	18-Jun-13	21-Jun-13	18	26	455
27	GIS and GPS Application - Attapeu	08-Jul-13	19-Jul-13	72	12	864
28	Concept and Practice of Tropical Forest Restoration	26-Jul-13	28-Jul-13	19	15	285
29	Regional Climate Change Curriculum Development	05-Aug-13	16-Aug-13	12	22	264
30	Madang Provincial Planning for Sustainable Development (2nd - Bogia)	20-Aug-13	22-Aug-13	6	32	197
31	Man and Biosphere (MAB) and Participatory Management (for local stakeholders)	21-Aug-13	23-Aug-13	3	162	486
32	Madang Provincial Planning for Sustainable Development (3rd - Usino-Bundi)	04-Sep-13	05-Sep-13	6	43	237
33	Gender Integrating Planning in Climate Change/REDD+ projects & the Organization	09-Sep-13	13-Sep-13	30	22	660
34	UN-REDD National Forest Monitoring Systems for REDD+: 4th Regional Lessons Learned WS	15-Oct-13	17-Oct-13	19	9	167
35	LEAD - Triple Bottom Line Valuation Methods for Protected Areas	23-Oct-13	25-Oct-13	16	2	32
36	National REDD+ Accounting Framework	30-Oct-13	31-Oct-13	8	8	74
37	Technical Training on Forest Carbon Stratification and Estimating Historical Emissions for Lam Dong	28-Oct-13	01-Nov-13	31	16	500
38	REDD+, Sustainable Land-Use and Conservation Planning: An Introductory Training	20-Nov-13	21-Nov-13	11	30	343
39	PES Schemes: Mechanism Design	20-Nov-13	21-Nov-13	10	5	49
40	GIS Application in Establishing RL	21-Nov-13	22-Nov-13	13	13	166

41	Gender Integrating Planning in Climate Change/REDD+ projects & the Organization	21-Nov-13	25-Nov-13	35	18	630
42	Asia-Pacific Leadership Workshop on Gender and Climate Change/REDD+	25-Nov-13	30-Nov-13	35	20	705
43	Development of a Hydrological Survey and Monitoring Plan for the North Selangor Peat Swamp Forest	02-Dec-13	10-Dec-13	13	27	351
44	Ecosystem (Water) Monitoring	15-Jan-14	17-Jan-14	19	31	597
45	Curriculum Development TOT BCC & LUPCC	29-Jan-14	02-Feb-14	31	14	431
46	ARKN-FCC Australia - New Zealand Forestry and Climate Change Policy Exchange	28-Jan-14	05-Feb-14	36	15	540
47	Basic GPS Concept and Practice for Natural Resource Monitoring	27-Feb-14	27-Feb-14	5	27	144
48	Technical Field Training on Carbon Assessment (Houaphan)	24-Feb-14	28-Feb-14	34	24	816
49	Technical Training on Carbon Assessment	31-Mar-14	04-Apr-14	30	29	870
50	Technical Training on Logging Emission	07-Apr-14	11-Apr-14	30	17	510
51	Community-based Forest Biomass Monitoring	28-Apr-14	02-May-14	35	10	350
52	People, Land use and Forestry in the Pacific: Policy Challenges in the 21st Century	12-May-14	23-May-14	75	4	301
53	Technical Training for Madang REDD+ Working Group	27-May-14	28-May-14	8	8	66
54	Curriculum Development TOT CMM and SES	26-May-14	30-May-14	37	15	550
55	Ecosystem (Water) Monitoring ²	28-May-14	30-May-14	24	60	1440
56	Tropical Forest Restoration	08-Jul-14	10-Jul-14	17	33	569
57	Carbon and Biomass Assessment	27-Jul-14	25-Jul-14	46	21	956
58	Regional Climate Change Curriculum Development (TOT -all modules)	04-Aug-14	08-Aug-14	30	81	2430
59	Land Use Planning - Scenario Analysis	13-Aug-14	15-Aug-14	18	30	540
60	Provincial REDD+ Strategy Development Learning and Exchange Tour	08-Sep-14	12-Sep-14	26	11	281
61	Equality in Climate Change: Training for Practitioners: Asia-Pacific Leadership Program on Gender, Climate Change and REDD+ # 2	23-Sep-14	26-Sep-14	28	17	468
62	Carbon Stock Analysis	02-Dec-14	03-Dec-14	12	17	196
63	Fire Management Planning	21-Jan-15	22-Jan-15	14	18	252
64	Village Veterinary Worker	12-Jan-15	23-Jan-15	33	20	650
65	Fire Emission	27-Jan-15	29-Jan-15	17	18	297
66	Planning for Safeguards in CC and REDD+: Asia Pacific Leadership Initiative on Gender and Climate Change/REDD+ (gender 3)	26-Jan-15	30-Jan-15	31	22	682
67	Regional Training of Trainers on Low Emission Land Use Planning Role Play	02-Feb-15	06-Feb-15	27	13	351
68	Livestock Improvement Study Tour	27-Feb-15	01-Mar-15	20	22	429
69	Community Based Forest Management (Nghe An)	11-Mar-15	15-Mar-15	38	39	1463
70	Animal Husbandry	25-Mar-15	06-Apr-15	16	51	836
71	Advanced Training on Climate Change Curriculum Development	18-May-15	22-May-15	21	25	525
72	TOT on Gender-Integration in Climate Change and REDD+: Asia Pacific Leadership Program on Gender and Climate Change (gender 4)	26-May-15	30-May-15	30	17	510
73	Community-based Carbon Measurement	09-Jun-15	10-Jun-15	12	19	233
74	Tropical Forest Restoration (2)	17-Jun-15	18-Jun-15	6	29	160
75	Village Veterinary Worker 2	21-Jul-15	31-Jul-15	7	21	683
76	Community Based Forest Management (Lam Dong)	28-Jul-15	31-Jul-15	30	37	1110
77	Bookkeeping	11-Sep-15	11-Sep-15	3	8	20
78	Training of facilitator (ToF) on Mae Sa-Kog Ma Man and Biosphere Reserve	16-Sep-15	18-Sep-15	24	32	768
79	Natural Resources Management in Nan Province, Northern Thailand: Study Tour	04-Nov-15	07-Nov-15	11	37	389
Total				1988	2186	39621

Note:

- Person hours in FY11 and 12 are not included in the total. These trainings were reported under a different indicator and are not measured against the revised target
- Disaggregated data:
 - Sex: Male = 27,809; Female = 11,813
 - Country: CAM = 1,597; LAO = 11,756; MAL = 3,828; PNG = 3,127; THA = 7,958; VIE = 10,783; Other = 572
 - Sector: GO = 28,433; CSO = 2,848; private = 8,341
- Gender focused trainings include #33, 41, 42, 61, 66 and 72

3.1.2 Number of institutions with improved capacity to address climate change issues as a result of USG assistance

#	Country	Name of institution	Type	Level	Gender focus	Date of appraisal showing capacity increase
1	VIE	Dalat University	Edu	National	N	Sep-14
2	VIE	Vietnam Forest University	Edu	National	N	Sep-14
3	VIE	Vinh University	Edu	National	N	Sep-14
4	THA	Kasetsart University	Edu	National	N	Dec-14
5	THA	Chiang Mai University	Edu	National	N	Dec-14
6	THA	University of Phayao	Edu	National	N	Dec-14
7	CAM	Royal University of Agriculture	Edu	National	N	Mar-15
8	CAM	Royal University of Phnom Penh	Edu	National	N	Mar-15
9	LAO	National University of Laos	Edu	National	N	Jun-15
10	VIE	Lam Dong Department of Agriculture and Rural Development (DARD)	GO	Sub-national	Y	Jun-15
11	MAL	Universiti Putra Malaysia	Edu	National	N	Sep-15
12	MAL	Universiti Kebangsaan Malaysia	Edu	National	N	Sep-15
13	PNG	University of Papua New Guinea	Edu	National	N	Sep-15
14	PNG	The Papua New Guinea University of Technology (Unitech)	Edu	National	N	Sep-15
15	CAM	Ministry of Women's Affairs	GO	National	Y	Dec-15
16	LAO	Department of Forestry	GO	National	Y	Dec-15

3.2.1 Number of decision makers with increased capacity to act as leaders for gender equality and women's empowerment in climate change as a result of USG assistance

#	Country	Name	Organization	Sex	Sector	Date of appraisal showing capacity increase
1	CAM	Chinneth Cheng	Ministry of Women's Affairs (MOWA)	Female	GO	Mar-15
2	CAM	Kim Neng	Department of Planning and Legal Affairs, Ministry of Environment	Female	GO	Mar-15
3	LAO	Sisomphet Souvanthisith	National Commission for Advancement of Women (NCAW), Ministry of Agriculture and Forestry (MAF)	Female	GO	Mar-15
4	MAL	Sunitha Bisan	The Penita Initiative	Female	CSO	Mar-15
5	CAM	Chhan Ratha	Ministry of Women's Affairs (MOWA)	Female	GO	Jun-15
6	CAM	Vong Sopanha	Forestry Administration (FA)	Female	GO	Jun-15
7	LAO	Lomkham Sengchanoudom	Forest Resource Development Fund (FRDF), Dept of Forestry, MAF DoF Sub-NCAW Committee	Female	GO	Jun-15
8	THA	Ratchada Arpornsilp	Center for People & Forests (RECOFTC)	Female	CSO	Jun-15
9	LAO	Khamouy Chanthasay	Department of Forest Restoration and Investment Promotion	Female	GO	Jun-15
10	CAM	Kim Sokhanry	Ministry of Women's Affairs (MOWA)	Female	GO	Jun-15
11	VIE	Hoang Cong Hoai Nam	Forest Protection Sub-Department of Lam Dong	Female	GO	Jun-15
12	VIE	Nguyen Minh Hue	Sea and Islands Sub-Department, Thanh Hoa Department of Natural Resource and Environment (DoNRE)	Female	GO	Jun-15
13	LAO	Dr. Kinnalone Phommasack	Department of Forestry	Female	GO	Sep-15
14	PNG	Gayle Tatsi	Office of Development of Women, Department of Community Development	Female	GO	Sep-15
15	VIE	Le Quang Nghiep	Forestry Department of Lam Dong province	Male	GO	Sep-15
16	CAM	Dr. U Sirita	Forestry Administration (FA)	Female	GO	Sep-15
17	LAO	Vansy Senyong	Maeying Houamjai Pathana (MHP)/ Women Participating in Development Association	Female	CSO	Sep-15
18	LAO	Dr. Douangsamone Dalavong	The Lao Women's Union	Female	GO	Dec-15
19	CAM	Pisith Sok	Ministry of Women's Affairs (MOWA)	Male	GO	Dec-15
20	PNG	Ms. Leilani Pais-Kambuou	Office of Climate Change and Development	Female	GO	Dec-15

4.1.1 Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance

#	Country	Location	Scope	Name of policy or action	Action type	Area				
						FY13	FY14	FY15	FY16	Total (unique)
1	VIE	Lam Dong	Forest Area	Provincial REDD+ Action Plan	Assessment, participation, M&E	132,722	598,192	598,192		598,192
2	VIE	Nghe An	Forest owned by Con Cuong Forest Company and Management Board	Change and driver assessment, Community Based Forest Management and Sustainable Forest Management Plan	Assessment, adaptive management, capacity development, participation	26,188		1,214		26,188
3	MAL	Selangor	North Selangor Peat Swamp Forest	Integrated Management Plan for North Selangor Peat Swamp Forest 2014-2023	Assessment			81,304		81,304
4	THA	Chiang Mai	Mae Sa-Kog Ma Man and Biosphere Reserve	Mae Sa-Kog Ma Man and Biosphere Reserve Management Plan	Participation, capacity development		54,893	54,893		54,893
5	LAO	Houaphan	Nam Xam National Biodiversity Conservation Area	Nam Xam National Biodiversity Conservation Area Management Plan	Assessment, management action			70,000		70,000
6	PNG	Madang	Forest Area of Bogia District	Madang Deforestation map, Low Emission Land Use Strategy, Spatial Planning Report, Conservation Bill	Assessment, participation			245,045		245,045
Total						158,910	653,085	1,050,648	-	1,075,622

Note:

All landscapes include natural forest cover. #1 and 2 also include planted forests

All landscapes are classified as tropical or subtropical moist broadleaf forests

4.2.1 Number of households with improved well-being through sustainable natural resource management as a result of USG assistance

#	Country	Location	Activity	Number of households with improved well-being					
				FY14	FY15	FY16	Total		
							Ethnic Minority	Ethnic majority	Total
1	VIE	Yen Khe and Mon Son Commune, Con Cuong, Nghe An	Improved Cook Stoves	97	0	0	97	0	97
2	LAO	Long Kiam and Nam Nga Cluster, Xam Tai and Vieng Xai, Houaphan	Participatory Land Use Planning and livestock healthcare promotion	101	104	0	173	32	205
3	THA	Ban Dong Chang Kaew, Samoeng, Chiang Mai	Empowerment and security	120	0	0	0	120	120
4	VIE	Chi Khe and Mon Son Commune, Con Cuong, Nghe An	Community-Based Forest Management	0	94	0	1	93	94
5	LAO	Sompoy Cluster, Sanamxay, Attapeu	Improved Forest Management	0	448	0	257	191	448
6	THA	Pongkhrai, Pong Yang, Mae Rim, Chiang Mai	Payment for Ecosystem Services	0	0	75	0	75	75
Total				318	646	75	528	511	1039

ACRONYMS

ADB	Asian Development Bank	PNG	Papua New Guinea
ADPC	Asian Disaster Preparedness Center	PNGFA	Papua New Guinea Forestry Authority
AFOLU	Agriculture, forestry and other land use	PoNRE	Provincial Office of Natural Resource and Environment
AFOLU WG	Agriculture, Forestry and Other Land Use Sector Working Group	PPC	People's Provincial Committee
APAFRI	Asia-Pacific Association of Forestry Research Institutions	PRAP	Provincial REDD+ Action Plan
ARKN-FCC	ASEAN Regional Knowledge Network on Forest and Climate Change	RDMA	Regional Development Mission for Asia
ASEAN	Association of Southeast Asian Nations	RECOFTC	Center for People and the Forests
BCC	Basic Climate Change	REDD+	Reducing emissions from deforestation and forest degradation
BCCI	Biodiversity Conservation Corridors Initiative	SES	Social & Environmental Soundness
BEDO	Biodiversity-based Economy Development Office	SFM	Sustainable forest management
CBFCM	Integrated Community Based Forest and Catchment	SOP	Standard operating procedures
CBRR	Capacity Building for REDD+ Readiness	TNC	The Nature Conservancy
CliPAD	Climate Protection Through Avoided Deforestation	UNFCCC	United Nations Framework Convention on Climate Change
CLRC	Constitutional Law Reform Commission	USAID	United States Agency for International Development
CMM	Carbon Measurement and Monitoring	USAID LEAF	USAID Lowering Emissions in Asia's Forests
COP	Conference of Parties	USFS	United States Forest Service
DAFO	District Agriculture and Forestry Office	VCM	Voluntary carbon market
DARD	Department of Agriculture and Rural Development	USAID VFD	USAID Vietnam Forests and Deltas
DFRM	Department of Forest Resource Management	VNFOREST	Vietnam Administration of Forestry
DoNRE	District Office of Natural Resource and Environment	VVW	Village Veterinary Worker
DQA	Data quality assessments	WOCAN	Women Organizing for Change in Agriculture and Natural Resource Management
DST	Decision support tool		
ESG	Environmental, social and governance		
FCPF	Forest Carbon Partnership Facility		
FIPD	Forest Inventory and Planning Division		
FIPI	Forest Inventory and Planning Institute		
FORRU	Forestry Research and Restoration Unit		
GAP-CC	German Climate Change Programme		
GEC	Global Environment Center		
GHG	Greenhouse gas emissions		
GMS	Greater Mekong Subregion		
GEE	Google Earth Engine		
HAPPEN	Holistic Approach of Public Partnership for the Environment		
INDCs	Intended Nationally Determined Contributions		
IPCC	Intergovernmental Panel on Climate Change		
JICA	Japan International Cooperation Agency		
LEDS	Low emission development strategies		
LELUP	Low emission land use planning		
LMI	Lower Mekong Initiative		
M&E	Monitoring and evaluation		
MAB	Man and Biosphere Reserve		
MARD	Ministry of Agriculture and Rural Development		
MB-REDD	Multiple Benefits REDD+		
MEP	Monitoring and evaluation plan		
MFF	Mangroves for the Future		
NBCA	National Biodiversity Conservation Area		
NFIMAP	National Forest Inventory and Monitoring Program		
NPA	National Protected Area		
NRAP	National REDD+ Action Plan		
NSPSF	North Selangor Peat Swamp Forest		
OCCD	Office for Climate Change and Development		
PAR	Participatory action research		
PARO	Protected Area Regional Office		
PFN	Participatory forest monitoring		
PLUP	Participatory land use planning		
PMP	Performance management plan		

END NOTES

1. Note P.1 and P.2 are program crosscutting results to be achieved by multiple components.
2. Getting REDD+ right for women in REDD+, USAID 2012
3. www.leafasia.org/sites/default/files/public/resources/REDD%2B%20Gender%20Policy%20Brief%201.pdf
4. Outcomes of the work on scenario development and assessment is detailed in the report, 'Developing greenhouse gas emissions reduction/enhanced removal scenarios for sub national REDD+ planning applications in Lam Dong'.
5. Impact of USAID LEAF Lo's livelihood efforts are outlined in the report, '- Rapid Evaluation of Livelihoods Outcomes: Houaphan and Attapeu Provinces, Laos'
6. See the report, 'GIS and Remote Sensing Support for the Assessment of Historic Forest Cover Change and GHG Emissions in Xamtai and Viengxay Districts, Lao PDR'
7. See "Madang Sustainable Development: A Ridges-to-Reefs Gap and Priority Analysis"
8. Baseline Survey Report – Con Cuong District, Nghe An Province, July 2012
9. See full evaluation at 'Improved Cookstoves (ICS), Con Cuong District, Nghe An Province: Evaluation Report, May 2014'
10. See the reports, 'Building model on community based forest management (CBFM) at Lang Yen village, Mon Son Commune, Con Cuong District, Nghe An Province' and 'Building model on community based forest management (CBFM) at Son Khe village, Chi Khe Commune, Con Cuong District, Nghe An Province'.
11. See the report, 'Results on USAID LEAF Viet Nam Livelihood Assessment of CBFM Models, Con Cuong District, Nghe An Province'
12. See the report, 'Sustainable Forest Management Plan for the Con Cuong State Forestry One-Member Ltd. Company, January 2015'
13. See USAID LEAF's Socio-Economic Baseline report and USAID LEAF's Livelihood Assessment Report



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