UNDERSTANDING THE LAND USE AND WATER SYSTEMS OF THE MEKONG RIVER

IS CHINA USING THE LANCANG-MEKONG COOPERATION TO TAKE ADVANTAGE OF LOWER MEKONG COUNTRIES?

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SOCIOTECHNICAL SYNTHESIS

The Mekong River is the longest river in Southeast Asia and for centuries, millions of people have relied on the Mekong for agriculture, aquaculture, water needs for domestic and industrial purposes, and as a mode of transportation. The technical portion of this paper will analyze the land and water use of the Mekong in its current state to quantifiably model the dynamics and relationships of drivers of change in the Mekong river system as a whole. In order to accomplish this, data has been collected from multiple sectors and statistical tests have been conducted using installed capacity as the dependent variable. Very tightly coupled through its hydropower and regional relation, the STS portion will explore the current dynamics of the Chinese government's involvement in the Mekong River system and its resources. In particular, the STS research will focus on the Chinese government's interaction with the Mekong River Commission, as well as their creation of the Lancang-Mekong Cooperation. The goal is to use actor network theory to analyze current political structure between Mekong region countries and research potential solutions to the political power of China, fostered by the creation of the Lancang-Mekong Cooperation, in the region.

Since the early 1960's, the production of hydropower has been a crucial factor for urbanization and economic growth. However, before any of the existing land use drivers took hold, the Mekong River and those inhabitants around it were part of a mutually beneficial relationship. The lack of industrialization allowed the river to flow in a natural manner. However, there is now a crossroads between tapping further into the potential it provides and conservation of life. Further than simply economic performance, our group needed to take into account many other industries native to the region for a holistic product. Data collection was subdivided based on the data requirements of each sector of interest. Findings from each data

category (Economic, Agriculture, Land-Use, Fishery) in each Mekong region country were then compared against the benchmark dependent variable of installed hydropower capacity.

There were few statistically significant conclusions, however, many trends were observed. Economic testing on GNI per-captia and energy consumption in relation to installed capacity had little statistical significance, however it was observed that in years when installed capacity increased by greater than 50 MW, energy consumption also increased. In terms of agriculture, we concluded that in years of 50MW or greater installed capacity, there was a statistically significant increase in rice crop yields at a 95% confidence interval. Both Land-Use and Fishery data provided little conclusive evidence that an increase in installed capacity led to a significant change in data values. There was, however, a trend of increased agricultural land split in response to an increase in installed capacity. As relevant stakeholders continue to explore how hydropower can best be implemented going forward, we stress that the importance of a similar analysis to ours is paramount in accurately predicting the holistic effects of implementation across the region.

The STS portion explored the research question “Is China using the Lancang-Mekong Cooperation to take advantage of lower Mekong countries?” Arguments were formed through the use qualitative research and actor-network theory. In answering the research question, it was first crucial to research the history of Chinese diplomacy in the region over the past few decades. After providing some background on Chinese diplomacy, it became important to research the Lancang-Mekong Cooperation and the Mekong River Commission, and more specifically their history and organizational structures. The problem was then framed in terms of actor-network theory to better understand China’s role in the network, the issues currently being faced by the network, and how the network can be reformed to be most effective.

In determining that China was, in fact, using the Lancang-Mekong Cooperation to take advantage of lower Mekong countries, there were multiple major points. The first, and most important piece of evidence, was that the Lancang-Mekong Cooperation has a very loosely defined institutional framework which allows for China to have disproportionate amounts of power in decision-making processes. This “project-oriented” model allows China, the most powerful member of the Lancang-Mekong Cooperation, to set their own terms and thus further their agenda. The Mekong River Commission, however, must follow UN watercourse convention guidelines. Finally, all factors considered; China has made it clear that they refuse to be governed by the desires of downstream countries being affected most by actions on the river. This refusal has been made evident by their recent actions, including the random releases of upstream reservoir holdings with little communication to downstream countries.

There are an estimated 60 million people who are directly dependent on the river for food, water and energy. The Mekong is currently facing a defining point in its history where new hydropower projects will directly impact economic performance for decades to come. Without a wholistic analysis of the effects of hydropower in the region, many of those 60 million who rely on the river for life will be left with nothing.

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