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# Supporting Forests and Biodiversity

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**Performance Monitoring and Evaluation Plan**

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### Acronyms

AFOLU	Agriculture, Forestry and Other Land Use
AIG	Alternative Income Generation
ARBCP	Asia Regional Biodiversity Conservation Program
CIFOR	Center for International Forestry
CMO	Complementary Metal Oxide
CO <sub>2</sub>	Carbon Dioxide
GCC	Global Climate Change
GCCI	Global Climate Change Initiative
GHG	Greenhouse Gases
GIS	Geographical Information System
IR	Intermediate Result
LEDS	Lowering Emissions
LOP	Life of Project
M&E	Monitoring and Evaluation
MRV	Monitoring, Reporting and Verification
NGO	Non-Governmental Organization
NRM	Natural Resources Management
PES	Payments for Environmental Services
PMEP	Performance Monitoring and Evaluation Program
REDD+	Reduced Emissions from Deforestation and Forest Degradation
RGC	Royal Government of Cambodia
RL	Reference Level
SFB	Supporting Forests and Biodiversity
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USG	United States Government

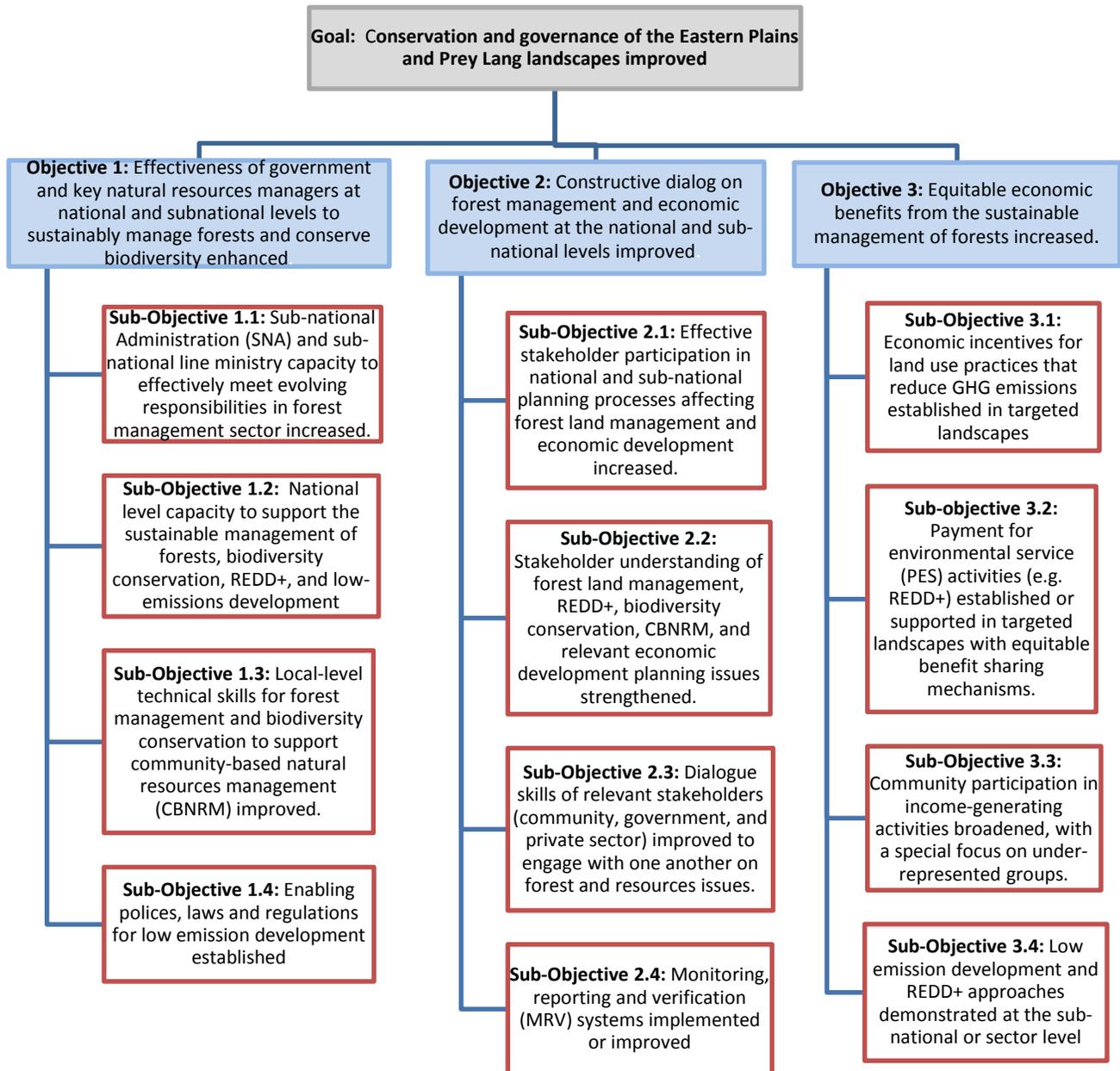
### Overview

The Winrock Team's monitoring and evaluation plan (PMEP) for SFB will provide USAID with an effective framework for evaluating and reporting on SFB's diverse outputs and impacts, including standard Foreign Assistance Framework output and outcome indicators where appropriate. The system is configured to provide SFB and USAID with reliable, cost-effective information quickly, enabling responsive and adaptive management, and draws heavily on Winrock's wealth of experience in global information systems (GIS) and technologies.

The PMEP will allow USAID to easily and effectively verify SFB's progress towards the goals and expected results. The illustrative results framework (Figure 1) demonstrates SFB's theory of change, with the discrete components leading to reduction in deforestation in Cambodia's priority landscapes explicitly identified and their conceptual relationships made clear. This system of indicators will provide USAID with a means to measure immediate outputs as well as intermediate and ultimate outcomes. Table 1 provides a summary of the performance indicators along with the annual targets and Life of Project (LOP) targets. Figure D 4 provided a more detailed description of each indicator, including the definition, method of acquisition, data sources, frequency of reporting and targets.

## Cambodia SFB Results Framework Table

Figure 1. Cambodia SFB Results Framework: Goal, Objectives and Sub-Objectives



## Cambodia SFB Results Framework: Goal, Objective, Sub-Objective and Indicator Matrix

(highlighted areas indicate standard indicators)

### Conservation and Governance of the Eastern Plains and Prey Lang Landscapes Improved Goal Level Indicators:

*G.1: Deforestation rate in priority landscapes decreased (custom indicator)*

*G.2: Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (standard indicator 4.8.1-26)*

*G.3: Greenhouse gas (GHG) emissions, estimated in metric tons of CO<sub>2</sub>e, reduced, sequestered, and/or avoided as a result of USG assistance (standard indicator 4.8-7)*

**Objective 1:** Effectiveness of government and key natural resources managers at national and subnational levels to sustainably manage forests and conserve biodiversity enhanced.

*Objective Indicator 0.1.1: Number of stakeholders actively engaged in improved forestry management practices (custom indicator)*

**Objective 2:** Constructive dialog on forest management and economic development at the national and sub-national levels improved.

*Objective Indicator 0.2.1: Number of conservation and NRM conflicts mitigated or acted upon as a result of USG assistance. (custom indicator)*

*Objective Indicator 0.2.2: Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes (custom indicator)*

**Objective 3:** Equitable economic benefits from the sustainable management of forests increased.

*Objective Indicator 0.3.1: Number of people with increased economic benefits derived from sustainable natural resources management and conservation as a result of USG assistance (standard indicator 4.8.1-6)*

**Sub-objective 1.1:** Sub-national Administration (SNA) and sub-national line ministry capacity to effectively meet evolving responsibilities in forest management sector increased.

*Sub-objective indicator 1.1.1: Number of land titles and agreements approved as a result of USG assistance, including Community Forests, Community Protected Areas, Community-based Production Forests, Community Conservation Forests, and indigenous land titles (Custom Indicator)*

**Sub-Objective 2.1:** Effective stakeholder participation in national and sub-national planning processes affecting forest land management and economic development increased.

*Sub-objective indicator 2.1.1: Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes (custom indicator)*

**Sub-Objective 3.1:** Economic incentives for land use practices that reduce GHG emissions established in targeted landscapes

*Sub-objective indicator 3.1.1: Increase in income levels of target communities due to economically viable livelihood activities as a result of USG assistance (custom indicator)*

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**Sub-Objective 1.2:** National level capacity to support the sustainable management of forests, biodiversity conservation, REDD+, and low-emissions development strengthened.

*Sub-objective indicator 1.2.1: Number of people receiving USG supported training in natural resources management and/or biodiversity conservation (standard indicator 4.8.1-27)*

**Sub-Objective 2.2:** Stakeholder understanding of forest land management, REDD+, biodiversity conservation, CBNRM, and relevant economic development planning issues strengthened.

*Sub-objective indicator 2.2.1: Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes (custom indicator)*

**Sub-objective 3.2:** Payment for environmental service (PES) activities (e.g. REDD+) established or supported in targeted landscapes with equitable benefit sharing mechanisms.

*Sub-objective indicator 3.2.1 Number of PES agreements approved and implemented (custom indicator)*

**Sub-Objective 1.3:** Local-level technical skills for forest management and biodiversity conservation to support community-based natural resources management improved.

*Sub-objective indicator 1.3.1: Number of people receiving USG supported training in natural resources management and/or biodiversity conservation (standard indicator 4.8.1-27)*

**Sub-Objective 2.3:** Dialogue skills of relevant stakeholders (community, government, and private sector) improved to engage with one another on forest and resources issues.

*Sub-objective indicator 2.3.1: Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes (custom indicator)*

**Sub-Objective 3.3:** Community participation in income-generating activities broadened, with a special focus on under-represented groups.

*Sub-objective indicator 3.3.1: Number of people participating in income generating activities (custom Indicator)*

**Sub-Objective 1.4:** Enabling policies, laws and regulations for low emission development established.

*Sub-objective indicator 1.4.1: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance (standard indicator 4.8.2-28).*

**Sub-Objective 2.4:** Monitoring, reporting and verification (MRV) systems implemented or improved

*Sub-objective indicator 2.4.1: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance (standard indicator 4.8.2-28).*

**Sub-Objective 3.4:** Low emission development and REDD+ approaches demonstrated at the sub-national or sector level

*Sub-objective indicator 3.4.1: Number of PES agreements approved and implemented (custom indicator)*

## Performance Indicators and Annual and LOP Targets

**Table 1. Summary of Cambodia SFB Performance Indicators and Annual and LOP Targets**

Indicator	Baseline	Y1	Y2	Y3	Y4	LOP Planned
G.1: Deforestation rate in priority landscape decreased <sup>1</sup>	Survey Ongoing	-	-	10%	15%	<b>15% below baseline</b>
Eastern Plains Landscape		-	-	10%	15%	<b>15%</b>
Prey Lang Landscape		-	-	-	%	<b>%</b>
G.2: Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance	0	40,000	160,000	250,000	250,000	<b>700,000</b>
Eastern Plains Landscape	0	40,000	125,000	210,000	210,000	<b>585,000</b>
Prey Lang Landscape	0	0	35,000	40,000	40,000	<b>115,000</b>
G.3: Greenhouse gas (GHG) emissions, estimated in metric tons of CO <sub>2</sub> e, reduced, sequestered, and/or avoided as a result of USG assistance <sup>2</sup>	Survey Ongoing	0	250,000	250,000	1.0m	<b>1.5m metric tons</b>
0.1.1: Number of stakeholders actively engaged in improved forestry management practices.	0	5,000	10,000	10,000	10,000	<b>35,000</b>
Eastern Plains Landscape	0	5000	7,000	7,000	7,000	<b>26,000</b>
Prey Lang Landscape	0		3,000	3,000	3,000	<b>9,000</b>
1.1.1: Number of land titles and agreements approved as a result of USG assistance, including Community Forests, Community Protected Areas, Community-based Production Forests, Community Conservation Forests, and indigenous land titles.	0	3	5	12	10	<b>30</b>
Eastern Plains Landscape	0	3	3	8	7	<b>21</b>
Prey Lang Landscape	0	0	2	4	3	<b>9</b>

<sup>1</sup> & <sup>2</sup> It is recommended that indicators G1 and G3 not be disaggregated. There is no REDD+ project currently in Prey Lang. The Seima REDD+ project activities will likely contribute a large portion of this target, although this has yet to be confirmed. The actions in the Eastern Plains are more advanced and therefore will result in emission changes during the LOP, while in Prey Lang emission changes will be greater more into the future.

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<b>Indicator</b>	<b>Baseline</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>LOP Planned</b>
1.2.1 and 1.3.1: Number of people receiving USG-supported training in natural resources management and/or biodiversity conservation.	0	1,000	3,000	4,000	2,000	<b>10,000</b>
Eastern Plains Landscape	0	420	1,250	1,670	1,000	<b>4,340</b>
Prey Lang Landscape	0	580	1,750	2,330	1,000	<b>5,660</b>
1.4.1 & 2.4.1: Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change (mitigation or adaptation) and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance	0	10	15	15	10	<b>50</b>
0.2.1: Number of conservation and NRM conflicts mitigated or acted upon as a result of USG assistance.	0	5	10	20	20	<b>55</b>
Eastern Plains Landscape	0	2	5	10	10	<b>27</b>
Prey Lang Landscape	0	3	5	10	10	<b>28</b>
2.1.1, 2.2.1 and 2.3.1: Number of sustainable forestry and biodiversity [1]management plans developed using participatory national and sub-national planning processes	0	0	6	7	7	<b>20</b>
Eastern Plains Landscape	0	0	3	3	4	<b>10</b>
Prey Lang Landscape	0	0	3	4	3	<b>10</b>
0.3.1: Number of people with increased economic benefits derived from sustainable natural resources management and conservation as a result of USG assistance	Survey Ongoing	0	30,000	35,000	30,000	<b>95,000</b>
Eastern Plains Landscape		0	18,000	19,600	17,000	<b>54,600</b>
Prey Lang Landscape		0	12,000	15,400	13,000	<b>40,400</b>
3.1.1: Increase in income levels of target communities due to economically viable alternative livelihood activities	Survey Ongoing	0	0	25%	50%	<b>50%</b>
3.2.1 and 3.4.1: Number of Payment for Environmental Services (PES)	0	0	0	2	2	<b>4</b>

<b>Indicator</b>	<b>Baseline</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>LOP Planned</b>
agreements approved and implemented						
Eastern Plains Landscape	0	0	0	1	1	<b>2</b>
Prey Lang Landscape	0	0	0	1	1	<b>2</b>
<b>3.3.1: Number of people participating in income generating activities</b>	<b>0</b>	<b>0</b>	<b>3,000</b>	<b>6,000</b>	<b>6,000</b>	<b>15,000</b>
Eastern Plains Landscape	0	0	2,000	3,500	3,500	<b>9,000</b>
Prey Lang Landscape	0	0	1,000	2,500	2,500	<b>6,000</b>

## Data Collection

The SFB PMEP describes linkages between the project inputs, activities, and intermediate results (IRs), methods for data collection, and specific indicators and targets for measuring program success. The PMEP includes custom and standard indicators that will provide a reliable measure of the achievement of outcomes, sub-IRs, IRs, and overall goal, and annual and end-of-program targets. The proposed indicators will:

- Capture project outputs and outcomes;
- Supply information concerning progress on project activities;
- Provide information for adaptive management; and
- Contribute to USAID’s own informational needs.

Data to be collected include project activity reports, training reports and participant information worksheets, assessments, field research, and stakeholder surveys. Collection will employ proven methodologies and instruments that effectively address SFB and USAID reporting requirements.

Winrock will engage an M&E Specialist who will provide expertise in program monitoring and quarterly and annual performance assessment and reporting over the life of SFB. The M&E Specialist will also provide training to local partners on monitoring methods, and will lead the establishment of baselines, verify project staff monitoring reports, compile data on outcome indicators, identify lessons learned, and conduct a final performance assessment to determine and report on achievement of targets, overall program outcomes and results, and significant achievements and lessons learned. SFB will continue to build capacity for M&E for country teams and local partners, including regular reviews and field site verification to ensure that performance indicator data is collected, recorded, analyzed and stored correctly. Based on these reviews, the SFB team will provide follow-on training and mentoring to address any weaknesses in the program’s M&E systems and methods, and to institutionalize capacity for M&E within partner organizations.

The M&E Specialist with the guidance and assistance of Winrock home office technical expertise will design and lead an assessment to establish program baselines for each of the indicators included in the PMEP that will allow for future performance assessments. The M&E

Specialist will also work with Winrock’s technical experts to harmonize monitoring, reporting, and verification (MRV) methodologies, including calculation of carbon emissions baselines, with overall program monitoring methods to track indicators and targets. The M&E Specialist will work with the core management team and technical experts to develop methodologies and a toolkit for program tracking and monitoring to be carried out on an ongoing basis by field staff. The monitoring toolkit will include baseline data, interview and field inspection checklists, survey questionnaires, and reporting formats. Field staff will use the toolkits to carry out systematic data collection, compilation, and reporting.

The M&E Specialist will also lead the process of data analysis, which will also involve the SFB management team, key advisors and the M&E Specialist of USAID. The M&E Specialist will also supervise data collection by field teams, manage data storage systems, and will carry out periodic reviews to verify the findings from ongoing field monitoring, and assess the program’s progress in achieving the SFB results and overall goal. The M&E Specialist will consult closely with USAID’s M&E specialists, and will develop a strong working relationship with them. The M&E Specialist will also work closely with other USAID-funded natural resource management projects to ensure that data collection methods are harmonized and coordinated.

Finally, this individual will also ascertain and advise whether the program activities are on track to meet sub-IRs and IRs and annual and LOP targets, whether any corrective actions in the program design are needed to achieve the anticipated outcomes, and priorities for management decision-making. He/she will lead a quarterly process to identify lessons learned from the findings of the monitoring and performance assessment process, and to work with the Program management team to develop adaptive management solutions throughout the life of the program. The lessons learned and best practices gleaned through this project will be shared with the SFB’s regional, national and sub-national partners through cooperating platforms, networks, training institutions, and project-sponsored conferences, workshops and other events.

## Field Surveys

A centerpiece of SFB’s PMEP is one field survey – the SFB Livelihoods Survey assessing the impact of SFB on stakeholder livelihoods. These surveys will be implemented to inform a number of indicators contained within Winrock’s PMEP that seek to capture broader social and behavioral changes in the landscape as a result of SFB’s efforts.

Both surveys will be developed by Winrock in consultation with USAID and local partners. Surveys will be developed based on pre-existing and appropriate methodologies such as the toolkit developed by the Center for International Forestry (CIFOR), which includes the *Guide to Learning about Livelihood Impacts of REDD+ Projects*<sup>3</sup> and *Technical Guidelines for Research on REDD+ Project Sites*<sup>4</sup>. In 2010 Winrock carried out an assessment of needs and options for REDD+ Support within the Lower Mekong Sub-region including Cambodia, funded by USAID

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<sup>3</sup> Jagger P., Sills E.O., Lawlor, K. and Sunderlin, W.D. 2010 A guide to learning about livelihood impacts of REDD+ projects. Occasional paper 56. CIFOR, Bogor, Indonesia.

<sup>4</sup> Sunderlin, W.D., Larson, A.M., Duchelle, A., Sills, E.O., Luttrell, C., Jagger, P., Pattanayak, S. Cronkleton, P. and Ekaputri, A.D. 2010 Technical guidelines for research on REDD+ project sites. CIFOR, Bogor, Indonesia.

through the Asia Regional Biodiversity Conservation Program (ARBCP)<sup>5</sup>, the WCS livelihood survey along with other ongoing work which will also contribute.

Surveys will be conducted with an eye towards providing high resolution and validity while minimizing costs. Sample sizes will be selected to ensure reasonable confidence intervals without adding excessive costs; for this reason a stratified methodology will be employed including both random sampling in the population and samples drawn from populations already associated with project activities. Data collection will be handled by enumerators drawn from Cambodian universities and provided training and documented experience in exchange for services rendered. Precise methodology, including confidence intervals and sample sizes, will be determined following award with USAID input.

### Data Management

SFB's performance MRV has been designed to provide for the rapid, reliable, and accurate transmission of results from disparate field sites to the central office in Phnom Penh and on to USAID and other partners. Our objective is a dependable system that provides timely results in a cost-effective manner.

Project reports and data will be submitted directly to the M&E Specialist in Phnom Penh or to his or her designee. The M&E Specialist and subordinate staff will have sole responsibility for recording project data in narrative, tabular, and graphical formats, as well as vetting data for accuracy and reliability and conducting field audits as necessary. SFB will be managed in a manner that will keep M&E staff in closer contact with field staff than in decentralized projects, facilitating a very high degree of quality control and oversight.

As each individual project component comes online, the SFB's M&E specialist will coordinate with project management, field staff, and implementing partners to plan for a field reporting system that is most suitable for the type of activity being undertaken and the area of Cambodia where it is occurring. These measures are expected to include written reports in both conventional and digital formats as well as innovative new technical approaches, such as the use of mobile phones and other handheld devices for reporting.

Winrock prides itself on its considerable experience deploying handheld and cellular technologies to innovatively support project M&E in locations as diverse as Cambodia and Kenya, and will provide a high level of field expertise and headquarters support to innovatively address field reporting requirements using new approaches and technologies while making effective use of proven and traditional systems where appropriate. An approach tailored to each individual project component will allow SFB to maximize the timely and accurate delivery of results from all sectors of the Project while minimizing transmission errors, training requirements, and cost overruns.

Project data will be stored on a computer server in SFB's Phnom Penh office, where they will be

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<sup>5</sup> Strengthening National REDD+ Readiness through Regional Collaboration: Lower Mekong Subregions REDD+ Workshop Proceedings, funded by USAID-RDMA, organized by Winrock in Hanoi May 6-7, 2010.

protected by access controls including but not limited to the use of unique password-protected user accounts for SFB computer systems and limiting access to network drives containing M&E records to M&E staff and project managers. To further guarantee the security of SFB results data, multiple backups will be maintained, including backups stored abroad on servers such as those in Winrock's home office. These backups will be updated at regular intervals using both automatic and manual processes.

### Reporting Structure

Data will be reported at regular intervals to USAID through the use of regular SFB project reports. These reports will include activity reports, quantitative data including process towards SFB indicator targets, and qualitative data as appropriate to promote additional understanding. Wherever possible, project data will be reported quarterly. Due to the methodological challenges posed by some indicators – such as validity concerns stemming from reporting on activities affected by seasonal cycles and other annual rotations and the cost implications of undertaking an extensive field survey quarterly – those indicators will be reported annually. When dealing with such indicators, SFB will continue to facilitate USAID reporting by providing all applicable data that are practical on a quarterly basis. As appropriate, project training data will also be submitted to USAID's TRAINET data management system.

### Expertise in Geographic Information Systems

Winrock's Ecosystem Services team is an industry leader in climate change mitigation activities comprising scientists with backgrounds in geo-spatial analysis, ecology, environmental sciences, and forestry. With more than a decade of applicable experience, Winrock has proven capabilities to provide cutting edge, scientifically robust geospatial solutions for deforestation and biodiversity projects, from ground-up construction of reference levels (RLs) to design and implementation of monitoring systems.

Winrock's geospatial team utilizes land cover data, spatial modeling such as GEOMOD, and spatial distribution of forest carbon stocks to identify forests under threat of deforestation with high carbon stocks. This analysis helps policymakers understand why, where, when and how much forest would be lost if current management practices continue in the future. Winrock has conducted such a threat analysis in Cambodia and elsewhere using MODIS and Landsat land cover data. Winrock has also developed a spatial modeling approach incorporating forest type, information on the historic drivers, and patterns of deforestation and degradation.

### Adaptive Management

SFB will be managed using an adaptive, results-based model that makes extensive consideration and analysis of all project results, outputs, and outcomes. As a component of the M&E Specialist's scope of work, he or she will be changed with constant evaluation of project data coming in from the field. The M&E Specialist will evaluate the project using rubrics including but not limited to trends in the number of partners, activities, and beneficiaries; the amount of progress being made towards SFB's quarterly and annual targets; qualitative data indicative of project successes and impacts, financial information, and other details. Analysis of these data

will permit incisive, informed, and timely conclusions about SFB's effectiveness.

The M&E Specialist will be a presence in weekly, monthly, and other regularly scheduled meetings of project leadership. It will be his or her responsibility at these meetings to present the information described above to the COP, the DCOP, and managers. Where problem areas, delays, and inefficiency are identified, project leadership will have the responsibility to craft responsive, evidence-based solutions, in consultation with USAID and partners where appropriate. He/she will lead a quarterly process to identify lessons learned from the findings of the monitoring and performance assessment process, and to work with the Program Management team to develop adaptive management solutions throughout SFB's lifetime.

Adaptive management will be facilitated through a number of strategic decisions exemplified in SFB's PMEP. All applicable indicators are disaggregated by sex, membership in under-represented groups, and zone of intervention (e.g., Prey Lang versus the Eastern Plains). This will permit a high level of resolution not only on whether SFB is meeting agreed-upon targets overall, but also on whether or not service to specific regions and sub-groups is experiencing a specific challenge that requires rectification.

The PMEP also calls for the collection of qualitative data on many performance indicators. These data will be used in some cases to inform or disaggregate quantitative results on appropriate indicator, but will also be available to the M&E specialist, and by extension to project leadership, for the purpose of providing a more nuanced and specific evaluation of project effectiveness and the perceptions of the project by stakeholders in the field. SFB's management plan will preserve and maintain qualitative data with specific respect for and awareness of this benefit.

## Evaluations

The SFB M&E process will be designed and implemented in a manner that supports USAID's ability to carry out strong performance evaluations of REDD+ and NRM pilot projects and activities after nine months, at the project midpoint, the project endpoint, and at other points requested or desired by USAID. The M&E process will anticipate a number of lines of inquiry and will be designed to respond and facilitate response to questions such as:

*How do different types of protected area titles and concessions (i.e., Community Forest, Community Protected Area, and Indigenous Forest) differently affect NRM outcomes?* SFB will maintain information on project sites designated as community forests, community protected areas, and indigenous forests, and where possible will also attempt to collect information on economic land concessions. SFB staff will attempt to support multiple forms of conservation areas and establish relationships with their governance bodies, permitting evaluation of how different forms of legal designation for conservation areas affect outcomes.

*To what degree are conservation-based enterprise development and livelihoods measures self-sustaining?*

Through project technical assistance results occurring especially under Objective 3 – as well as continuing connections and relationships with organizations assisted and SFB's implementing

partners – it will be possible to undertake an analysis of alternative livelihoods measures and how well they sustain themselves on the free market once undertaken. What forms of environmentally sustainable alternative income sources continue to provide real revenue for those that practice them? Are alternative livelihoods measures competitive in terms of their opportunity costs, especially compared with non-sustainable and traditional livelihoods?

It may also be possible to ascertain if stakeholders are undertaking sustainable alternative livelihoods in *combinations* that are especially effective in terms of resource use, labor, and financial costs. To facilitate this form of assessment, SFB will keep detailed records of evaluations at the community level that will include types of livelihoods and their economic benefits. These data will be available from SFB livelihoods assessments undertaken as a component of SFB's PMEP.

### *To what degree did SFB effectively deliver services and real change?*

SFB's records will also be carefully maintained and available to facilitate assessments into

SFB's direct effectiveness and efficiency. Project staff and sub-grantees will be carefully trained and instructed to maintain thorough and complete activity records and financial data. In conjunction with the indicators listed under SFB's M&E plan, these records will allow effective evaluation of SFB as a development project and will permit USAID to make credible and persuasive reports to US-based stakeholders.

## Illustrative PMEP

The following table summarizes and discusses each indicator being proposed by the Winrock Team to monitor and evaluate SFB.

### Cambodia SFB Performance Indicator Reference Sheets

<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Indicator	<b>G. 1: Deforestation rate in priority landscapes decreased</b>
Definition	<p>This indicator measures the change in the rate of deforestation in the two priority landscapes (Prey Lang and the Eastern Plains) where Cambodia/SFB will intervene. This indicator will measure the overall on-the-ground impact of the project’s multiple activities and outputs in terms of SFB’s overall goal. The rate of deforestation measures the amount of annual reduction in forest coverage as a percentage of the reference level forest coverage. All forest cover, including both old growth and new growth forests and regardless of the classification of the forest ecosystem (i.e. evergreen, deciduous, bamboo) is intended for inclusion under this indicator. In an optimal scenario, a negative deforestation rate would serve to indicate that replanting exceeds deforestation.</p> <p>Notes: Question: In the target table on page 7, the decrease in deforestation rate in PLL is 0. Does that mean will not measure this or the rate will not decrease? Answer: Indicators G1 and G3 not be disaggregated. There is no REDD+ project currently in Prey Lang. The Seima REDD+ project activities will likely contribute a large portion of this target, although this has yet to be confirmed. The actions in the Eastern Plains are more advanced and therefore will result in emission changes during the LOP, while in Prey Lang emission changes will be greater more into the future.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Linkage to Long-Term Outcome or Impact	Deforestation and land degradation, along with Global Climate Change are among the primary causes for loss of biodiversity in Cambodia. The SFB project will address the drivers of deforestation through policy reform, increased capacity for forest management and conservation, and interventions to improve livelihoods through land uses that provide an alternative to deforestation. Reducing Emissions from Deforestation and Forest Degradation (REDD+) is an initiative to cut GHG emissions associated with forest clearing or conversion, using carbon market mechanisms to provide compensation or payments for “avoided deforestation”. REDD+ initiatives give additional consideration beyond reducing deforestation, forest degradation, GHG emissions and take into account ecosystem services and benefits for biodiversity conservation, watershed protection, and rural economies. Through REDD+ pilot projects, national and sub-national agencies and local organizations demonstrate mechanisms through which they receive payment for producing verified GHG emissions reductions or enhancement of carbon stocks. In addition to demonstrating these mechanisms, the pilot projects allow participating countries to build capacity, strengthen policy frameworks, institutionalize methods for tracking deforestation rates and forest carbon measurement, and put in place the financial architecture for a forest carbon market system that can generate revenues for long-term sustainable forest management, with corollary benefits of biodiversity conservation and other environmental services.
Indicator Type	Outcome
Unit of Measure	Percentage
Data Collection Method	Using USAID AFOLU Carbon Calculator, satellite imagery and/or other GIS technology as appropriate to map forest and non-forest areas within the Prey Lang and the Eastern Plains regions over a historical period. That data will then be used to project annual deforestation rates over the life of the project in the absence of the project (e.g., baseline). Winrock’s geospatial team utilizes land cover data from MODIS and Landsat, spatial modeling such as GEOMOD, and spatial distribution of forest carbon stocks to identify to understand why, where, when and how much forest would be lost if current management practices continue in the future. This modeling approach incorporating forest type, information on the historic drivers, and patterns of deforestation and degradation.
Use of Indicator	This indicator will measure whether project interventions are having the intended impact to address the drivers of deforestation through policy reform, improved planning and practices for forest management and conservation, and alternative resource and land use and livelihoods strategies. A reduced rate of deforestation will validate the program

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
	design and planned interventions. Reduced rates of deforestation should also correlate with reduced GHG emissions from forestry and land use.
Data Source and Reporting Frequency	Using the USAID AFOLU Carbon Calculator, third party satellite imagery and other GIS data; Data from RGC, Open Development Cambodia, and field partners; and spatial analysis of remote sensing imagery Reported Annually
Known Data Limitations	The quality of remote sensing imagery can be affected by a number of factors, including cloud cover, atmospheric conditions, etc.
Baseline Timeframe	<p>Baseline deforestation rates will be based on a projection of historical analyses of deforestation.</p> <p>Baselines will be established in the <b>third quarter of year two</b> by utilizing the USAID AFOLU Carbon Calculator, satellite imagery and/or other GIS technology as appropriate to map forest and non-forest areas within the Prey Lang and the Eastern Plains regions over a historical period. That data will then be used to project annual deforestation rates over the life of the project in the absence of the project (e.g., baseline).</p> <p>Baseline deforestation will be disaggregated for each landscape. Actual deforestation as a result of the project will be estimated. The change in deforestation rates will be calculated as the difference between baseline and actual deforestation rates. Using the same technologies.</p>
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Landscape/Region [Prey Lang, Eastern Plains]
Indicator	<b>G.2:</b> Number of Hectares of Biological Significance and/or Natural Resources under improved natural resource management as a result of USG assistance
Definition	<p><b>Standard Definition:</b></p> <p>“Improved natural resource management” includes activities that promote enhanced management of natural resources for one or more objectives, such as conserving biodiversity, sustaining soil or water resources, mitigating climate change, and/or promoting sustainable agriculture.</p> <p>Management should be guided by a stakeholder-endorsed process following principles of sustainable NRM and conservation, improved human and institutional capacity for sustainable NRM and conservation, access to better information for decision-making, and/or adoption of sustainable NRM and conservation practices.</p>

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
	<p>An area is considered under "improved management" when any one of the following occurs: a change in legal status favors conservation or sustainable NRM; a local site assessment is completed which informs management planning; management actions are designed with appropriate participation; human and institutional capacity is developed; management actions are implemented; ongoing monitoring and evaluation is established; adaptive management is demonstrated; or on-the-ground management impacts are demonstrated (e.g.: illegal roads closed, snares removed, no-fishing zones demarcated).</p> <p>Reported as total number of hectares improved during the fiscal year in question, which can include maintained improvement in previously reported hectares and/or new, additional hectares. Improved management should be reported for activities where the USAID supported program was plausibly linked to the improvements observed.</p> <p><b>Precise Definition(s):</b> Improved management includes activities that promote enhanced management of natural resources for one or more objectives, such as sustaining soil and/or water resources, mitigating climate change, conserving biodiversity, and/or promoting sustainable agriculture. Conservation areas will be considered to be under improved management when the forest and land use policies and/or management plans have been revised, and approved by local and/or national authorities for implementation at the pilot project site.</p>
New or Existing Indicator?	Existing Standard Indicator: 4.8.1-26
Primary Program Area (Program Element for IIP) Linkage	4.8 – Environment
Primary Program Element (Program Sub-Element for IIP) Linkage	4.8.1 – Natural Resources and Biodiversity

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Linkage to Long-Term Outcome or Impact	<p>A spatial indicator is an appropriate measure of the scale of impact of biodiversity conservation and/or NRM interventions. Good management of natural resources is a prerequisite for achieving improved biophysical condition of natural resources.</p> <p>SFB will build capacity in national and sub-national government agencies and other organizations, including community-based organizations such as community forestry associations to develop/revise and adapt local level forest and land use policies and management plans to address drivers of deforestation and degradation and to include improved management practices aimed at reducing and avoiding carbon emissions, conserving biodiversity, and sustaining the forest ecosystem and the environmental services it provides. If the area under improved management increases, this will demonstrate that capacities have been increased and that the best practices that the program promotes are being applied. An increase in area under improved management is also evidence that local populations value the environmental services that the ecosystems provide.</p>
Indicator Type	Output
Unit of Measure	Hectares
Data Collection Method	<p>The SFB team will determine benchmarks to gauge success in each of the forest management and conservation plans. Benchmarks could include improved wildlife habitat, regeneration of degraded sites, improved watershed functions (stream flow, water quality), reduced illegal activities or encroachment, or status trends of key species. A <b>key species</b> is a species of plant or animal which is either of elevated conservation concern itself (typically one at risk of extinction nationally or globally) or forms a good indicator species for the status of others that are of elevated concern. <b>Status trends</b> are derived from a monitoring system for collecting reliable, comparable information over time about the status of a species population at a site (abundance, threats and other causes of change). Such information may be quantitative or qualitative and represent absolute abundance or an indirect index of status.</p> <p>Pilot project demonstrations of improved forest land management will be delineated on the ground, through remote sensing, maps, and using GIS software. The number of hectares within the demonstration area will be calculated using GIS applications and using GPS for on the ground geographic coordinates. The broader landscape in which the demonstration is located will also be delineated and the area will be calculated for each land use zone. Replication and/or demonstration in surrounding zones in the broader landscape will be tracked and measured to calculate expansion of the improved management practice over time. For areas protected by</p>

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
	<p>introduced regulations, policies, management plans and/or standards, established boundaries will be used to estimate area.</p> <p>Areas where improved management practices are applied or replicated will be calculated using GIS, remote sensing, GPS, and/or other standard land surveying methods. Partner organizations will be trained to monitor implementation of the improved practices and assess and verify the extent to which they are being applied. Methodologies for monitoring key species' status trends will be developed for each species to be monitored (methodologies will vary depending on whether the species is a plant or animal, population parameters, and site characteristics).</p> <p>Tools for monitoring and reporting on implementation of forest conservation and management agreements could include the Management Effectiveness Tracking Tool (METT) and the Spatial Monitoring and Reporting Tool (SMART). METT is used to report progress on protected area management and can serve as a scoring system. SMART is a technology to manage, analyze and interpret ranger-based data, and adaptive patrol management in conservation areas.</p>
Use of Indicator	Measures of this indicator demonstrate progress towards sustainable natural resources governance and institutions, and can inform adaptive management of programs. This indicator is a reliable annual measure that demonstrates the magnitude of USG investments in biodiversity conservation and other natural resource sectors.
Data Source and Reporting Frequency	SFB program and partner organizations,' GIS databases, maps, forest management plans, and field data records. Reported Quarterly
Known Data Limitations	<p>Precision depends on the methods used, such as whether sampling is representative of a whole area of intervention.</p> <p>Reliability is strong, but comparability across different sites and different resources (and in different ecological zones) is difficult.</p> <p>Biophysical change may or may not be detectable on an annual basis or even within the project cycle. Stability where it didn't exist before is also within the definition of biophysical change.</p> <p>Data may not be available to establish baselines of areas under improved natural resource management prior to project interventions. Baseline data for key species populations in the priority landscapes may not be available for use in monitoring status trends.</p>
Baseline Timeframe	At the start of the project, the baseline values will be <b>set to zero</b> for both landscapes, as was done in the HARVEST project.

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Landscape/Region [Prey Lang, Eastern Plains]; Land Use classification; Ecosystem Type;
Indicator	<b>G.3:</b> Greenhouse gas (GHG) emissions, measured in metric tons of CO <sub>2</sub> e, reduced, sequestered, and/or avoided as a result of USG assistance
Definition	<p><b>Standard Definition:</b> The CO<sub>2</sub>e emissions reduced or sequestered as a result of USG programs in climate change, natural resource management, agriculture, biodiversity, energy, industry, urban, transport and other relevant sectors.</p> <p><b>Precise Definition(s):</b> The amount of emissions, in metric tons of carbon dioxide equivalent (CO<sub>2</sub>e), which is reduced or sequestered as a result of USG programs in natural resources management, agriculture, agroforestry, biodiversity and/or the forestry land use sector. Carbon sequestration refers to removing CO<sub>2</sub> from the atmosphere by enhancing natural sequestration through plants. This indicator includes increased carbon sequestration from SFB activities, including enhanced natural resources management, forest governance, and alternative livelihood activities. CO<sub>2</sub>e emissions reduction refers to decreased GHG emissions from forestry and land use sectors. Carbon dioxide equivalent (CO<sub>2</sub>e) is calculated to convert quantities of greenhouse gases into a common, comparable measure that has a well-defined global warming potential effect. The SFB team will not monitor specific GHGs but use carbon dioxide equivalent (CO<sub>2</sub>e) as a universal unit of measurement for the six greenhouse gases. It is used to evaluate the impacts of releasing or avoiding the release of different GHGs. Carbon dioxide equivalent is the standard measurement unit for both the US Government and international accounting under the UNFCCC.</p>
New or Existing Indicator?	Existing Standard Indicator 4.8-7
Primary Program Area (Program Element for IIP) Linkage	4.8 – Environment
Primary Program Element (Program Sub-Element for IIP) Linkage	4.8.1 – Natural Resources and Biodiversity

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Linkage to Long-Term Outcome or Impact	<p>Reducing GHG emissions has long-term impacts on slowing climate change, and global implications for the extent of impacts. Reducing GHG emissions can also have strong ancillary benefits for pollution, security, health, and women.</p> <p>The SFB project will address the drivers of deforestation through policy reform, increased capacity for forest management and conservation, and interventions to improve livelihoods through land uses that provide an alternative to deforestation. Reducing Emissions from Deforestation and Forest Degradation (REDD+) is an initiative to cut GHG emissions associated with forest clearing or conversion, using carbon market mechanisms to provide compensation or payments for “avoided deforestation.” REDD+ initiatives give additional consideration beyond reducing deforestation, forest degradation, GHG emissions and take into account ecosystem services and benefits for biodiversity conservation, watershed protection, and rural economies. Through REDD+ pilot projects, national and sub-national agencies and local organizations demonstrate mechanisms through which they receive payment for producing verified GHG emissions reductions or enhancement of carbon stocks. In addition to demonstrating these mechanisms, the pilot projects allow participating countries to build capacity, strengthen policy frameworks, institutionalize methods for tracking deforestation rates and forest carbon measurement, and put in place the financial architecture for a forest carbon market system that can generate revenues for long-term sustainable forest management, with corollary benefits of biodiversity conservation and other environmental services.</p>
Indicator Type	Outcome
Unit of Measure	Metric Tons of Carbon Dioxide Equivalent CO <sub>2</sub> e
Data Collection Method	<p>CO<sub>2</sub>e emissions reduction or sequestration will be estimated using USAID AFOLU Carbon Calculator, based on the influence area of each complementary metal oxide (CMO) image sensor and other necessary data collected from RGC records, field surveys, and global imaging data, GIS analysis, and ground-truthing measurements.</p> <p>Winrock’s in-house experts will advise on reference level (RL) and MRV methodologies, tools and models to be used to obtain accurate, cost-effective estimates of CO<sub>2</sub> emissions and carbon storage. Methods used will depend on type of land use, forest, ecosystem and other geographic considerations. Data will be entered into the USAID AFOLU Carbon Calculator, which will output annual CO<sub>2</sub> equivalent figures for each intervention.</p>

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<b>Goal</b>	<b>Conservation and Governance of the Eastern Plains and Prey Lang landscapes improved</b>
<b>Required Information</b>	<b>Response</b>
Use of Indicator	Reporting and accountability by in-country program implementers. Progress will be noted at UNFCCC international climate change negotiations, will be used to capture the impact of USAID’s GCC portfolio for domestic and international audiences.  CO <sub>2</sub> equivalent is now the world-wide standard measure of carbon emissions reductions or sequestration and represents the effectiveness and scale of USG program impacts designed to reduce levels of greenhouse gases in the atmosphere.
Data Source and Reporting Frequency	Maps, GIS data, field surveys, forest and other natural resource inventories, carbon registries, reports from the RGC and partners, and data generated from application of MRV methodologies.  Reported Annually.
Known Data Limitations	Some MRV methodologies may need to be developed or adapted for unique ecosystems. Winrock experts and participating partner organizations will develop or adapt MRV methodologies as needed.
Baseline Timeframe	Baseline data will be established in the <b>third quarter of year two</b> experts employing satellite imagery, GIS data, and data from field surveys. The data surveys will be conducted in year two.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	None

<b>Objective</b>	<b>1: Effectiveness of government and key natural resources managers at national and subnational levels to sustainably manage forests and conserve biodiversity enhanced</b>
<b>Required Information</b>	<b>Response</b>
Indicator	<b>0.1.1.</b> Number of stakeholders actively engaged in improved forestry management practices
Definition	This indicator will measure those stakeholders actively engaged with efforts to reduce deforestation and improve forest management. Stakeholders are defined to include both individuals and organizations participating in SFB project activities. Organizational stakeholders will include government agencies, partner organizations, civil society and advocacy organizations, policy and research institutions, professional associations, NGOs, community-based organizations, Community-level resource-based enterprises, producer associations, private sector partners,

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	<p>student/alumni groups, women’s unions, and youth clubs. Individual stakeholders will include members, representatives, or associates of these organizations. Stakeholder engagement could include membership/participation in community-based resource governance committees, adoption of improved management practices, assessment and/or replication of technology demonstrations or best practices, constructive dialogue related to policy reform and to advance policy implementation, participation in public awareness campaigns, and dissemination of public awareness messages and materials.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A
Linkage to Long-Term Outcome or Impact	<p>Active engagement by stakeholders will demonstrate the effectiveness of project sponsored training and other capacity building and empowerment activities. Increased stakeholder engagement in management and protection of conservation areas will lead to more effective governance and the normalization of practices and behaviors that protect and conserve natural resources and reduce deforestation. Active engagement by stakeholders will also result in increased awareness of forest management and biodiversity conservation issues. Stakeholders who are familiar with and knowledgeable about these issues are more likely to support and advocate for improved forest management policies, and to hold their government representatives accountable for implementation of existing policies and enforcement of regulations. This will contribute to creating the enabling conditions to counteract corruption and increase awareness of and compliance with international standards and safeguards.</p>
Indicator Type	Outcome
Unit of Measure	Individual (Number); Organization (Number)
Data Collection Method	<p>Data will be collected on number of stakeholders who have participated in an SFB project activity such as CF members, CPA members, CBPF, CCF, CPF members and other groups and provincial sub-committee for forest, biodiversity and development, and any other formal group, who are actively engaged by putting into practice the training, skills, tools, methods, or capabilities that they have gained, as a result of the SFB activities. This indicator will not measure simple understanding of principles or attendance at project-sponsored events. For an individual to be counted under this indicator, they must exhibit a concrete behavioral change or active participation in activities aimed at improving forest management.</p>

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	<p>Project staff will use direct observation of stakeholder activities aimed at improving forest management, and other project activities, through which there are opportunities for active stakeholder engagement, such as public fora, policy roundtables, public awareness campaigns, field demonstrations, and participation in local natural resource management organizations/committees. Direct observation will be supplemented by surveys which will be conducted by the SFB project to measure stakeholder perceptions of their own engagement and that of other stakeholders. The survey will use a mix of both multiple choice and open-ended questions to allow project participants to self-assess their level of engagement in improved forest management practices. Survey questions will also be designed to collect data on the type of activities in which the participants have been engaged, their understanding and perceptions of how the activity contributes to improved forest management, and their interest in engaging in other related activities. This will provide useful information, not only in terms of project performance, but also in the adaptive design of follow-on activities. The selection of individuals to be included in the survey will not be completely random, as the survey will target individuals who are involved in project supported interventions related to improved forest management, such as training, demonstrations, and other activities. Furthermore the selection of participants for the survey will be stratified to include women and under-represented groups (ethnic and religious minorities as appropriate). We anticipate that the survey will administer the questionnaire to between 100 – 150 project participants. The SFB team will engage a local consultant to assist in designing the survey, determine the number of interviews needed to obtain reliable results, and to stratify the sample group to accurately reflect the target population.</p>
Use of Indicator	<p>This indicator will be used as a measure of government commitment to more participatory governance of natural resources, recognition of stakeholders’ multiple environmental values, and commitment to increased consultation with stakeholders to mitigate conflict.</p>
Data Source and Reporting Frequency	<p>Stakeholder engagement in community-based forest management committees, enterprises, producer associations, public forums or dialogues and other activities that require active participant engagement in improved forest management will be reported by partner and small grant recipients in reports on a quarterly basis.</p>
Known Data Limitations	<p>Key informant interviews will be conducted on an annual basis to assess stakeholders’ level of engagement and verify that the number of stakeholders report meet the definition for active engagement in improved forest management.</p>
Baseline Timeframe	<p>The baseline will be <b>set to zero</b> at the start of the project.</p>

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Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Organization; Individual; Sex [Female, Male], Under Represented Groups [Ethnic and religious minorities as appropriate]; National/sub-national (for representatives of government agencies); Sector (Private, Public, NGO)

<b>Sub-Objective</b>	<b>1.1:</b> Sub-national Administration (SNA) and sub-national line ministry capacity to effectively meet evolving responsibilities in forest management sector increased.
<b>Required Information</b>	<b>Response</b>
Indicator	<b>1.1.1:</b> Number of land titles and agreements approved as a result of USG assistance, including Community Forests, Community Protected Areas, Community-based Production Forests, Community Conservation Forests, and indigenous land titles
Definition	<p>SFB will support the increase in conservation areas formalized through land titles by the RGC and under effective governance through management plans. This indicator will count the number of titles, including the area (hectares), and the number of households under each land agreement approved by the RGC, to conservation areas using designated classifications, including Community Forest, Community Protected Area, Community-based Production Forest, Community Conservation Forest, and indigenous land titles that are granted to communities and are based on agreements negotiated through the assistance and support of SFB.</p> <p>The project team will provide training and technical assistance to support the necessary policy or legal changes, community organization and capacity building for resource governance, land title area demarcation and management planning, and preparation of land title documents. The indicator will count titles that have been fully formalized through declaration and development of management plans.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A

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Linkage to Long-Term Outcome or Impact	Although it is not the only approach, formalization of land and resource rights through titling increases tenure security. This, in turn, increases the security of durable investments in the land that can have significant positive impact on conservation. This indicator is linked to project support for an improved enabling environment and increased capacity to develop new policy frameworks and management modalities. Based on evidence from pilot projects already implemented in Cambodia, it is expected that transferring areas of natural resources and biodiversity to community-level governance will enable better protection of ecosystems and better management of shared assets. The preparation and implementation of land titling agreements will demonstrate government buy-in, as well as the communities' active engagement in land use issues.
Indicator Type	Output
Unit of Measure	Land Titles/Agreements (Number, area (hectares), and households)
Data Collection Method	<p>Using national and local government records and community documents, the SFB team will identify communities groups in the two landscapes that have a title and/or agreement, communities that have initiated the titling process, indigenous groups that have a legitimate title claim, and other communities that are candidates for titling agreements. The project team will work with community organizations and local/national government agencies to provide assistance as needed to achieve agreement and complete the titling project. The SFB team will count the titles/agreements for communities that received project assistance, and that have finalized a title and/or agreement that has also been recorded by a local or national government agency. Copies of titles and agreement documentation, including maps, GPS coordinates and other geographic information, will be obtained and kept in the SFP project data storage system. The team will use local government and community organization records to determine the number of households included under each title/agreement. The team will use GPS to determine the boundaries of the areas covered by the titles/agreements and will use GIS and spatial analysis tools to calculate the number of hectares covered by each title/agreement.</p> <p>Milestone will be also used to measure the progress of the land Titling. CCF, CFs, and CBPF establishment will have 11 Steps, CPA and ILT Establishment will have 8 Steps. The team will also track and record on the step that USAID fund started to be involved in.</p>
Use of Indicator	Achievement of targets for this indicator will demonstrate government recognition of local land and resource tenure rights and capacity for resource governance, as well as commitment to conflict resolution.
Data Source and Reporting Frequency	Third party data sources will include copies of agreement and title documents, copies of management plans and approval documents, and community organization reports. Reported Quarterly
Known Data Limitations	N/A

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Baseline Timeframe	At the start of the project, the baseline value will be <b>set at zero</b> . Although some land titling activities and agreements may have been already underway at the start of the SFB project, the land title or agreement will only be counted if it is approved as a result of USG-assistance through SFB project activities. Therefore the baseline will be set at zero to reflect the assumption that the land titles and agreements reported are only those that are attributable to SFB efforts to secure their approval.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Type [Community Forest, Community Protected, Indigenous]; Location [Prey Lang, Eastern Plains];

<b>Sub-Objectives</b>	<b>1.2:</b> National level capacity to support the sustainable management of forests, biodiversity conservation, REDD+, and low-emissions development strengthened.
	<b>1.3:</b> Local-level technical skills for forest management and biodiversity conservation to support community-based natural resources management (CBNRM) improved.
<b>Required Information</b>	<b>Response</b>
Indicator	<b>1.2.1 and 1.3.1:</b> Number of people receiving USG supported training in natural resources management and/or biodiversity conservation
Definition	<p>This indicator measures the number of individuals trained by SFB in the management of natural resources or biodiversity conservation. Training could include training in natural resources issues, management of conservation areas; application of laws and conventions and their enforcement; training in land tenure and property rights; improved land use, agricultural practices, and resource –based enterprise management; business skills; and community-based governance of natural resources and protected areas. Training to improve forest management, climate change mitigation, and biodiversity conservation could include forest carbon accounting methodologies, development of MRV systems and national reference scenarios, monitoring changes in forest cover, land use and carbon stocks; and improved land use mapping and planning; demonstration of new technologies and practices; and economic and policy analysis methods, such as cost-benefit studies and valuation of benefits and services.</p> <p>Training can also consist of transfer of knowledge, skills, or attitudes through structured learning and follow-up activities, or through less structured means, to solve problems or fill identified performance gaps.</p>

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	<p>Training programs are expected to include short-term non-degree technical courses, seminars, workshops, mentorships, and practical demonstrations and field day events. Training participants may include RGC personnel, other policymakers, managers of conservation areas, partner organizations, local stakeholders, community organizations, community-based entrepreneurs, and others as appropriate.</p> <p>Training at the national level will be reported as sub-indicator 1.2.1 and will be disaggregated by sex and ethnicity. Training at the sub-national level will be reported as indicator 1.2.3 and will be disaggregated by administrative level (Provincial, District, Commune, Community); Sex (Female, Male), Ethnicity.</p>
New or Existing Indicator?	Existing Standard Indicator: 4.8.1-27
Primary Program Area (Program Element for IIP) Linkage	4.8 Environment
Primary Program Element (Program Sub-Element for IIP) Linkage	4.8.1 Natural Resources and Biodiversity
Linkage to Long-Term Outcome or Impact	<p>The capacity of institutions derives from the individuals who comprise its leadership, workforce or membership; therefore increased individual capacity will contribute to increased effectiveness within national and sub-national institutions and local-level organizations. Training enhances demonstration activities to strengthen in-country capacity. Training and skills transfer will accelerate replication and scale-up of demonstrated models and pilot activities. These training activities help improve the likelihood that development partners will continue to implement relevant projects long after USG support has ended. Training will also include capacity building for policy analysis and reform and valuation of natural resources and environmental services. Increased human and institutional capacity will contribute to sustainability by strengthening organizational leadership and governance; and will empower people to improve their livelihoods in ways that do not exacerbate environmental degradation.</p>
Indicator Type	Output
Unit of Measure	Individuals (Number)
Method of Data Collection	<p>The SFB team will use attendance sheet to collect data on all training participants in training activities related to natural resources management and/or biodiversity, such as workshops, field days, cross-visits, study tours and other project-sponsored events. The Participant Training Report Form will include a section to record the number of hours the participant was in attendance in sessions covering topics related to natural resources management and/or biodiversity. SFB partners will also use the</p>

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	<p>Participant Training Report Form to collect and report this data. All participant training data will be entered into the USAID TraiNet data management system.</p> <p>SFB Trainers, facilitators, training coordinators, and implementing partners will issue and collect participant training report forms for each training participant at all training events. Forms will be prepared in advance to include information on the training topics, hours of training for each topic and session, and the geographic level of training (National, Sub-national, or Local). Participants will provide information on the forms or to the training coordinators, including gender, membership in under-represented groups of interest, and subject matter comprehension self-assessment (before and after training).</p> <p>Individual training participants will only be counted once, even if the individual participates in multiple training events. Only people who complete an entire training session will be counted under this indicator. The number of people trained represents the total number of individuals who have received project sponsored training, not the sum total of training participants.</p>
Use of Indicator	<p>Training indicators account for the expenditure of USG funds to build country capacity. This indicator will enable the SFB team and USAID to monitor progress of training activities and their contribution to increased capacity at national and sub-national levels. Data from participant training report forms will inform annual work plan training targets. Training assessments and participant self-assessments will be used to identify priority topics and subject matter for ongoing training.</p>
Data Source and Reporting Frequency	<p>Participant Training Report Forms; Pre- and Post-training self-assessments; Training reports by Winrock Consortium Partners Reported Quarterly</p>
Known Data Limitations	<p>This indicator measures participation in training programs, which may not directly translate to action, unless other capacity building and institutional issues are also addressed. The SFB team will promote increased capacity through other interventions, including stakeholder participation in demonstrations, pilot projects, policy reform, and development of management and conservation plans.</p>
Baseline Timeframe	<p>At the start of the project, the baseline value will be <b>set to zero</b>.</p>
Responsibility	<p>Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov</p>
Disaggregate(s)	<p>At National level: Sex (Female, Male), Ethnicity ; At Sub-national level: Administrative level (Provincial, District, Commune, Community); Sex (Female, Male), Ethnicity. );</p>

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<b>Sub-Objectives</b>	<b>1.4:</b> Enabling polices, laws and regulations for low emission development established
	<b>2.4:</b> Monitoring, reporting and verification (MRV) systems implemented or improved
<b>Required Information</b>	<b>Response</b>
Indicator	<b>1.4.1 and 2.4.1:</b> Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change (mitigation or adaptation) and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance.
Definition	<p><b>Standard Definition:</b> Policies, laws, strategies, plans, agreements and regulations include those developed and formally endorsed by governmental, non-governmental, civil society, and/or private sector stakeholders to address climate change and/or biodiversity conservation issues. However, if a measure is not yet adopted, it must at least be formally proposed within an official government process to be reported.</p> <p>Legal, regulatory and policy reform has a role to play by incentivizing investment in clean energy or energy efficiency, or encouraging lower risk behavior. Depending on the context, regulatory and policy reform might include: zoning regulations to prevent development in flood-prone areas, standards for improved infrastructure, policies to conserve or allocate energy or water more effectively, regulations to encourage the development of renewable energy sources, or trans-boundary agreements related to the use of shared resources, among many others. For example, an officially proposed or adopted low-emission development strategy (LEDS) is one type of strategy that should be counted, including strategies for REDD+ pilot projects.</p> <p>Policies, laws, strategies, plans, agreements and regulations that address climate change and/or biodiversity conservation may be integrated in scope (e.g., at a certain spatial scale or political boundary such as municipal, state, or national), or may address certain climate-relevant sectors like water, marine resources, forests, land use and agriculture, energy, and urban development.</p> <p><b>Precise Definition(s):</b> This indicator measures the number of policy actions (policies, laws, agreements, plans, strategies, or regulations) that address natural resource management, resource governance, climate change, REDD+, conservation, biodiversity, regulation of the agricultural sector, and other policy issues, such as land and resource tenure, indigenous land titles, and community-based land and resource management. Policy actions can also include those that contribute to biodiversity conservation or climate</p>

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	<p>change mitigation by restricting development or deforestation in critical areas, reducing forest degradation, increasing local level engagement in natural resource governance, and/or supporting community-based control over sustainable land use and resource utilization. Policy actions reported under this indicator shall be those for which the SFB team provided specific inputs, such as convening stakeholders; sponsoring policy fora and round-table discussions; economic analysis; providing expert advisory services to ministries and legislative bodies; assessment of the effectiveness of existing policies, laws and regulations; analysis of constraints to policy implementation and enforcement of existing laws; technical assistance to draft or review policy documents; facilitating agreement negotiations and consensus building; and strategy development; and support to build capacity for and improve implementation of existing laws, policies, strategies, plans, agreements, or regulations. SFB plans to identify and refine methodologies improving the legal framework governing conservation areas, the procedures for establishing and titling them, and ‘best practices’ for conservation area governance. SFB project-supported local level pilot activities, model actions, tools and methodologies to demonstrate community-based governance of protected areas and forest resource-based livelihoods activities will also be counted as policy actions, including implementation at the local-level by community-based organizations.</p>
<p>New or Existing Indicator?</p>	<p>Exiting Standard Indicator: 4.2.8-28</p>
<p>Primary Program Area (Program Element for IIP) Linkage</p>	<p>Program Area: 4.8 – Environment</p>
<p>Primary Program Element (Program Sub-Element for IIP) Linkage</p>	<p>4.8.1 – Natural Resources and Biodiversity</p>
<p>Linkage to Long-Term Outcome or Impact</p>	<p>An improved enabling environment through legal and policy reform, strategy development and planning is essential for ensuring that efforts and investments in climate change have legal and strategic backing and institutional ownership. Formal and informal institutional structures in the form of laws, policies, agreements, and regulations, strategies or plans are essential to meeting the SFB goal and objectives because they provide the enabling environment on which actions are built and maintained. Without clear laws, policies that can be implemented at national and local levels, and regulations that are respected and enforced, natural resources cannot be effectively conserved or managed. The process of proposing, reviewing, adopting and implementing policy actions can take time and the steps in the process do not always proceed along a straight-forward</p>

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	<p>pathway. Also the process of drafting, reforming and enacting policy actions can involve negotiation and compromise among many actors. Nevertheless, support for a stronger enabling environment for natural resource management and conservation is key to the sustainability of other project activities.</p>
Indicator Type	Output
Unit of Measure	Policy actions (laws, policies, strategies, plans, agreements, regulations, models, protocols) [Number]
Method of Data Collection	<p>Data on the status of planned policy actions and their implementation will be collected from legislative proceedings, government agency policy memos, minutes of policy committee meetings, and official decrees, published laws and regulations, and signed agreements. Once the policy actions are passed, enacted into law, approved, signed or authorized, the team will obtain copies of the actual documents. Key decision-makers, members of legislative bodies, government agencies responsible for policy implementation, policy analysts, and community and advocacy group members will be interviewed to determine the status of implementation.</p> <p>A milestone tracking method will be used to determine when a law, regulation, policy, agreement, decision, strategy or plan has passed through the various stages of development. A milestones table will be updated every quarter so that at any given time, it will show the progress of each enabling condition for which the SFB team is providing support. This tracking approach will be used to determine whether a policy initiative is making acceptable progress towards adoption and implementation, or whether it has been blocked or delayed.</p> <p>The milestone approach will be used to disaggregate policy measures based on their level of completion. Planned policy actions, laws, policies, strategies, plans, agreements, or regulations will be counted and reported as they progress through the legislative or approval process below:</p> <p>The action milestones will be counted only if the SFB project contributed to movement to the next stage of development:          Stage 1: Analyzed;          Stage 2: Drafted and presented for public/stakeholder consultation;          Stage 3: Presented for legislation/decrees;          Stage 4: Passed/approved; and          Stage 5: Passed for which implementation has begun.</p> <p>This indicator is meant to capture not only RGC legislative or executive policies (laws, resolutions, decrees, orders), but also the policy decisions of RGC ministries (excluding land titles, which are counted under a separate indicator) and policy directives of local government and community-based committees that are responsible for implementation of agreements governing community forests and conservation areas. Identical</p>

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	policies being pursued in multiple jurisdictions (i.e. the same standard forestry law being applied in two provinces simultaneously) should be reported once per jurisdiction; a single high-level policy should only be counted as one law no matter how many sub-jurisdictions it affects, however. The narrative reports shall include information on the nature and objective of each law reported under this indicator.
Use of Indicator	This indicator can be used for project level monitoring and evaluation, to track national progress to address climate change, and for reporting on the progress of the GCCI as a whole. The indicator tracking will be used to determine whether additional resources are needed to overcome constraints to adoption and implementation.
Data Source and Reporting Frequency	Third party sources will include: Annual work plans, RGC legislative and agency proceedings, committee meeting minutes, official decrees, published laws, strategies and agreements, and other official documentation. Reported Quarterly
Known Data Limitations	The process of policy action can and should involve many interested parties, which can include other donors and development programs with similar objectives. Therefore, it may be difficult to isolate the effect of the SFB project interventions on policy outcomes, separate from those of other organizations, for the purpose of attribution.
Baseline Timeframe	In the first year of the project, the existing policy framework will be analyzed by the SFB project team and the baseline will be <b>set to zero</b> .
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	National or Subnational; Type of policy action (e.g.: law, policy, strategy, plan, agreement, or regulation)

<b>Objective</b>	<b>2:</b> Constructive dialog on forest management and economic development at the national and sub-national levels improved.
<b>Required Information</b>	<b>Response</b>
Indicator	<b>0.2.1:</b> Number of conservation and NRM conflicts mitigated or acted upon in priority landscapes as a result of USG assistance.
Definition	This indicator measures actions taken in response to land- and natural resource-related disagreements. Disagreements may include disputes over land tenure and ownership, improper exploitation of shared resources, over-harvesting of resources, equitable land and resource access rights, and activities that lead to resource degradation or loss of environmental services.

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	<p>Mitigated conflicts are those that can be resolved through preventive measures, such as community consensus-building; mediation; increased tenure security; and/or forums for constructive dialogue. Acted-upon conflicts are conflicts that require a decision or an action by a recognized authority, such as a Community Forest Conservation Committee, local government officials, or a provincial or national level government agency or Ministry.</p> <p>Conflicts may include disputes over land and resource tenure and use; especially where property rights are unclear or boundaries have not been legally established or delineated. In these cases, conflicts are likely to arise over land and resource use, violation of customary/traditional land or resource use rights, unauthorized encroachment, and inequitable access to scarce resources. Stakeholders include community members in the priority landscapes and representatives of government agencies and other organizations with responsibility for activities in the priority landscapes.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A
Linkage to Long-Term Outcome or Impact	<p>Land and resource conflicts are an important source of social unrest, and have economic consequences as well, in the form of reduced tenure security, limited investment and damage to property and assets. Where land conflicts can be resolved, tenure security and economic outcomes are improved, and the potential for land conflicts to spill over into broader civil conflicts is reduced. Actions to mediation and resolve conflicts demonstrate increased government effectiveness and capacity. The effectiveness of community governance depends in part on the willingness, ability and empowerment of stakeholders to resolve and/or prevent conflict due to land- and resource- related disagreements. Improved local level resource governance, increased local participation in forest management, and adoption of adaptive conflict management and resolution skills will normalize the use of legal and community forums for mediation, increase community buy in, solidify community relationships, and reduce the incidence of maladaptive forms of resolution including violence. By legitimizing and promoting community governance systems as effective options for resolution of land- and resource-based conflict, training in negotiation and conflict-management will further SFB's mission of improving NRM and biodiversity conservation.</p>

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Indicator Type	Outcome
Unit of Measure	Individuals [Number]
Data Collection Method	Community-level surveys will be conducted to determine local perceptions with the respect to the number of ongoing conflicts due to land- and resource- related disagreements in the priority landscapes. The SFB team will also carry out interviews with local law enforcement officials, forest guards/officers, community leaders, journalists, local NGOs and civil society organizations, and other key informants. The team will use the data from the community surveys and key informant interviews to identify the number of existing conflicts/disagreements that are reported by a significant number of respondents. Data on community and key informant perception of whether disputes are still ongoing or have been resolved will be collected through annual surveys and interviews. If the conflict is resolved through mediation, a formal decision-making or judicial process; or other official action, the project team will use the relevant reports to document the process.
Use of Indicator	This indicator will enable the SFB team, USAID, and government agencies to monitor progress on a range of activities that seek to reduce the incidence of conflict, including increased stakeholder engagement and empowerment in forest management and conservation issues, training in conflict resolution, land titling agreements, forest and conservation area management planning, and interventions to improve livelihoods.
Data Source and Reporting Frequency	Annual surveys – survey methodology and procedure will be made available for review by USAID prior to survey implementation; Key informant interviews; official reports and documentation of conflict mediation or resolution process. Reported annually
Known Data Limitations	Perceptions of conflict can be highly subjective; therefore surveys will have to be carefully designed to prevent bias. Mixed methods will be used to identify areas of consensus on existing conflicts.
Baseline Timeframe	The baseline will be <b>set at zero</b> .
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Landscape; Conflicts mitigated; Conflicts Acted Upon

<b>Sub-Objective</b>	<b>2.1:</b> Effective stakeholder participation in national and sub-national planning processes affecting forest land management and economic development increased.
	<b>2.2:</b> Stakeholder understanding of forest land management, REDD+, biodiversity conservation, CBNRM, and relevant economic development planning issues strengthened.

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	<b>2.3:</b> Dialogue skills of relevant stakeholders (community, government, and private sector) improved to engage with one another on forest and resources issues.
<b>Required Information</b>	<b>Response</b>
Indicator	<b>2.1.1, 2.2.1, and 2.3.1:</b> Number of sustainable forestry and biodiversity management plans developed using participatory national and sub-national planning processes
Definition	<p>This indicator will track the status of national and sub-national management plans developed with assistance from the SFB. This indicator will also measure the number of management plans prepared to support the management and governance of community forests and conservation areas. The SFB team will support national and sub-national planning processes for sustainable forest management and biodiversity conservation in the priority landscapes using participatory approaches. These approaches will include stakeholder consultation at all levels, with parallel public awareness campaigns, information dissemination, training/workshops, and other communications media, that will empower stakeholders to make an informed contribution to the planning process. Management and conservation priorities will be determined through public fora, roundtable discussions, focus group interviews, and other opportunities for stakeholder input and review of the plans under development.</p> <p>Although plans will be developed using participatory methods, they will also make use of the best available data and scientific assessments. Forestry and biodiversity conservation plans will include maps; assessments of existing resources and ecosystem conditions; estimates of key species populations and habitat status; evaluation of environmental degradation and key drivers of deforestation; management/conservation objectives; detailed action plans; timelines and assignment of responsibility for specific tasks; expected outcomes and targets; and plans for ongoing assessment of key biological and economic factors.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A

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Linkage to Long-Term Outcome or Impact	The development and adoption of forestry and conservation area management plans, participatory management plans, and comparable instruments represents an important technical assistance and capacity building input at national, sub-national and local levels. This indicator also links to increased stakeholder engagement. Planning activities will also support efforts to increase local level tenure security through land titling and strengthen policy and legal frameworks for forest land management and conservation. By emphasizing participatory methods and stakeholder consultation, the team will be able to identify and mitigate possible points of future conflict that could result from the implementation of national and sub-national plans.
Indicator Type	Outcome
Unit of Measure	Plans (Number)
Data Collection Method	The SFB team will count plans that have been developed. Plans will be considered to be developed when they have been submitted to the governing organization for approval. Copies of management plans and related documentation, including maps, geographic information, workplans, and conservation strategies will be obtained and kept in the SFB project data storage system. The SFB team will facilitate the management planning process and will use direct observation to determine whether the plans were developed using participatory national <b>and/or</b> sub-national planning processes.
Use of Indicator	Plans developed using participatory processes are a measure of the government's commitment to constructive dialogue. Participatory planning processes generally take more time and are more complex to manage. However, implementation of the plans is more likely to receive stakeholder support, if the plans reflect participants' input and priorities.
Data Source and Reporting Frequency	Data sources will include forestry and biodiversity conservation planning documents; approval/adoption documents; reports from stakeholder consultation events and focus group interviews; stakeholder input provided through websites and other public media. Reported quarterly
Known Data Limitations	It will be necessary to determine the step at which the plan has been developed to avoid ambiguity in counting plans that are in different stages of development.
Baseline Timeframe	In the first year of the project, the baseline value will be set to zero.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	National and sub-national plans; Priority landscapes

<b>Objective</b>	<b>3:</b> Equitable economic benefits from the sustainable management of forests increased.
<b>Required Information</b>	<b>Response</b>

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Indicator	<b>0.3.1:</b> Number of people with increased economic benefits derived from sustainable natural resources management and conservation as a result of USG assistance.
Definition	<p><b>Standard Definition:</b> Number of people may be a direct count, or it may be determined by multiplying the number of households with increased economic benefits by the number of people per household. Increased economic benefits are increases in economic earnings or consumption due to sustainable management or conservation of natural resources, which can include wages, communal revenues, non-cash benefits, and economic benefits from ecosystem services.</p> <p><b>Precise Definition:</b> Increased economic benefits include: increased income, average increase in income, number of new enterprises developed (including but not limited to forestry/agroforestry, sustainable agriculture, sustainable tourism, microenterprise, etc.), economic benefits from ecosystem services, etc. Economic benefits may be based on actual cash transactions or other economic value of Payment for Environmental Services (PES).</p> <p>Household income is generally defined as value added from labor and capital (including land). The income of a household is therefore the return to the labor and capital it owns, used in its own production and income-generating activities (self-employment or business) or sold in a market (e.g., wage labor). Estimates of economic benefits will also take into consideration other sources of income such as remittances, pensions, and payment transfers through carbon finance mechanisms. This indicator will measure the number of people reporting a change in income levels from a baseline time period (T0) on an annual basis.</p>
New or Existing Indicator?	Existing Standard Indicator: 4.8.1-6
Primary Program Area (Program Element for IIP) Linkage	4.8 Environment
Primary Program Element (Program Sub-Element for IIP) Linkage	4.8.1 Natural Resources and Biodiversity

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Linkage to Long-Term Outcome or Impact	This indicator links sustainable natural resources management to economic growth and social development objectives. When people receive tangible economic benefits from natural resource management or conservation, they are more likely to value and support these activities into the future, well after the project ends, creating a sustainable impact.
Indicator Type	Outcome
Unit of Measure	Individuals (Number)
Data Collection Method	To measure the extent to which the target population has experienced increased economic benefits derived from REDD+ related activities, the socio-economic baseline study on incomes and livelihood of community will be used combining Sustainable Livelihoods Approach (SLA) Framework and the CIFOR toolkit. The M&E team will develop livelihoods surveys using existing instruments and questionnaires, adapt tools that have already been tested in similar programs, and develop additional survey questions as needed to establish baselines in the communities where economic benefits are expected to be accrued, and to collect follow-up data on income and livelihoods on an annual basis. Survey questionnaires will be designed to collect data on number of people with increased economic benefits that can be disaggregated by gender and by status as an under-represented group.
Use of Indicator	This measure demonstrates project reach and may be reported in aggregate to Congress or other stakeholders.
Data Source and Reporting Frequency	Data will be collected from group/community interviews, key informant interviews, and survey responses. Reported Annually
Known Data Limitations	Number of people with economic benefits does not indicate the actual or relative size of the benefit, which may be a cash or non-cash benefit. Validity is good, integrity is high, reliability and timeliness is reasonable. Precision is variable across projects but should be consistent within projects.
Baseline Timeframe	Baselines will be established in the <b>third quarter of year two</b> . The household level baseline values for earnings, assets, sales, and other sources of income, will be established from socio-economic surveys and livelihood assessments conducted by external organization. The survey methodology and procedures will be made available for review by USAID prior to survey implementation.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Sex; Landscape; Status Group (well represented or under-represented)

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<b>Sub-Objective</b>	<b>3.1:</b> Economic incentives for land use practices that reduce GHG emissions established in targeted landscapes
<b>Required Information</b>	<b>Response</b>
Indicator	<b>3.1.1:</b> Increase in income levels of target communities due to economically viable alternative livelihood activities as a result of USG assistance.
Definition	This indicator will measure the average increase in income in communities in the priority landscapes, as reported by community members through surveys. Increased income is expected to be gained as a result of economic benefits from ecosystem services, ecotourism, and other alternative livelihood activities and development of forest-based enterprises and value chains, such as honey, sustainable resin harvesting, and bamboo products. Economic benefits may be based on actual cash transactions or the economic value of other benefits derived from Payment for Environmental Services (PES) or from REDD+ carbon finance mechanisms. REDD+ carbon finance mechanisms compensate community-based organizations, resource based enterprises, and individuals for reducing emissions from deforestation and forest land degradation. REDD+ carbon finance mechanisms recognize that forest resource dependent communities give up income and livelihoods options to reduce deforestation and degradation, and that they should be compensated or provided with alternative income generating (AIG) options or other benefits. Local communities include communities located within priority landscapes.
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A
Linkage to Long-Term Outcome or Impact	This indicator links sustainable NRM financed by PES and REDD+ to economic growth and social development objectives. To ensure long-term improved natural resource management and to reduce deforestation, it will be necessary for communities that have traditionally employed land use practices involving unsustainable harvesting and other environmentally destructive activities to adopt alternative income generation (AIG) strategies. Successful adoption of improved resource management practices depends on whether individual resource users perceive the practices as an opportunity for financial gain or some other clear benefit, such as increased tenure security or resolution of resource-related

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	conflicts. For project interventions aimed at promoting AIG to be widely adopted, individual resource users should experience minimal financial loss under new management plans, prospects for income replacement from alternative activities, new employment opportunities, or better access to land and/or resources.
Indicator Type	Outcome
Unit of Measure	Percent increase in income of communities
Data Collection Method	To measure the percent increase income of target communities, the socio-economic baseline study on incomes and livelihood of community will be used combining Sustainable Livelihoods Approach (SLA) Framework and the CIFOR toolkit. The M&E team will develop livelihoods surveys using existing instruments and questionnaires, adapt tools that have already been tested in similar programs, and develop additional survey questions as needed to establish baselines in the communities where economic benefits are expected to be accrued, and to collect follow-up data on income and revenues generated from project supported activities on an annual basis. Survey questionnaires will be designed to collect data on income from specific enterprise or value development activities supported by the project, as well as community benefits from REDD+ or PES benefit sharing mechanisms.
Use of Indicator	This indicator is a measure of the viability of sustainable finance mechanisms to offset loss of livelihoods in communities in the priority landscapes. Communities that participate in PES and REDD+ agreements, and forest management and conservation plans aimed at reducing deforestation and protecting biodiversity, will agree to give up practices that are environmentally destructive, even though these practices may provide short-term economic benefits. Pilot projects will demonstrate that sustainable finance transactions can be transparent and feasible to implement with full community involvement.
Data Source and Reporting Frequency	Livelihoods Surveys (SFB will submit a complete package of survey procedures, related instruments, and reports to USAID), PES and REDD+ agreements and financial reporting Reported Annually
Known Data Limitations	Livelihoods surveys depend on respondents' memory of income levels and thus precision may be lessened. Survey data will be compared with records of PES and REDD+ agreements and financial transactions to cross check accuracy of reported benefits.
Baseline Timeframe	The baseline values will be established in the <b>third quarter of year two</b> from socio-economic surveys and livelihood assessments conducted by The survey methodology and procedures will be made available for review by USAID prior to survey implementation.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Priority landscape; Type of financial mechanism

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<b>Sub-Objective</b>	3.2: Payment for environmental service (PES) activities (e.g. REDD+) established or supported in targeted landscapes with equitable benefit sharing mechanisms.
	3.4: Low emission development and REDD+ approaches demonstrated at the sub-national or sector level
<b>Required Information</b>	<b>Response</b>
Indicator	<b>3.2.1 and 3.4.1:</b> Number of PES agreements approved and implemented
Definition	<p>Payment for Environmental Service (PES) agreements <i>are quid pro quo</i> agreements between a natural resource or environmental service provider and a buyer. These are based on market or non-market rewards to compensate the seller and can take many forms including cash, in-kind assistance, and exemption from taxes, tenure, skills training, or new jobs. PES agreements reward the rural poor for environmental stewardship and contribute to poverty reduction efforts.</p> <p>Environmental services are defined as the provision of natural resources and functioning ecological systems that produce environmentally and economically valuable goods and services, for example watershed protection, forest products, flood control, soil quality, erosion control, biodiversity conservation, etc.</p> <p>PES agreements outline the conditions for sustainable financing - the funding needed to sustain conservation and resource management activities over the long term and into perpetuity. The SFP team will promote the use of PES agreements as a sustainable finance mechanism through pilot projects.</p> <p>PES Agreements will be developed and implemented through participatory, multi-stakeholder processes, and will focus on community co-management of natural resources and conservation of protected areas, in partnership with government agencies, municipalities and/or private sector partners. The agreements will be implemented with the active involvement of communities and other stakeholders.</p>
New or Existing Indicator?	New Custom Indicator
Primary Program Area (Program Element for IIP) Linkage	N/A
Primary Program Element (Program Sub-Element for IIP) Linkage	N/A

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Linkage to Long-Term Outcome or Impact	By providing a direct financial incentive, PES is envisioned to be the main source of sustainable financing for conservation and improved resource management in the project area. PES has been applied effectively in Vietnam, Nepal and other countries.
Indicator Type	Output
Unit of Measure	Agreements (Number)
Data Collection Method	The project team will facilitate the development of the PES agreements between community organizations and other stakeholders, such as downstream resource users and/or entities that are willing to compensate communities for the environmental services they provide. The SFB team will count the PES agreements that are facilitated through this process, which will also include development of transparent and equitable benefit sharing mechanisms. Copies of written agreements and related documentation will be obtained and kept in the SFP project data storage system. The agreements will include requirements to report to the project team on financial transactions, such as payments to the community, establishment of a community fund to receive payments, and/or distribution of benefits within the community. These transaction reports will be used by the project team to monitor the ongoing functionality of the PES agreements.
Use of Indicator	The number of PES agreements is a direct indicator of the feasibility and utility of the PES-based conservation and development strategy in Cambodia.
Data Source and Reporting Frequency	Agreement documents, records of PES financial transactions; records of community organizations that are the recipients of sustainable finance payments. Reported quarterly
Known Data Limitations	N/A
Baseline Timeframe	The baseline value will be <b>set to zero</b> .
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	

<b>Sub-Objective</b>	<b>3.3:</b> Community participation in income-generating activities broadened, with a special focus on under-represented groups.
<b>Required Information</b>	<b>Response</b>
Indicator	<b>3.3.1:</b> Number of people participating in income generating activities.

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<p>Definition</p>	<p>The indicator will track all members of targeted communities who are participating in SFB project income generating activities. Reporting on the indicator will disaggregate by landscape, gender, and ethnicity.</p> <p>Participants from under-represented groups are defined as SFB project participants in the targeted landscapes, who have inequitable access to productive economic resources because of their ethnicity or gender.</p> <p>SFB participants are members of communities in the targeted landscapes who are involved in project-supported livelihoods activities, which can include training, demonstrations, technical assistance, skills transfer, employment opportunities, support for enterprise development, and access to information for decision-making. Participants do not include those merely contacted or touched by an activity through brief attendance at a meeting or gathering.</p> <p>Income generating activities include activities to increase participants’ access to improved productive technologies, marketing techniques, improved inputs, engagement with lenders or microfinance institutions to expand their lending to weaker clients, opening access to credit and lowering the cost of credit, and community women saving schemes. Land titling activities will increase participants’ access to productive assets, such as land and resource tenure security, and sustainable resource management strategies will enable protection of these assets over the long-term.</p> <p>Income generating activities also include participation in PES and REDD+ pilot projects that generate revenues in the form of direct payment, compensation, or other benefits provided to communities for their participation in forest conservation, protection and prevention of deforestation and forest degradation.</p>
<p>New or Existing Indicator?</p>	<p>New Custom Indicator</p>
<p>Primary Program Area (Program Element for IIP) Linkage</p>	<p>N/A</p>
<p>Primary Program Element (Program Sub-Element for IIP) Linkage</p>	<p>N/A</p>

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Linkage to Long-Term Outcome or Impact	<p>This indicator is linked to the outcome indicator for Objective 3, indicator 0.3.1: Number of people with increased economic benefits derived from sustainable natural resources management and conservation as a result of USG assistance. Data collected to report on this indicator will track the number of people participating in income generating activities, while indicator 0.3.1 will track the number of people who have experienced increased economic benefits as an outcome of their participation in the activities.</p> <p>Because they play a prominent role in natural resource use and management in the targeted landscapes, and due to the persistent economic constraints they face, income generating activities will focus on increasing representation of under-represented groups, including women and ethnic minorities.</p>
Indicator Type	Output
Unit of Measure	Number of people
Use of Indicator	Tracks participation in income generating activities
Data Collection Method	The team will collect participants information directly involved in the income generating activities through direct observation and through collecting relevant activity implementations reports and participant list on relevant activities from field office and partners. Field survey and key informant interview will also be conducted to get and verify the data. The SFB team will collect data from community enterprises on the number of members belonging to NTFP harvesting groups, agriculture livelihood practices, producer associations, marketing cooperatives, or ecotourism activities.
Data Source and Reporting Frequency	Agreements with partners, employment records; participant training forms; PES and REDD+ agreements, livelihoods surveys Reported Quarterly
Known Data Limitations	N/A
Baseline Timeframe	The baseline value will be <b>set to zero</b> . Partner organizations have conducted preliminary surveys to estimate of the number of potential participants in communities in the targeted landscapes where the project will initiate activities.
Responsibility	Brad Arsenault, AOR/Environment Officer, USAID/Cambodia Phone: +855-023-728-300 x8328; Email: barsenault@usaid.gov
Disaggregate(s)	Landscape, Ethnicity; Gender