Source: MRC Strategic Environmental Assessment: ICEM, 2010
*Initially proposed as a 3,300 MW project, 465 MW and 2,600 MW options have also been studied.

MEKONG RIVER BASIN

Case Study

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Environmental Global Outlook

Introduction

This short case study seeks to review the impacts of dams built along the Mekong River Basin as well as potential impacts associated with future proposed projects. There are many complexities related to dams constructed on the Mekong river basin including the potential for cross-boundary impacts, the growing need to meet energy demands in the region, as well as impact on local populations that depend on the river for daily sustenance through fishing and agriculture. According to the Cambodian Development Resource Institute, The Mekong River Basin has approximately 70 million residents and stretches through six countries including China, Burma, Vietnam, Lao PDR, Thailand, and Cambodia. [1] This makes any construction on the Mekong River a trans-national issue. With significant populations living near the dams as well as economic and national interests at stake, these dams have the potential to completely alter the region which is why an understanding of their impacts is essential for accurate analysis.

Impacts

This section takes a holistic approach to analysis of the impact of dams on the Mekong River region taking into account the environmental, social, and economic impacts from trans-boundary perspective.

Environmental Impact

It is well known that dams have significant impact on fisheries and biodiversity due to their unnatural modification of river flow. According to Yale Environment 360, Seven dams built upstream in China have already altered water flows, reduced fish populations, and affected communities on the lower side of the Mekong which flows through the countries of Thailand, Laos, Cambodia, and Vietnam. [2] Although China is benefitting economically from the hydropower generation of these dams, many communities downstream are the most vulnerable to these changes. A study done by Aalto University in Finland found that hydropower projects in China have affected Northern Thailand with increased dry season and decreased wet season flows in addition to impacts observed as far as Cambodia. [3]

In regard to Biodiversity, scientists have found that Mekong has around 850 species of fish with 135 being migratory which any future dam construction could negatively impact. [2] This biodiversity is important to protect considering how vital the region is as well as the dependency local communities have on the river for sustenance. Many downstream poorer communities on these rivers may be under threat of food security as the risk imposed on native fish populations increases.

Considering the previous environmental impacts already observed from upstream dams and the nature of biodiversity in the Mekong River Basin, it is vital for nations on the river to take extra caution with future proposed hydroelectric projects.

Economic Impact

According to the EIA created for the Mekong river commission, economic growth and electricity demand increased at an average annual rate of about 8 % in the Mekong region which is one of the highest in the world. [4] Construction of the dams can help meet these demands and play a part in a nations' energy generation portfolio but are likely to come at a cost to poorer local people on the Mekong river. In addition, it is difficult to estimate the economic impacts due to loss of biodiversity as it is not something that is easily quantifiable. In regard to transnationality, it is likely that dam projects will be beneficial to the country implementing them but bring about negative impacts to neighboring or downstream nations as benefits are not evenly distributed. This makes global collaboration even more important because if every nation state act purely in its own interest, the river will end up in a critical state.

Social Impact

One of the biggest social impacts due to dam's is the associated displacement and resettlement that occurs due to their construction. Many dam projects around the world have led to displacement of residents and the previous upstream projects in Mekong River Basin are no exception. In addition, an Environmental Impact Assessment, created for the Mekong river commission projects that over 100,000 people downstream from the proposed 12 Lower Mekong Basin mainstream projects in Laos will suffer impacts like losing their homes and require resettlement. [4] Although economic benefits will be gained with hydroelectric power there is a huge social cost that cannot be ignored.

Conclusion

It is often argued that dams are essential for infrastructure and nation development, but dams can also cause huge environmental and social harm. When planning these projects, careful Environmental Impact Assessment is needed in which the needs of local people are taken into account and alternatives are analyzed. Development is important but the associated cost must also be examined as construction is essentially destroying the livelihoods of those who are most vulnerable.

In addition, the past and future construction of these dams is an issue that will likely continue to be complex as it involves cross boundary impacts and economic development within nation states and the region. Globally society must ensure that when dams are constructed that environmental impacts will be adequately measured, discussed among involved parties, and minimized.

Also, it is key to note the increased responsibility that upstream nations have as any construction will trickle downstream which can be an environmental justice issue. This is why we must advocate for global standards, transboundary cooperation, and forums that can mediate these issues. It is also essential for nations, to collaborate and consider adding new innovative energy technologies to balance out their energy portfolio, simultaneously combat climate change, and meet local energy demand.

References

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