

# **Program Document**

## **Sustainable Infrastructure Partnership (SIP) Program**

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## List of Abbreviations and Acronyms

<b>ADB</b>	The Asian Development Bank
<b>AIT</b>	Asian Institute of Technology
<b>ARF</b>	ASEAN Regional Forum
<b>ASEAN</b>	Association of South-east Asia Nations
<b>BDP</b>	Basin Development Plan
<b>CGIAR</b>	Consultative Group for International Agricultural Research
<b>DFAT</b>	Department of Foreign Affairs and Trade, Australia
<b>DOS</b>	Department of State, United States
<b>EIA</b>	Environmental Impact Assessment
<b>EU</b>	The European Union
<b>FLM</b>	Friends of the Lower Mekong
<b>GIB</b>	Global Infrastructure Basel Foundation
<b>GMS</b>	Greater Mekong Sub-region
<b>ICEM</b>	International Center for Environment
<b>IFC</b>	International Finance Corporation
<b>IFI</b>	International Financial Institution (IFI)
<b>IHA</b>	International Hydropower Association
<b>IWMI</b>	International Water Management Institute
<b>JICA</b>	Japan International Cooperation Agency
<b>KOICA</b>	Korea International Cooperation Agency
<b>Lao PDR</b>	Lao People's Democratic Republic
<b>LMI</b>	Lower Mekong Initiative
<b>LMG</b>	Lower Mekong Governments
<b>MEM</b>	Ministry of Energy and Mining, Lao PDR
<b>MPE</b>	Mekong Partnership for Environment
<b>MRC</b>	Mekong River Commission
<b>MRCS</b>	Mekong River Commission Secretariat
<b>OES</b>	U.S. Department of State Bureau of Oceans and International Environmental and Scientific Affairs
<b>PTP</b>	Pillar Training Program
<b>RBO</b>	River Basin Organization
<b>SDG</b>	Sustainable Development Goal
<b>SEA</b>	Strategic Environmental Assessment
<b>SEI</b>	Stockholm Environment Institute
<b>SIM</b>	Smart Infrastructure for the Mekong
<b>SIP</b>	Sustainable Infrastructure Partnership
<b>SIPAC</b>	Sustainable Infrastructure Partnership Advisory Committee
<b>SUMMERNET</b>	The Sustainable Mekong Research Network
<b>TBC</b>	To be confirmed
<b>TDRI</b>	Thailand development Research Institute
<b>WB</b>	The World Bank
<b>WLE</b>	Water, Land and Ecosystems Mekong Program
<b>UNEP</b>	United Nations Environment Program
<b>USG</b>	United States Government

## I. Introduction

Across the Lower Mekong region, long-term economic growth and environmental sustainability are threatened by a lack of effective policy and practice around sustainable infrastructure development, including weak application of social and environmental safeguards, opaque decision-making, and little information available to develop sound alternatives for pressing infrastructure development needs. The rapid pace of infrastructure development in the region requires a coordinated response, yet platforms designed for regional development cooperation have struggled to influence development policies and practices. These concerns have influenced the Pillar Training Program (PTP), launched in October 2014 to shift its scope and retitle the program to “Sustainable Infrastructure Partnership” (SIP) – indicating a greater emphasis on a need to harmonize regional capacity building efforts through practical partnerships among existing programs and institutions. SIP will work to support the Lower Mekong countries achieve the Sustainable Development Goals (SDG) and meet the Mekong Region’s infrastructure gaps through enhanced capacity in infrastructure planning, design, finance and operation. The priority focus of SIP is around “water-energy” and “water-food” infrastructure development.

SIP is an initiative under the Lower Mekong Initiative (LMI) funded by the US Department of State. PACT is the lead implementing organization. SIP will highlight a donor coordination component to combine the knowledge and expertise of the United States Government (USG) with that of the Friends of the Lower Mekong (FLM) that include Australia, New Zealand, Korea, Japan, the European Union (EU), the Asian Development Bank (ADB) and the World Bank (WB).

This Program Document provides details of the SIP program according to the following outlines.

- I. Introduction
- II. Sustainable Infrastructure Partnership (SIP) purpose and objectives
- III. Sustainable infrastructure in the Mekong region – preliminary analysis
- IV. Proposed SIP’s work plan and interventions for 2017-2018
- V. Monitoring and evaluation

This program document is based on data and information collected through focused interview and in-depth discussion, group consultations, participation in relevant workshops and seminars, and review of research and program documents that implemented and funded by the FLM partners.

The document is intended to be shared with the FLM partners, the Lower Mekong governments and appropriate partner organizations to ensure that the proposed interventions are genuinely demand driven and realistic. Meetings and interviews with representatives from Lower Mekong governments have yet to be conducted. With that in mind, this document is considered a living design and may change with additional input.

## II. Sustainable Infrastructure Partnership (SIP) Purpose and Objectives

On July 25, 2016, during the Ninth Lower Mekong Initiative (LMI) Ministerial Meeting in Vientiane, the Ministers of the Lower Mekong governments reaffirmed the importance of developing sustainable infrastructure to help promote economic development, environmental conservation, and climate resilience in the Lower Mekong countries. Responding to the Mekong's worst drought in 90 years, the Ministers recognized the urgency and gravity of multinational collaboration on sustainable infrastructure development. This Ninth LMI Ministerial Meeting marked the formal launch of the "Sustainable Infrastructure Partnership," a training platform for LMI officials to accomplish two main goals. First, the Partnership will provide a vehicle for LMI countries to identify training deficiencies that can be addressed through future programming. Second, it will establish a mechanism for coordinating among the Friends of the Lower Mekong (FLM) to streamline the planning process and improve efficiency of donor assistance. Through this program, the United States and FLM partners will collaborate to facilitate complementary capacity-building trainings in LMI countries.

**The priority focus of SIP is around "water-energy" and "water-food" infrastructure development, with particular attention to addressing climate change and increasing gender equity.** SIP aims to leverage technical assistance resources from FLM partners and with those offered through USG projects like Mekong Partnership for the Environment (MPE), Sustainable Infrastructure for the Mekong (SIM), and others.

### Purpose

The purpose of SIP is to:

- 1) strengthen the ability of Lower Mekong governments to achieve sustainable development goals through improved capacity for infrastructure planning, design, and operation through capacity building and enhanced donor coordination;
- 2) improve joint infrastructure planning and coordination between LMI countries, particularly on regional development projects; and
- 3) deploy new technologies, approaches, and methodologies concerning infrastructure sustainability within the region.

### Objectives

The Objectives SIP intends to meet through activity implementation are:

- 1) Improved technical capacity and awareness (i.e. demonstrated acquisition of new technical or policy knowledge) among infrastructure, investment, and natural resource-related ministry representatives.
- 2) Bottlenecks and gaps in Lower Mekong governments' capacity are identified and LMI pillar participants and FLM members informed of such gaps/bottlenecks through in-person

presentations and hard copy reports.

3) FLM member programs qualitatively more coordinated and harmonized as a result of SIPAC meetings.

#### Timeframe

The initial phase of SIP will be effective to August 30, 2018.

#### Approach

Based on lessons learned through implementing the MPE and PTP as well as through active engagement with the LMI and FLM partners, the approach for SIP is reflective of current regional context and progress. Pact, as the lead program implementer, has developed an extensive regional network and will leverage social capital with governments, private sector, and civil society. Coupled with the convening support of the U.S. Government, Pact will draw from a solid foundation of trust and partnerships to continue to serve as a reliable convener of partners to facilitate complex issues regarding sustainable infrastructure in the region.

In considering SIP's design, three key points are important for consideration.

1. Momentum and resources are available among the FLM for capacity building around improved practices for responsible and sustainable infrastructure development.
2. Engaging with LMI ministries that oversee planning and investment in energy, water and industry is needed to influence infrastructure investment, design, and implementation. Engaging only with ministries of environment is not sufficient to deliver transformative change.
3. Activities supported through SIP must be demand driven. In recognition of these key issues, SIP will establish and support a SIP Advisory Council (SIPAC), comprised of FLM representatives and Lower Mekong government representatives, as appropriate, with Pact serving as a lead coordinating and facilitating member. The SIPAC will inform the strategic use of resources within the region for greatest impact and will serve as a mechanism to support collaborative activities as appropriate. Possible areas of discussion include:
  - i. Sharing of current and planned activities of the FLM to create a living calendar of events as part of the SIP integrated work plan and communication plan.
  - ii. Promoting and training on tools, technologies, systems, credible research and policies that support development and implementation of sustainable infrastructure.
  - iii. Training on multi-stakeholder engagement and integrated resources management during the project development process.

- iv. Supporting ministries, agencies and their concerned stakeholders to monitor project development and promote inter-ministerial and regional coordination on investment planning and implementation. Pact anticipates that FLM partners will progressively contribute to the capacity building and training component, delivering activities that support the themes identified through a consultative process with the FLM. Tracking FLM cost-share will be focused on an activity basis with in-kind or direct financial assistance, contributing to activities that demonstrate commitment to SIP.

### Target and beneficiary groups:

There are four target and beneficiary groups (also referred to as “participants” or “trainees”) that SIP will target: official governmental agencies, business sector, academic institutions and civil society.

**The primary group is comprised of the ministries and agencies of the Lower Mekong governments that manage and implement projects linked to water-energy or water-food infrastructure development.** SIP will provide capacity building interventions (i.e. a professional training course, study tour and exchange visit program, policy dialogue, etc.) in order to strengthen the managerial and technical capacity of individuals and their respective institutions.

**The second group is business investors, development banks, construction development companies, and consulting firms** that have played an influential role in infrastructure investments and developments in the region. SIP realizes the challenge in engaging this type of stakeholder group and is working with partners to identify their needs and interests, as well as the most appropriate and effective engagement approaches with them.

**The third group is research institutes and national universities in the Lower Mekong countries.** SIP recognizes the importance of long-term human resource development and sustainability. SIP also sees a window opportunity to play a facilitator role in bridging the academic research and university groups with the other stakeholders, emphasizing the use research into planning and design.

SIP is committed to building partnerships to increase the understanding of the issues and complexities of sustainable infrastructure. **As appropriate, the forth group, SIP will include civil society on the basis that they have either direct or indirect involvement with infrastructure project and program operations.**

### SIP Advisory Council (SIPAC) and Implementing Partners

The SIP Advisory Council (SIPAC) consists of FLM and Lower Mekong government representatives, as appropriate. Representatives will be asked to contribute to SIP in one or more of the following ways;

- Attend annual SIP Strategic Coordination Forums;

- Provide critical insights, recommendations, or guidance about the implementation of SIP;
- Share information about institutional activities, plans and strategies related to sustainable infrastructure development in the areas of water, food, and energy in the Lower Mekong region;
- Coordinate the exchange of information with relevant colleagues or stakeholders within their own institutions or networks; and/or
- Host and/or assist in the design and preparation of specific trainings, and/or serve as resource persons.

#### Implementing partners

These are other organizations and consultants that will work with SIP to implement activities as trainers, facilitators, and subject trainer experts. In the past, Pact has contracted organizations such as Asian Institute of Technologies (AIT), International Centre for Environment Management (ICEM), and International Hydropower Association (IHA) for the roles of trainers and facilitators.



### III. Sustainable Infrastructure in the Lower Mekong Region – Preliminary Analysis

According to the United Nations Environment Program (UNEP), together with Global Infrastructure Basel (GIB) Foundation, sustainable infrastructure is defined as follows ***“Sustainable and resilient infrastructure integrated environment, social and governance aspects into a project’s planning, building and operating phases while ensuring resilience in the face of climate change or other shocks such as rapid migration, natural disasters or economic downturns. Service needs will be met in a manner that minimizes or reverses environmental damage, improves social equality and does not waste resources”***<sup>1</sup>.

This definition highlights that sustainable infrastructure is not solely how physical infrastructure is built but also must meaningfully integrate sound environmental and social management in consideration of climate change and resilience, and good governance, throughout the project lifecycle. Infrastructure is a public goods to fulfill a service rather serve as an asset<sup>2</sup>. Sustainable infrastructure planning and development should reduce disparities and inequality, and increase environmental, social and economic resilience, as well as resilience to disasters. *“Resilience is an attribute of such complex system as ecosystems, people’s livelihoods, cities and infrastructure, and is usually defined as the ability of a system to adapt to a shock and maintains its core functions”*.<sup>3</sup>

Each country in the Lower Mekong region has been rigorously investing in basic infrastructure with the aim to provide and fulfill basic needs to the growing populations and to increase economic growth. Water and energy infrastructure development is regarded as an essential means to securing the basic needs for the Lower Mekong countries, such as in storing water supply for urbanization and irrigation, for food and energy production, and for managing flood risks. Examples of these infrastructure types include, but are not limited to hydropower dam, power plant and power grid line, irrigation system, and groundwater extraction development. Yet these types of infrastructure development are often planned and built on a large scale without sufficient analysis or technical understanding, resulting in adverse environmental and social impacts which can be significant.

For example, an integrated economic evaluation on large scale infrastructure in the Mekong has yet to be conducted, and more local or national analysis remains inadequate. Too many feasibility and economic analysis studies of regional and national projects have failed to substantially include the environmental and social disruption and mitigation costs.

And in the case of Mekong mainstream flow management, engagement between the Upper and Lower Mekong countries for improved communication, information exchange and research especially on the impacts of climate change on cascade dam operation needs to be substantially enhanced in order to create better cooperation and maximization of benefits across the whole Basin. This should include meaningful engagement of civil society, independent academic research and affected groups.

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<sup>1</sup> UNEP & GIB, 2016, Sustainable Infrastructure and Finance, United Nations Environment Program (UNEP), together with Global Infrastructure Basel (GIB) Foundation

<sup>2</sup> UN 2016, Global Sustainable Development Report, United Nations, Department of Economic Affairs

<sup>3</sup> UN 2016, Global Sustainable Development Report, United Nations, Department of Economic Affairs

Providing water for agriculture is a priority of the Lower Mekong governments. Smart design and skilled construction of water wells, small scale reservoirs and distribution system, and conservation of natural wetlands and flood plains will help secure water supply for irrigation in the dry season and increase resilience to climate change. Some countries in the Lower Mekong region as Cambodia and Laos still critically lack capacity in groundwater development such as in surveying, drilling and monitoring at both national and local levels. Capacity building in this field should be considered for SIP. Most of those existing groundwater wells and boreholes were drilled and operated with a poor survey and technique, and have provided poor water quality and inconsistent water volume to communities. Many large scale industries have drilled and extracted excessive groundwater volume without the monitoring and reporting regulations.

Accordingly, based on Pact's reviews of relevant research and reports, interviews and discussions with the FLM members and key concerned stakeholders, the table below summarizes the priority issues and needs for capacity building in the areas of water-food and water-energy infrastructure.

**Table 1. Key Issues, Needs and Priorities for Capacity Building of the Lower Mekong Countries**

✓✓ High priority  
✓ Priority

No	Key issues	Priorities in capacity building	CAM	LAO	MYR	TH	VTM
1.	Conflicts on flow regulation from the cascade dams between Upper and Lower Mekong river	<ul style="list-style-type: none"> <li>Stakeholder engagement for dialogue, information sharing and research</li> </ul>	✓✓	✓✓	✓	✓✓	✓✓
2.	Energy planning and transboundary investments from Thailand and Viet Nam	<ul style="list-style-type: none"> <li>Stakeholder engagement for information sharing, dialogue and research.</li> </ul>	✓✓	✓✓	✓✓	✓✓	✓✓
		<ul style="list-style-type: none"> <li>Option assessments for renewable energy and supply side management.</li> </ul>	✓✓	✓✓	✓✓	✓✓	✓✓
		<ul style="list-style-type: none"> <li>Economic and cost-benefit analysis</li> </ul>	✓✓	✓✓	✓✓	✓✓	✓✓
3.	Large scale water diversion from the mainstream Mekong and Salween River	<ul style="list-style-type: none"> <li>Stakeholder engagement for information sharing, dialogue and research</li> </ul>	✓✓	✓✓	✓✓	✓✓	✓✓
		<ul style="list-style-type: none"> <li>Option assessments</li> </ul>	✓✓	✓✓	✓✓	✓✓	✓✓
4.	Sesan, Sekong and Seprok (3S) hydropower management	<ul style="list-style-type: none"> <li>Stakeholder engagement for information sharing, dialogue and research</li> </ul>	✓✓	✓			✓✓
		<ul style="list-style-type: none"> <li>Optimization technology in hydropower and cascade management</li> </ul>	✓✓				✓✓
5.	Environmental and social impacts from hydropower and cascade dams i.e. disrupted flows, poor water quality, flood aggravation etc. (national level)	<ul style="list-style-type: none"> <li>Stakeholder engagement for dialogue, information sharing and research</li> </ul>	✓	✓✓	✓	✓	✓
		<ul style="list-style-type: none"> <li>Hydropower and cascade management and impact mitigation measures and technologies</li> </ul>		✓✓			
6.	Severe water shortage for the dry season irrigation and loss of wetlands, No access to clean water supply in rural communities, and	<ul style="list-style-type: none"> <li>Small scale reservoir, well, and borehole planning</li> </ul>	✓✓	✓✓	✓✓	✓	✓
		<ul style="list-style-type: none"> <li>Small and medium scale irrigation system with</li> </ul>	✓✓	✓✓	✓✓	✓	✓

No	Key issues	Priorities in capacity building	CAM	LAO	MYR	TH	VTM
	Lack of capacity in groundwater development	innovative or advanced technology					
		• Restoration and conservation of natural wetlands	✓✓	✓✓	✓✓	✓	✓
		• Institutional and individual capacity in ground water development	✓✓	✓✓	✓		
8.	Severe flood disaster and poor management capacity, Sea level rise and saline intrusion, and Severe coastal and inland bank erosion	• Natural infrastructure planning and innovation in small scale dike and weir	✓✓	✓✓	✓	✓	✓
		• Natural infrastructure planning and innovation costal and bank erosion (including river bank)	✓✓	✓✓	✓✓	✓✓	✓✓
9.	Lack of access to energy in rural communities.	• Renewable energy generation technology and planning	✓✓	✓✓	✓✓	✓	✓

#### IV. SIP Work Plan for 2017-2018

The proposed activities under SIP for 2017-2018 are built on the key issues and capacity building needs as identified. They are grouped around thematic areas of water-energy and water-food sustainable infrastructure in the Lower Mekong region, project monitoring and evaluation, and progress tracking. Summaries follow below.

## Summaries of SIP's Proposed Activities for 2017-2018

**Objective 1: Improved technical capacity and awareness (i.e. demonstrated acquisition of new technical or policy knowledge) among infrastructure, investment, and natural resource-related ministry representatives.**

### **Intervention 1.1 Regional Research, Policies and Tools for Sustainable Infrastructure Governance and Management**

#### **1.1A, Training Workshop: Stakeholder Participation in Sustainable Infrastructure Development Planning in the Lower Mekong Region**

**Background:**

The Lower Mekong region countries of Cambodia, Laos, Myanmar, Thailand, and Vietnam are currently seeing significant investments in infrastructure projects, with the aim to meet the needs of their growing populations and to stimulate economic growth. In particular, water and energy infrastructure development are regarded as essential investments to securing basic needs, such as storing water for urban use and irrigation, for food and energy production, and for managing flood risks. These types of infrastructure development - when built on a large-scale without sufficient planning or adherence to social and environmental safeguards - may result in significant adverse environmental and social impacts. Engaging effectively with relevant stakeholders throughout the project cycle - from planning through construction and operation - can contribute to reducing potential impacts, avoiding social conflicts, and resulting in more efficient projects with better development outcomes.

Implementation of specific stakeholder engagement approaches will be based on the particular context of the infrastructure project on a case-by-case basis and can become further complicated where there are transboundary implications. Different social and environment safeguard policies, standards, and guidelines applied by various institutions, financial organizations, and national governments are also generally not harmonized among each other. Thus, there is a need for building a more comprehensive understanding and common ground around the policy and practice of stakeholder engagement and its importance in sustainable infrastructure development planning in the Lower Mekong region.

SIP will organize a three-day regional training workshop tentatively titled, "Stakeholder Participation in Sustainable Infrastructure Development Planning in the Lower Mekong Region". The training workshop will provide four different training modules which include

1. Sustainable infrastructure development planning (for water & energy) and stakeholder participation in the Lower Mekong region in theoretical and practice contexts.
2. Review of related national and regional policies, and case studies,
3. Use of tools and guidelines, and case studies, and
4. Roles and engagement of genders, minorities and vulnerable groups.

**Gaps and demands:**

From the interviews of the FLM members and reviews of documents, the concept of stakeholder engagement during the process of large scale infrastructure development is still unrefined. The term is interpreted differently according to specific interests of investor, project developer and type of institution that owns such development project i.e. investment banks, private investor and/or governmental agency. A number of cases have shared the common lessons learned that project operators had missed properly identifying and reaching local stakeholder and vulnerable groups into their engagement process since the very beginning process. Participation approaches applied in the region are too frequently top-down, technical and do not facilitate interactive participation. An understanding and methods for effective engagement among different multi-disciplinary and sector groups still requires a long way for improvement. Grievance mechanisms are rarely part of the project development plan.

In terms of relevant policies and guidelines that centered around stakeholder participation that investor countries have to varying degrees adopt, the national laws, and standard environmental and social safeguard policies and guidelines required by the loan institution such as, IFI, ADB, WB and JICA still do not share a common ground.

**Objectives and expected outputs**

1. To share knowledge and discuss the policy and practice of stakeholder engagement in large-scale infrastructure development and planning in the Lower Mekong region;
2. To increase knowledge and understanding of benefits and risks for effective stakeholder engagement; and
3. To gain experience in utilizing tools and best practices for stakeholder engagement, with a particular focus on vulnerable groups and gender equity

**Focused region:** Regional

**Approaches and methodologies:** Three-day Workshop

**Participant agencies and organizations:** TBC

**Potential partners:** IFC, Australian Aid, ERI, AIT-Hanoi,TBC

**Timeframe:** May 2017

**Challenges:**

- Political sensitivity on the regional infrastructure development topic.
- Active participation of the responsible agencies and target groups.

**1.1B, Multi-stakeholder Dialogue on Hydropower Cascade Management in the Context of Uncertainties in the Mekong Basin****Background:**

The most severe drought was once again recorded in 2016 in the region, and the total dry-up Lower Mekong River highlighted the importance of the existing cascade hydropower projects and flow management.

As a result of this event, a public call for an open dialogue regarding this issue was made in order to find out more details and information, and to identify legitimate assumptions - as

to seek protection measures and to avoid the same scenario in the future. The dialogue will also aim to contribute to improved flow management that connected to cascade hydropower projects, and other associated possibilities such as land and watershed conservation, and climate change management.

SIP will work with the Lower Mekong Governments, MRCS, research institutes and universities, and concerned stakeholders to develop a credible background paper and facilitate such dialogue. Strengthening the flow management cooperation among Mekong riparian countries and key stakeholders, developing good understanding of the flow management situation and identifying knowledge gaps are the key outputs of this intervention.

**Gaps and demands:**

From the discussions with the FLM members and key stakeholders, it is clear that the cooperation and network building between the entire Mekong countries in the area of research and mainstream flows still needs to be strengthened. Parallel or direct support in multi-stakeholder engagement and information sharing for the official cooperation initiatives as Upper and Lower Mekong MRC cooperation, and GMS is considered essential.

To facilitate a multi-stakeholder dialogue platform on the mainstream flow management and cooperation that allows all key sectors including governmental agencies, intergovernmental institutes, research, universities, business developers, NGOs and communities to openly share their information and concerns, and strengthening and widening the cooperation should be seriously considered. And with the new emerging context of climate change and extremes, an integrated research on flow management between the Upper and Lower-Mekong mainstream should be initiated and this multi-stakeholder dialogue is also expected to identify key research questions and research process.

**Objectives and expected outputs**

- To develop a good understanding of flow management situation in relations to the Mekong cascade hydropower dams, land and watershed conservation and climate change management.
- To identify gaps and improvement areas in the flow management of the Mekong river basin.
- To strengthen the flow management cooperation between the Mekong riparian countries.

**Focused region:** Regional

**Approaches and methodologies:** Background paper development and facilitate a dialogue seminar

**Participant agencies and organizations:** TBC

**Potential partners:** NMRC, MRCS, Australian Aid, WLE, ADB-GMS, Yunnan University, GIZ, Riparian NGOs, SEI-SUMMERNET

**Timeframe:** TBC



**Challenges:**

- Preparation of comprehensive background and concept note.
- Political sensitivity on the management of Upper and Lower-Mekong cascade dams
- Co-host/co-financing partner of the activity
- Active participation of the responsible agencies and target groups.
- Active cooperation from the Upper Mekong region and MRCS.

**Intervention 1.2 Regional Strategic Option Assessment and Planning for Large Scale Infrastructure Development****1.2A, Technical Training Workshop on “Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Cascade Dam Projects”.****Background:**

A socio-economic and economic evaluation study of the planned Lower Mekong mainstream hydropower dam projects started to be conducted in 2008 and finished in 2010 by Basin Development Plan (BDP) Program, MRCS. The results of the evaluation have been used as guidance for dialogues among official stakeholders, research, decision making support and investments in the Lower Mekong countries to-date. However, a recent external peer-review found that methodologies and results that were adopted and evaluated in the original study are now out of date and should be revised using new information and technology.

In light of this opportunity, SIP proposes to organize a technical training workshop on socio-economic assessment and economic evaluation on large scale development projects that uses the peer-review paper as a discussion point for a virtual exercise, and for considering updates to the BDP Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Cascade Dam Projects.

SIP will invite mid-level socio-economist and natural resource economist from the Lower Mekong governments/countries to participate in this training. The trainees will have opportunities to discuss with other expert fellows from different countries and assess each key factors and methodologies that used and adopted in the original study, and identify gaps and replacements. The training will be facilitated as an integrated socio-economic and economic evaluation of the Lower Mekong mainstream hydropower projects tailored specifically for the participants themselves. The participants will be provided a chance to learn and exchange new socio-economic and economic evaluation techniques from and discuss with highly qualified international and regional trainers.

**Gaps and demands:**

From the review of existing economic studies on the Mekong mainstream hydropower plans, it is clear that there are a number of key considerations that are still missing such as realistic net national revenue, economic values of ecosystems, cost of resettlements etc. Many of these considerations do require extensive discussions among experts and stakeholders, including ground truthing which will take additional effort. It is also clear that natural resource economic experts in the region do require further capacity and training in the areas of regional planning and water resource project evaluations.

There is a current initiative on peer review and update of the Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Dam Projects, conducted by Mae Fah Luang University, and funded by Australian Aid and Oxfam. SIP sees this opportunity and proposes to extend this initiative for a training workshop that will invite the regional and national economic experts to conduct a regional exercise. This training workshop aims to provide an additional skill-set in the evaluations of regional plans and projects, and to facilitate a multi-stakeholder platform for extensive discussions on different approaches and methodologies which is considered very unique but essential for the region.

#### **Objectives and expected outputs**

- To provide a technical training course on integrated socio-economic assessment and economic evaluation on large scale development projects to the junior and mid-level professional socio-economist and natural resource economist experts from the Lower Mekong governments/countries.
- To discuss, identify gaps and conduct a revision exercise for the BDP Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Cascade Dams.

**Focused region:** Regional

**Approaches and methodologies:** Five-day technical training course

**Participant agencies and organizations:** TBC

**Potential partners:** NMRC, MRCS, Mae Fah Luang University, Australian Aid

**Timeframe:** TBC

#### **Challenges:**

- Political sensitivity of the BDP-MRC Study.
- Active participation of the responsible agencies and target groups.
- Active cooperation from the MRCS.

### **1.2B, Multi-stakeholder Dialogue on “Potential, Limitation and Constraints of Renewable Energy Development and Investment in the Lower Mekong Region”**

#### **Background:**

During the past two decades, a number of renewable energy related research and studies have identified that the Lower Mekong region possess substantial potential for renewable energy development. But nevertheless, investment has been moving slowly. Attention given to renewable energy in the current Lower Mekong’s national energy development and investment plans from each country especially from Myanmar, Cambodia, Thailand and Viet Nam is considered fairly insignificant, comparing to those of coal-fired, hydropower or even nuclear energy. It is presumed that low incentive, limited capacity and lack of political willingness are the key constraints as such.

SIP will facilitate a multi-stakeholder dialogue on the topic “Potential, Limitation and Constraints of Renewable Energy Development and Investment in the Lower Mekong Region”. The dialogue aims to build understanding among the government, business and civil society sectors on the development and investment criteria of national and regional energy planning, and to discuss and find out how renewable energy investment could be

<p>better promoted and increased substantially in the region. SIP will work with the ADB-GMS and energy research institutes to prepare a credible background paper for such dialogue. Key concerned stakeholders from the business sector, research and civil society organizations will be invited to participate and exchange information and insights in this critical event.</p>
<p><b>Gaps and demands:</b></p> <p>From the discussion with the ADB GMS representatives, it was recommended that the recent launched report by ADB-GMS titled “Renewable Energy Developments and Potential in the Greater Mekong Sub-region” should be shared and discussed with wider multi-stakeholder groups in the region in order to exchange candid views and additional information as such. By adopting this report as a background document, the ADB-GMS and partners envisioned a potential role that SIP Program facilitate a regional platform for all sectoral groups to openly dialogue the renewable potential and to increase the cooperation in the region. Further research areas may be addressed during the event.</p> <p>In addition, while the MRC Council Study of the mainstream Mekong hydropower projects are on- going, MRC admitted the study still lacks an integration of the renewable energy sector which can result in limited alternative energy options addressed by the study. SIP sees that the dialogue could also substantially compliment the MRC Council Study.</p>
<p><b>Objectives and expected outputs</b></p> <ul style="list-style-type: none"> <li>• To update and dialogue the current state of the regional and national renewable energy development and investment plan in the Lower Mekong Region.</li> <li>• To discuss and identify gaps, and key constraints in renewable energy development in the region.</li> </ul>
<p><b>Focused region:</b> Regional</p> <p><b>Approaches and methodologies:</b> Background paper development and facilitate a dialogue seminar</p> <p><b>Participant agencies and organizations:</b> TBC</p> <p><b>Potential partners:</b> Clean Power Asia-USAID, ADB-GMS, Australian Aid, MRC, LMI, ASEAN, TDRI, WWF</p> <p><b>Timeframe:</b> TBC</p> <p><b>Challenges:</b></p> <ul style="list-style-type: none"> <li>• Energy development is a very complicated, technical, and political subject.</li> <li>• Active participation of the responsible agencies and target groups.</li> <li>• Facilitation of multi-stakeholders who have such extreme diverse interests.</li> <li>• A number of stakeholders in this fields already exist. SIP needs to make sure that this initiative is not identical with the effort done by other stakeholders.</li> </ul>
<p><b>Intervention 1.3 Introduction of Competitive and Innovative Technologies, and Natural Infrastructure Development</b></p>
<p><b>1.3A Series of Technical Training on Hydropower Optimization and Impact Mitigation</b></p>

**Background:**

Most existing and newly constructed hydropower dams in the region, especially in Lao PDR, were designed to generate hydro-electricity as the core function. Other types of dam usage such as for water storage, flood control and irrigation, are not considered as priorities but complimentary benefits.

Despite the national revenue generation and employment benefits resulting from the hydropower generation, environmental and social impacts such as poor water quality, increased flood risks and severe bank erosions in the downstream region are increasing. Those impacts have resulted in loss of lives and property, health risks, and social disruption. With adequate hydropower optimization and impact mitigation measures and technologies in place, these impacts could be minimized or avoided.

SIP will work closely with the FLM partners to prepare and provide a series of intensive on-the-job training courses in hydropower optimization and impact mitigation measures and technologies to the direct responsible agencies, water management stakeholders and users, and university professors. The trainings aim to build professional skills and provide institutional support that will help the Lao Government and other governments manage the problems more integratedly and efficiently.

Specific hydropower project(s) will be identified and selected for the training pilot. The series of course modules and outlines will be prepared closely with the trainer experts, Lao agencies and key stakeholders.

**Gaps and demands:**

The Government of Laos requested technical assistance from DFAT, WB and IFC to organize a national capacity building program on hydropower optimizations for the Lao key river basins that include Nam Ou, Nam Ngum, Xaybangfai, Nam Thuan, Nam Krading and Sedone. At this stage, only the capacity building program for Nam Ou will be prepared due to the limited technical experts and administration capacity. SIP was informally invited to participate as one of the trainers that brings in additional experts and different methodologies. It was recommended SIP work together with the Lao expert team and prepare the training programs for Nam Ngum and Xaybangfai River Basin.

**Objectives and expected outputs**

- To provide series of intensive on-the-job training courses, and build long-term technical and institutional capacity in the fields of hydropower optimization and impact mitigation measures and technologies.
- To support the direct responsible agencies and concerned stakeholders in managing the existing environmental and social impacts that caused by the hydropower operations more effectively, while the electricity production is still being optimized.

**Focused region:** Selected priority basins in Laos eg. Nam Ngum, Xaybangfai, Nam Ou, TBC

**Approaches and methodologies:** Series of on the job trainings

**Participant agencies and organizations:** MEM, RBO, Universities from Laos with selected trainee participants from Cambodia, and Myanmar

**Potential partners:** SIM-USAID, WB, ADB, IFC, Australian Aid, National University of Laos, Lao River Basin Committee, MEM, TBC

**Timeframe:** TBC

**Challenges:**

- One-off training may not be suitable and not result in measurable impact.
- Lao bureaucracy that may delay the preparation of the training.
- Interest conflicts among the Lao' responsible agencies in hydropower and water management which can cause some delay to the preparation of the training.
- Political sensitivity in hydropower and water management in Laos.
- Information disclosure from the private companies that operate the dams may be an issue.
- To select appropriate technology and approach that suit the Lao trainees.
- Language barrier especially in such highly technical training.
- These trainings can invite participants from other countries like Myanmar and Cambodia.

**1.3B, Study Tour: Success Cases on Natural Infrastructure Planning for Flood and Drought Management**

**Background:**

A number of successful projects in flood and drought management have proven that natural infrastructure such as natural water reservoir, natural riverbank, restoration of wetlands and check dams could substantially alleviate flood and drought disasters, and help populations combat climate change. Natural infrastructure can be constructed to function alone by itself or to complement the existing (grey) physical infrastructure.

Natural infrastructure development projects have been implemented randomly in the Lower Mekong countries, with most concentrated in Thailand and Viet Nam, and in many other countries outside the region. SIP proposes to organize and facilitate study tours for the concerned staff and managers from the Lower Mekong governments to visit selected successful sites. The study tours aim is to build constructive knowledge about natural infrastructure development for the participants and seed it as an idea for future planning

**Gaps and demands:**

Through the extensive discussions with the FLM members and reviews of documents, it is evident that many of the FLM's initiatives are still at the phase of program preparation such as part of the Lao-WB National IWRM Capacity Building Program and a regional-aid program of the New Zealand Government. In addition, many governmental agencies are also in search of success case studies in water resources and climate change infrastructure in the region to visit and learn directly from the project implementers. SIP sees an important role in supporting the FLM initiatives and the Lower Mekong Governments in this area as such. The proposed study tours would not only benefit the capacity building but also help the trainee participants create new ideas and build a wider network between policy makers, project managers and practitioners.

**Objectives and expected outputs**

- To facilitate study tours and provide positive experiences on natural infrastructure planning and implementation for flood and drought management to the concerned

official staff and managers from the Lower Mekong governments.
<p><b>Focused region:</b> Regional</p> <p><b>Approaches and methodologies:</b> On-the-job training study tours on a few successful cases, 3 days for each trip</p> <p><b>Participant agencies and organizations:</b> TBC</p> <p><b>Potential partners:</b> WB, Australian Aid, New Zealand, TBC</p> <p><b>Timeframe:</b> TBC</p> <p><b>Challenges:</b> TBC</p>
<b>Intervention 1.4 Medium and Small Scale Water and Energy Infrastructure</b>
<b>1.4A Groundwater Capacity Building Development</b>
<p><b>Background:</b></p> <p>Groundwater helps populations combat climate change and support the large scale water infrastructure projects in outreach communities. In certain rural areas where public infrastructure still could not reach, groundwater is perhaps the only source of clean water for household consumption and water supply for irrigation in the dry season. Certain countries in the Lower Mekong region as Cambodia and Laos still critically lack capacity in groundwater development (e.g. groundwater survey, drilling operation and monitoring) at both national and local levels. Most of those existing groundwater wells and boreholes across both countries were drilled and operated with a poor survey and technique, and have provided poor water quality and inconsistent water volume to the communities. Capacity building in the groundwater development should be considered as one of the priorities for Cambodia and Laos. SIP will work with the key stakeholders, partners, target groups and experts to design training course modules and academic curricula on groundwater development for the concerned agencies, organizations and universities aiming for long term capacity building in this field.</p>
<p><b>Gaps and demands:</b></p> <p>Groundwater capacity building is in a high demand especially for Cambodia and Laos. However, there are not many aid programs that have a focus or component to build groundwater capacity. Most of the aid programs on groundwater drilling and borehole constructions across the region have been implemented with insufficient technical knowledge, resulting in poor groundwater quality and inconsistent groundwater supply.</p> <p>DFAT funded a ground water capacity building program for the Lao government and National University of Laos from 2010-2015 through an ADB technical support program, and CGIAR through an IWMI research program which is still on-going. JICA has also played a substantial role in the past. The Thai government supports some relevant training and research programs for the region through Khon Khan University.</p> <p>The groundwater capacity building momentum in Laos and Cambodia needs to be maintained and still requires additional supports from other donors and stakeholders. By working in close collaboration with Australia, CGIAR-IWMI, and the Thai government, SIP sees an opportunity in putting additional support for Laos and Cambodia, and to promote the important roles of groundwater.</p>

**Objectives and expected outputs**

- To provide professional training courses and develop academic curricula on groundwater development for the concerned agencies, organizations, and universities in Cambodia and Laos.
- To build long term institutional capacity on groundwater development for Cambodia and Laos.

**Focused region:** Cambodia and Laos

**Approaches and methodologies:** On the job training, academic curriculum

**Participant agencies and organizations:** TBC

**Potential partners:** Australian Aid, IWMI, CGIAR, The Groundwater Department, Thailand, Khonkame University, ADB, WB

**Timeframe:** TBC

**Challenges:**

- The capacity building in this field will require extensive time input, different training modules and a few series of training events.
- Concerted collaboration from the partners is an essential key for the success trainings.

**1.4B Technical Workshop and Study Tour on Renewable Energy Production at District and Community Levels****Background:**

Amid the intensive hydropower and power plant operating projects and investments in the region, there are still considerable percentage of rural communities that are still living outside the power gridlines and have no access to electricity. It is accounted for more than 80% in Myanmar, more than 50% in Cambodia and almost 20% in Laos. Small scale renewable energy production such as solar rooftop, biofuel and local wind turbine generations should be considered as immediate and suitable options which can be potentially developed within those communities inexpensively. There are a few number of successful communities in the Lower Mekong countries that have become self-independent and can generate renewable power for the entire community while the power accessibility from the central is still impossible in their areas.

SIP will work with partners to design and prepare a technical training course on small scale renewable energy generation technology, and facilitate a study tour to one or two of those success cases of self-dependent power generation communities.

**Gaps and demands:**

Through the discussions with the FLM members and reviews of documents, it is clear that many of the FLM's initiatives and the Lower Mekong Governments are still in search of case studies in the region on small scale renewable alternatives that will help them design their aid program and increase the capacity of the government officials in this regard.

The proposed study tours would not only benefit the capacity building but also help the trainee participants create new ideas and build a wider network between policy makers, project managers and practitioners.

**Objectives and expected outputs**

- To provide a technical training course on renewable technology options on small scale renewable energy generation - and a study tour of a success communities on self-renewable power generation.

**Focused region:** Regional

**Approaches and methodologies:** Technical training course and a study tour.

**Participant agencies and organizations:** TBC

**Potential partners:** New Zealand, Koica, Australian Aid, EU, ADB, ,

**Timeframe:** TBC

**Challenges:** TBC

**Objective 2: Bottlenecks and gaps in Lower Mekong governments' capacity are identified and LMI pillar participants and FLM members informed of such gaps/bottlenecks through in-person presentations and hard copy reports.**

**Intervention 2.1 Conduct Capacity Gap Analysis and Identify Potential Program Activities****Background:**

SIP program will be designed with consideration of the existing resources of the FLM. Capacity building activities led by SIP are subject to support the needs and demands driven by the projects and programs that directly funded and supported by the FLM.

SIP is charged to prepare a quality capacity gap analysis on the projects and programs that funded and supported by the FLM. The analysis will be used as key information to identify capacity building interventions for the target groups. The analysis will be conducted participatory with the FLM and Lower Mekong government representatives and target group members, and be shared for comments and updated periodically.

**Objectives and expected outputs**

- To conduct a capacity gap analysis study on the on the projects and programs that funded and supported by the FLM and keep updating periodically.
- To prepare and update a list of capacity building interventions for SIP.

**Focused region:** Regional

**Approaches and methodologies:** Questionnaire evaluation, and interviews

**Participant agencies and organizations:** TBC

**Potential partners:** TBC

**Timeframe:** October 2016-February 2017, to be updated annually

**Challenges:**

- Making appointments and meeting with a wide range of key members may take considerable amount of time and finance resource.
- Selected approaches and methodologies in conducting the analysis may not be



consensus agreed by all members and stakeholders.

### **Intervention 2.2 Training Assessment and Evaluation, and Update of SIP's Program Activities**

#### **Background:**

Each capacity building intervention and activity is subject to be evaluated at the end of the intervention with the participants whether it has met their needs and satisfaction, and is relevant. Some evaluation methods such as group exercise, homework assignment, quiz and examination will be required for professional training courses in order to make sure that the participants (trainees) understand the subject and are able to apply the gained knowledge. All the evaluations from each intervention will be collated and analyzed periodically. The analysis will help to inform SIP for the effectiveness and impacts of the program as well as to update the list of SIP's interventions.

#### **Objectives and expected outputs**

- To conduct an evaluation to every SIP's capacity building intervention.
- To prepare and periodically update a list of capacity building interventions for SIP.

**Focused region:** Regional

**Approaches and methodologies:** Plenary evaluation, questionnaire, group exercise, homework assignment, quiz and examination

**Participant agencies and organizations:** Activity participants

**Potential partners:** N/A

**Timeframe:** End of activities

**Challenges:** Participants may not fill out evaluations completely or honestly

### **Objective 3: FLM member programs qualitatively more coordinated and harmonized as a result of SIPAC meetings.**

### **Intervention 3.1 SIPAC Annual and SIP Working Group Meetings**

#### **Background:**

SIP will organize and facilitate an annual meeting for SIPAC members as to provide progress report and gain feedbacks and guidance on the program directions. This meeting will be organized as a side event with the Annual LMI Meeting as feasible.

#### **Objectives and expected outputs**

- To organize and facilitate an annual meeting for SIPAC members.
- To seek for feedbacks and guidance on the program implementation and directions from SIPAC members.

**Focused region:** Regional

**Approaches and methodologies:** Consultation and steering committee meeting.

**Participant agencies and organizations:** N/A

**Potential partners:** N/A

**Timeframe:** Annual or semi-annual

#### **Challenges:**

- An agreed date for meetings will need to be notified the members well in advance.

- Attendance of the same representatives may be challenging for each time of meeting.

### **Intervention 3.2 SIP's Communication Plan Development and Implementation**

#### **3.2A Communication and regular visits with stakeholders**

#### **3.2B Dissemination of program progress, lessons learnt and publications**

##### **Background:**

One of the main functions of SIP is to provide a coordination effort for information sharing and resource sharing for the FLM and the Lower Mekong governments.

##### **Objectives and expected outputs**

- FLM are informed of SIP activities and results
- To provide appropriate mechanisms for coordination among FLM members and SIP

**Focused locations:** Regional

**Approaches and methodologies:** Regular communications, e.g. email, visits, and telephone/skype communication. Publication dissemination.

**Participant agencies and organizations:** N/A

**Potential partners:** N/A

**Timeframe:** On-going

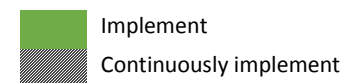
**Challenges:** TBC

**Table 2. Summary Table of SIP Proposed Interventions (Activity List Menu)**

No.	Activities	Objectives	Focused regions	Target groups/No	Potential Partners	Timeframe	Funding secured?
<b>Objective 1: Improved technical capacity and awareness (i.e. demonstrated acquisition of new technical or policy knowledge) among infrastructure, investment, and natural resource-related ministry representatives.</b>							
<b>1.1</b>	<b>Regional Research, Policies and Tools for Sustainable Infrastructure Governance and Management</b>						
<b>1.1A</b>	Training Workshop: Stakeholder Participation in Sustainable Infrastructure Development Planning in the Lower Mekong Region	Introduce Public Participation EIA and other tools and discuss on ways to effectively engage stakeholders and users.	Regional	TBC	TBC	May 2017	Yes
<b>1.1B</b>	Multi-stakeholder Dialogue on Hydropower Cascade Management in the Context of Uncertainties in the Mekong Basin	Identify knowledge gaps on flow management.	Regional	TBC	TBC	July 2018	TBC
<b>1.2</b>	<b>Regional Strategic Option Assessment and Planning for Large Scale Infrastructure Development</b>						
<b>1.2A</b>	Technical Training Workshop on Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Cascade Dam Projects	To train government officials on economic evaluation of the Mekong Mainstream dams.	Regional	TBC	TBC	August 2017	Yes
<b>1.2B</b>	Multi-stakeholder Dialogue on “Potential, Limitation and Constraints of Renewable Energy Development and Investment in the Lower Mekong Region”.	Information exchange and solution dialogues between multi-stakeholders on constraints of the renewable energy development in the region. To discuss on ways to speed up renewable energy investment in the region.	Regional	TBC	TBC	TBC	TBC
<b>1.3</b>	<b>Introduction of Competitive and Innovative Technologies, and Natural Infrastructure Development</b>						

No.	Activities	Objectives	Focused regions	Target groups/No	Potential Partners	Timeframe	Funding secured?
1.3A	Series of Technical Training on Hydropower Optimization and Impact Mitigation (2 series event)	Provide on the job technical training courses and build capacity of the responsible agencies and stakeholders to mitigate impacts from hydropower dams	Laos, Myanmar and Cambodia	TBC	TBC	July 2017 April 2018	Yes
1.3B	Study Tour: Success case Natural Infrastructure Planning Solutions for Flood and Drought Management (visit one to two places)	Facilitate a study tour on the natural infrastructure for flood and drought management	Regional	TBC	TBC	December 2017/January 2018	Yes
1.4	Medium and Small Scale Water and Energy Infrastructure						
Objective 2: Bottlenecks and gaps in Lower Mekong governments’ capacity are identified and LMI pillar participants and FLM members informed of such gaps/bottlenecks through in-person presentations and hard copy reports.							
2.1	Conduct Capacity Gap Analysis and Identify Potential Program Activities	Assess capacity building demands and prepare a living document for SIP Program	Regional	All	All	October 2016- February 2017	Yes
2.2	Training Assessment and Evaluation, and Update of SIP’s Program Activities	Evaluate and keep improving the activities	Regional	All	All	On-going	Yes
Objective 3: FLM member programs qualitatively more coordinated and harmonized as a result of SIPAC meetings.							
3.1	SIPAC Annual and SIP Working Group Meetings	Provide guidance and directions for SIP	Regional	All	SIPAC members	Annual or semi-annual	Yes
3.2	SIP’s Communication Plan Development and Implementation						
3.2A	Communication and regular visits with stakeholders	Proactive communication among partners and stakeholders	Regional	All	All	Occasional basis	Yes
3.2B	Dissemination of program progress, lessons learnt and publications	Publish publication on good lessons learnt and disseminate.	Regional	All	All	Annual basis	yes

**Table 3 Work Plan Schedule of SIP for Year 2017-2018 (Priority Activities)**



No.	Intervention	Status	Year 2017												Year 2018											
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
<b>Objective 1: Improved technical capacity and awareness (i.e. demonstrated acquisition of new technical or policy knowledge) among infrastructure, investment, and natural resource-related ministry representatives.</b>																										
1.1	Regional Research, Policies and Tools for Sustainable Infrastructure Governance and Management																									
1.1A	Training Workshop: Stakeholder Participation in Sustainable Infrastructure Development Planning in the Lower Mekong Region	Being prepared																								
1.1B	Multi-stakeholder Dialogue on Hydropower Cascade Management in the Context of Uncertainties in the Mekong Basin	Needs further discussion																								
1.2	Regional Strategic Option Assessment and Planning for Large Scale Infrastructure Development																									
1.2A	Technical Training Workshop on “Update BDP Socio-economic and Economic Evaluation Study of the Planned Lower Mekong Mainstream Hydropower Cascade Dam Projects”.	Needs further inputs																								
1.3	Natural Infrastructure Development and Competitive Technologies																									
1.3A	Series of technical Training on Hydropower Optimization and Impact Mitigation (2 series event)	Needs further inputs																								
1.3B	Study Tour: Success case Natural Infrastructure Planning Solutions for Flood and Drought Management (2 series event/2 cases)	Needs further inputs																								
1.4	Medium and Small Scale Water and Energy Infrastructure																									

No.	Intervention	Status	Year 2017												Year 2018											
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
<b>Objective 2: Bottlenecks and gaps in Lower Mekong governments’ capacity are identified and LMI pillar participants and FLM members informed of such gaps/bottlenecks through in-person presentations and hard copy reports.</b>																										
2.1	Conduct Capacity Gap Analysis and Identify Potential Program Activities	Confirmed																								
2.2	Training Assessment and Evaluation, and Update of SIP’s Program Activities	Confirmed																								
<b>Objective 3: FLM member programs qualitatively more coordinated and harmonized as a result of SIPAC meetings</b>																										
3.1	SIPAC Annual and SIP Working Group Meetings	Tentative																								
3.2	<b>SIP’s Communication Plan Development and Implementation</b>																									
3.2A	Daily communication and regular visits with stakeholders	Proposed																								
3.2B	Dissemination of program progress, lessons learnt and publications	Proposed																								

**Table 4 Proposed Activities with Additional Funding**

No.	Intervention	Status	Year 2017												Year 2018											
			J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Objective 1: Improved technical capacity and awareness (i.e. demonstrated acquisition of new technical or policy knowledge) among infrastructure, investment, and natural resource-related ministry representatives.																										
1.2	Regional Strategic Option Assessment and Planning for Large Scale Infrastructure Development																									
1.2B	Multi-stakeholder Dialogue on “Potential, Limitation and Constraints of Renewable Energy Development and Investment in the Lower Mekong Region”.	Check with Clean Power Asia-USAID																								
1.4	Medium and Small Scale Water and Energy Infrastructure																									
1.4A	Groundwater Capacity Building Development	Proposed																								
1.4B	Study Tour on Alternative Energy Production at District and Community Levels	Proposed																								

## V. Monitoring and Evaluation

**Table 5 SIP Program's Indicators**

Objectives for 2017-2018	Intervention summaries	Deliverables	Indicators
<b>1) Improved technical capacity and awareness (i.e., demonstrated acquisition of new technical or policy knowledge) among infrastructure and natural resource-related ministry representatives.</b>	1.1 Support a SIPAC that informs training activities	1.1.1 Coordinate and facilitate three annual SIPAC steering committee forms in 2016-2018 and use additional activity-driven consultations to inform training activities.	1.1.1.1 Number of SIPAC Semi-annual meetings held.
			1.1.1.2 Number of SIPAC members contributing activities and information to the annual work plan.
		1.1.2 Create annual SIP integrated work plans for 2017-2019	1.1.2.1 Numbers of person hours of training supported by USG assistance (number of men/number of women).
	1.2 Design training modules and activity plans in coordination with key stakeholders, and regional subject matter experts.	1.2.1 Annual illustrative training plans (delivered in conjunction with the SIPAC integrated work plan) that lay out options and rationale for topics to be covered by DOS-(FLM) funded trainings and the techniques and technical experts recommended to convey the information.	1.2.1.1 Number of workshop/trainings held.
			1.2.1.2 Number of people receiving SIP-supported training in natural resource management and/or biodiversity conservation (number of men/number of women) (may be same people at each event).
	1.3 Deliver training courses to the LMI governments.	1.3.1 Hold 9 training events and develop associated reporting.	1.3.1.1 Number of stakeholders demonstrating increased knowledge as a result of SIP



			supported trainings.
			1.3.1.2 Number of cases where a technical tool or methodology is put into practice, with some attribution to USG-supported trainings.
<b>2). Bottlenecks and gaps in lower Mekong governments' capacity are identified, and LMI pillar participants and FLM members are informed of such gaps/ bottlenecks through in-person presentations and hard-copy reports.</b>	2.1 Conduct a Gap Analysis of governments' capacity to support sustainable infrastructure development and development partners' action to supply responsive capacity development programming.	2.1.1 A gap analysis report that 1) prioritizes key 'areas' (may include sectors, topics, tools, etc.) where capacity development interventions will be most likely to lead to improvements in sustainable infrastructure development, and where each area that is identified will include an expanded evidence- based rationale for why it is a priority for the region; 2) a formative mapping of donor capacity development interventions in the region; and 3) recommendations of highest priority capacity gap areas for future SIP capacity development interventions.	2.1.1.1 Number of stakeholders consulted to analyze government capacities.
	2.2 Develop and use tools for continuous needs assessment and training adaptation.	2.2.1 Training assessment reports after each training session to identify bottlenecks and gaps in skills, data, and technology.	2.2.1.1 Number of training reports produced and shared with OES, FLM and the LMI governments.
		2.3.1 Updates on best	2.3.1.1 Number of policy-makers and executives

	2.3 Identify and share best lessons learned.	practices/lessons shared as relevant with the SIPAC.	briefed on lessons learned and capacity need assessed and coordination through SIP (may be same people each year).
<b>3. Bottlenecks and gaps in lower Mekong governments' capacity are identified, and LMI pillar participants and FLM members are informed of such gaps/ bottlenecks through in- person presentations and hard-copy reports.</b>	3.1 Facilitate donor coordination.	3.1.1 Meeting summary and updates to annual SIP integrated workplan after each steering committee forum.	3.1.1.1 Number of participants attending SIPAC meetings (may be same people each year).
			2.3.1.2 Number of events where there is collaboration between two or more FLM member programs (including the U.S.).
			2.3.1.3 Number of events where at least two or more FLM member programs (including the U.S.) provided in-kind contribution to a SIP event.

