

CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	University of Canterbury
Project Title:	Planning and partnership development for modeling and monitoring Mekong River basin hydrological cycles.
Date of Report:	03/02/10
Report Author and Contact Information	Tom Cochrane

CEPF Region: Indo-Burma

Strategic Direction: CEPF investment strategy 3.1: *“Engage key actors in reconciling biodiversity conservation and development objectives, with a particular emphasis on the Northern Limestone Highlands and Mekong River and its major tributaries. 3.1 Support civil society efforts to analyze development policies, plans and programs, evaluate their impact on biodiversity and ecosystem services, and propose alternative development scenarios and appropriate mitigating measures*

Grant Amount: \$6,000

Project Dates: Nov. 2 – Nov. 23, plus a return trip to the region and follow-up work

Implementation Partners for this Project (please explain the level of involvement for each partner): The University of Canterbury (UoC) and Conservation International (CI) contributed with staff time to attend meetings, travel expenses (CI), planning, and follow-up.

A series of meetings with key stakeholders were held in the region:

- Vientiane: MRC functionaries, MRC consultants, and WWF-Laos representatives. MRC provided GIS and hydrological data for initial modeling and is providing a letter of support for further work. WWF was supportive of modeling and further data gathering initiatives.
- Phnom Penh: NGO forum (representing International Rivers), World Fish, WCS, Cambodian Fisheries Administration within the Ministry of Agriculture, Forestry & Fisheries, and various others. All these organizations were supportive of further modeling and monitoring work.

Additional contacts were made with representatives from USAID, USGS, WUP, and others.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

Rapid regional growth and energy demands have prompted plans to build dams along the main stem of the Mekong River and its numerous tributaries. The combined effect of the dams, climate change, and agricultural water abstractions have raised significant concerns from key stakeholders in the region due to potential adverse impacts on biodiversity and fisheries in the lower Mekong. It is feared that reduced seasonal water fluctuations, as a direct result of these potential changes, will impact wetland habitats situated on the floodplains of the lower Mekong and adversely impact the hydrodynamic flooding and drainage of key tributaries such as the Tonle Sap. This project focused on identifying critical research needs, knowledge gaps, current modeling and monitoring efforts, and on developing partnerships that could lead to the better understanding and reduction of impacts of hydrological changes on biodiversity in the lower Mekong basin.

Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.

Meetings were held with representative of the MRC Basin Development Programme in Vientiane, MRC consultants and advisors, WWF – Laos, NGO Forum (representing Rivers Coalition of Cambodia and International Rivers Network), World Fish Centre, WCS, Cambodian Fisheries Administration) and others. Through these meetings we identified information gaps, modeling needs, and formulated partnerships by which our proposed modeling and mapping research can be incorporated into the decision making process that is already underway.

The objective of our approach is not to oppose an investment strategy in renewable energy that has been embraced by the region's leaders, but to demonstrate that there are options within that strategy that can maximize benefit to society. This approach is particularly embraced by MRC who welcomed contributions to their modeling, independent alternative modeling, and data sharing. Various opportunities for collaboration with WFC, WWF, and others were identified to supplement the growing body of knowledge that illustrates the economic value of ecosystem services that flow from ecosystem function and biodiversity.

Please provide the following information where relevant:

Hectares Protected:

Species Conserved:

Corridors Created:

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

The meetings were successful in ascertaining the overall status of knowledge as to the impact of hydro dam projects in the region and in identifying information gaps needed to ensure that governments can make adequate decisions as to the benefit or otherwise of various hydro dam scenarios. The project was particularly successful in obtaining support from MRC for modeling and data sharing. The long-term success of the project will depend on continuing MRC support and future success in formulating a renewed CEPF proposal.

Were there any unexpected impacts (positive or negative)?

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Representatives from various institutions and MRC advisors strongly believe that some form of development of dams along the main stem of the Mekong will go ahead due to the following reasons:

a) MRC countries are committed to energy production. Run-of-river dams on the Mekong main stem will fulfill this commitment.

- b) Chinese dams currently being built in upper Mekong are making downstream run-of-river dams more feasible because upstream dams will reduce flow fluctuations downstream. As dry season flows increase, the economic feasibility of building and operating run-of-river dams increases.
- c) There is a perception that hydrological changes from run-of-river dams will be minimal and mostly within the long term natural variations of the Mekong River and that any wider impacts will be offset by water abstractions or climate change scenarios. Although it is accepted that main stem dams will have an obvious impact on fish migration, the influence of hydrological changes (including sediment and vegetation) on overall productivity is not well understood and therefore often dismissed.

Of concern to the conservation community is that regional leaders may be unaware of potential ramifications due to changes in the hydrological regime from construction and operation of dams on the main stem and tributaries. Because of this, there seems to be wide support for unbiased (impartial) modeling and interpretation of results that take into account ecosystem services. It is generally perceived that MRC could benefit from further openness in modeling efforts and continuing scientific verification from research focused organizations. To this effect, MRC is trialing a more open approach to its development scenario modeling.

There is a clear need for additional data gathering, analysis, and modeling efforts to understand subsequent effects on sediment (nutrient) movement, vegetation, and on overall productivity of Mekong wetlands. Research on these topics needs to be done soon and incorporated into the decision making process that is currently underway in the region (primarily through MRC). This is of particular importance to Cambodia, who will undoubtedly be adversely impacted the most from dam development because of its dependency on fisheries and heightened vulnerability of the Tonle Sap to changes in water, sediment, and vegetation.

MRC studies are currently focusing efforts on main stem dams. Although MRC's basin development scenarios include modeling of future scenarios with tributary dams, it is not in MRC's current mandate to regulate tributary dams. Alternatives for tributary dam placements and operations need further analysis, including:

- a) simulating how the operation and placement of tributary dams will impact flows and energy production (using widely accepted hydro models such as HEC-HMS, HEC-RAS, HEC-ResSim).
- b) understanding the impact to adjacent wetlands and primarily the Tonle Sap because of changes in sediment flows and vegetation .
- c) providing functioning evidence of modeling by running detailed simulations on key sub-watersheds such as the 3S basin (Sre Pok, Se San, Se Kong) whose plans for development are at an advanced stage.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

Given the short time span of the initial visits, only key partners were met. However, these visits then prompted contacts with other stakeholders in the region (visited in a subsequent trip).

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Direct engagement with key stakeholders in Vientiane and Phnom Penh were instrumental in obtaining support and formulating partnerships. Our direct engagement with MRC is allowing us to formulate our proposed modeling and mapping research so it can be incorporated into the decision making process that is already underway.

Other lessons learned relevant to conservation community:

ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
Conservation International	A	\$2000 \$3,500 \$1,854.52 Total: 7354.52	Local flights, accommodation and other travel expenses Salaries/benefits International Airfare to the region
University of Canterbury	IN KIND	\$292.52 \$2,500 Total: 2792.52	Contribution to additional travel and meeting expenses Salaries / time
University of Canterbury	B –funds for additional visit to the region (Jan. 7 th to Feb. 18 th)	\$3,000	This trip was funded by the University of Canterbury to attend meetings and extend data gathering efforts. Funding was for international travel and salary

****Additional funding should be reported using the following categories:***

- A*** *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- B*** *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- C*** *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

The meetings carried out in November were successful in identifying knowledge gaps and modeling needs as well as developing partnerships with key stakeholders. These initial meetings are being followed-up by another trip to the region, financed by the University of Canterbury (between Jan. and Feb.), to further build on these partnerships and collect additional information for the successful implementation of our proposed long-term project.

Summarize any unplanned sustainability or replicability achieved.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

N/A

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.				Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?				Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.				
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.				
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.				

If you answered yes to question 5, please complete the following table.

Additional Comments/Recommendations

The issue of hydropower development is central to the livelihood of millions in the Mekong river basin. Although MRC is leading the effort in simulating development scenarios, complementary studies are needed to fill knowledge gaps, review scenarios, and provide alternative solutions that will be of general socio-economic benefit. Research is needed to quantify and illustrate the economic value of ecosystem services that flow from ecosystem function and biodiversity in the region.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

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