

## Technical Plenary Address

### Visualizing Science for Better Policy Decisions: Animating the Impact of Mekong Hydropower Dam Projects

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#### Abstract

The scientific community regularly expresses frustration over its inability to convey research findings to political and bureaucratic decisionmakers regarding the full environmental and human costs of infrastructure projects. Among other factors, lay decisionmakers lack sufficient scientific and technical background to understand research results that are presented in conventional reports and graphic presentations.

This problem is especially critical in the case of hydropower projects on the Mekong River, whose waters and rich fisheries are the mainstay of livelihoods and food security for some 60 million people in six countries. The inability of national decisionmakers to understand the serious long-term environmental, socioeconomic and even regional stability costs especially of mainstream hydroelectric dams has reinforced the pursuit of short-term development goals.

The Stimson Center's *Mekong Hydropower Transparency Project* has developed a unique approach to bridging the "science-policy gap" by providing decision makers with an innovative tool for visualizing the negative impacts of planned projects. Among the most important are alterations to the natural "flood pulse" hydrology of the river and blockage of migration and spawning of 70 percent of major food fish species.

Specifically, Stimson has combined open source scientific data with Geographic Information System (GIS) and other graphic software to clearly illustrate the anticipated impacts of four especially problematical projects on the Mekong's mainstream: Sambor in Cambodia, Don Sahong and Pak Lay in Laos, and Xiaowan in China's Yunnan. This comparatively inexpensive tool seeks to:

- Give key stakeholders, including governments, investors, the media, civil society, and affected populations, a more holistic understanding of the tradeoffs involved
- Inform and influence infrastructure decision-making within regional governments, major aid donor nations, and Multilateral Development Banks
- Promote expanded awareness of environmental and human security tradeoffs within the U.S. Government and foreign policy community

This tool could be applied to many other DRAGON deltas.