

**New Challenges and Regime Resilience:
Climate Change and Water Security for the People of the Lower
Mekong Basin**

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Climate change analysis has increasingly indicated that changes will occur in a number of ways. Notable is that the majority of these changes are likely to be felt through modification of the hydrological cycle.¹ Furthermore, impacts to the natural and human systems are estimated to be particularly severe in developing countries where a large number of inhabitants are those with primary resource-dependent livelihoods, many of whom are marginalized.

The Lower Mekong Basin (LMB) is presently home to approximately 65.7 million people² within areas of four riparian countries: Lao PDR, Thailand, Cambodia and Vietnam. Covering 77% of the overall Basin, the LMB is regarded as the most important part of the Mekong River Basin, environmentally and economically.³ Under its key areas of natural resource and development⁴, the LMB inhabitants largely rely on subsistence agriculture, based on rice and fish.⁵ But while the Mekong River provides the Basin with abundant water resources, the monsoon rainfall pattern dictates the wide variability in water availability within the Basin. The livelihoods of those living off the floodplain ecosystem, where productivity is sustained by the flood pulse generated by annual monsoon floods together with the mainstream water level, are thus dependent on variations in climatic conditions. In this regard, inhabitants of the LMB have long exhibited that societies have inherent capacities to adapt to climate change⁶, as they have adjusted to cope with climatic variations to sustain their livelihoods. As such, the vulnerability of individuals and societies that have experienced risks of climate hazards could in fact be the drive for adaptive resource management.

However, according to current climate change estimates, it is likely that while the LMB will face many new challenges from climate change impacts, those already existing challenges would be exacerbated. As environmental changes occur through hydrological cycles such as flood, droughts and storms, those within the Mekong Basin who are amongst the poorest in the world⁷, are likely to be

disproportionately affected due to their low potential to adapt to such changes.⁸ They are the people most at risk and most vulnerable as their natural resource base will become severely stressed and in most cases effective response is beyond the capability of their governing system.⁹ To emphasize the human dimension in such cases, studies of vulnerability to climate change generally use the term ‘social vulnerability’ to encompass individual and collective vulnerability, manifested in disruptions to livelihoods and loss of security.¹⁰ For this reason, analysis of social vulnerability which seek to ultimately enhance social resilience, must take into account the ‘social construction of vulnerability’ or in other words, the socio-economic, institutional and political factors which would affect levels of vulnerability and thus promote or constrain options for adaptation.¹¹ Inequitable distribution of resources is one of the many underlying causes of social vulnerability that could well constrain adaptation. On the other hand, ‘poverty reduction; risk-spreading through income diversification; respecting common property management rights; and promoting collective security’¹², have been cited as priorities for improving situations of social vulnerability.

Interestingly, while levels of vulnerability to climate change determines the adaptation options available to individuals and communities, the ability of individuals and communities to act collectively determines their capacity to adapt to climate change.¹³ In this sense, individuals and communities are interdependent ‘...through their relationships with each other, with the institutions in which they reside, and with the resource base on which they depend’.¹⁴

In the attempt to cope with the consequences of climatic variations, such as crop damages, collective action on a regional scale emerged in the LMB as the cooperation in river basin planning among the LMB riparian countries. Starting by the formation of the Mekong Committee in 1957, the Committee evolved under the context of change into the Interim Mekong Committee (IMC) and further into the Mekong River Commission (MRC) it is today. This evolution has been noted to reflect the MRC’s capacity to adjust and respond to changes, thus indicating its ‘...high degree of institutional resiliency’.¹⁵ In fact, reviews of the Committee’s history of climate related activities since its inception, in basin-wide hydro-climatic

data collection and dissemination, hydrographic survey, sponsorship of tributary dams and reservoirs, flood forecasting and warning systems has been further used to demonstrate how these long-standing programs directly link the Committee's work to issues of regional climatic variability and climate change. For the same reasons, based on the MRC's track record of institutional resilience and climate-related programs, some believe that MRC has been forced by its operating environment to be creative and adaptive and so should be able to continue an important role in assisting the LMB inhabitants in their adaptation to climate change.¹⁶

However, from a critical hydropolitics perspective, governance of the Mekong River has been criticized to have historically '...been dominated by an institutional regime that stressed the rapid collection of hydrologic data to convert the Mekong into a working river'¹⁷, confined by the dominance of law, engineering, and economics. In this same line, observations indicate that community-based systems for water has arisen where there is failure of the state-based arrangements within the Mekong Basin.¹⁸ While it is clear that access to resources affects baseline vulnerability and coping capacity under impacts of extreme events, the general lack of linkages between basin-wide and small local scale management¹⁹ ultimately raises the question of whether the MRC, being a state-centric institution as it is, will be capable of supporting and facilitating the needed coping strategies and adaptation capacity, when the problem of climate change are spatially and socially differentiated, such that impact is experienced at the scale and level that may not correspond to the that of the decision-making body like the MRC.

For trans-boundary river basins, such as the LMB, where hydro-geographical extensions of a watershed or river basin transcends national boundaries and determines what constitute appropriate adaptation strategies for water resources management,²⁰ but where administrative boundaries remain to be the norm that structures the mode of governance, scale and unit of analysis becomes an issue. From this perspective, the MRC has been identified with the mainstream water resource paradigm which focuses on the capacity of states to achieve cooperation over shared river resources and on ways that such cooperation among states can be

negotiated and implemented. From this perspective, the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin which created the MRC is noted to express mainly concerns with watercourses and river channels, thus ignoring the Mekong River's existence as a multi-dimensional river basin. The overarching question for institutional regimes such as this would then be how sovereign states could cope with the challenges of co-ordinations in their use of this common resource, if by political nature, each state are forced to pursue their national interest and those policies that would best assure their regime's survival.²¹ Institutional arrangements such as the MRC is thus seen to have oversimplified the Mekong Basin's spatial and temporal dynamics such as the sociological networks which exists within the basin but may not correspond to the geo-political scale at which the MRC is created and operated²², especially where adaptation to climate change will likely require a local response by individuals and communities.

A recent Mekong Program endorsed by the MRC²³, to implement Integrated Water Resources Management (IWRM) at basin scale, has been pointed out to be '...most sophisticated and ambiguous'.²⁴ This coupled with MRC's climate change adaptation initiative confirm its position from a water management institution perspective that water resources of the Mekong River be developed, shared and used in an integrated basin-wide manner. In connection to this, MRC has been observed to be moving away from a science-based agency with the agenda of knowledge production in support of informed, equitable and sustainable decision-making, towards '...the direction of facilitating investment, but within the rhetoric of Integrated Water Resource Management'.²⁵

While it is evident that climate change impacts will bring many challenges to the LMB, the belief that the MRC will continue to play an important role in assisting the LMB inhabitants in their adaptation to climate change raises a number of questions that this paper will attempt to explore through the various approaches:

- As an institutional regime with a history of high degree resiliency, in what ways might the MRC have to adjust and respond to sustain its resilience,

given that climate change impacts will bring about new challenges and likely exacerbate already existing ones?

- How does resilience of the MRC relate to the resilience of individuals and communities within the LMB? In other words, how might the linkage between basin-wide and small local scale response to climate change be developed so that the MRC, in the process of adjusting and responding to new challenges of climate change, also enhances the resilience of the LMB inhabitants?
- Related to this, what implications does the MRC's move towards the direction of IWRM and its climate change adaptation initiative have for the livelihoods of the LMB inhabitants in terms of their resilience and adaptation capacity to water related changes?

Notes:

¹ Keskinen, M. et al., 2009.

² Sukhsri, C., 2009. (interview).

³ Aerts, J.C. J.H. and Droogers, P., 2004.

⁴ Ibid. The LMB's five key areas of natural resource and development include agricultural production, fisheries, hydropower generation, forest resource management and use of biological resources for conservation, tourism, trade and local livelihoods.

⁵ Sukhsri, C., 2009. (interview).

⁶ Adger, W.N., 2003. Adger noted that '...individuals and societies have adapted to climate change over the course of human history and will continue to do so...'

⁷ Cogel, O., 2005.

⁸ Smit at al., 2001.

⁹ Aerts, J.C. J.H. and Droogers, P., 2004.

¹⁰ Kelly, P.M. and Adger, W.N., 2000.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.

¹⁴ Adger, W.N., 2003.

¹⁵ Jacobs, J.W., 1996.

¹⁶ Ibid. Jacob sees the MRC's future roles of addressing climate related problems to be in the area of data gathering and dissemination (including monitoring changes in climatic and hydrologic data), flood forecasting and warning, low flow forecasts, smaller-scale structural measures (eg. salinity intrusion control and pump irrigation), and liaising between basin water managers and users and climate change researchers.

¹⁷ Ibid.

¹⁸ Lebel, L. et al., 2005.

¹⁹ Hirsch, P., 2004.

²⁰ Aerts, J.C. J.H. and Droogers, P., 2004 addressed that need for an integrated basin-wide climate change and water resources studies by the following argument: '...first, a regional hydrological

cycle is bounded by its watershed and is therefore a more appropriate geographical entity than an administrative region or country. Secondly, upstream water-related activities, processes and adaptation have clear effects for downstream water availability. Thirdly, regional water resources management becomes increasingly important in policy making as, for instance, outlined in the EU water framework directive (EU, 2000). From a water management perspective, a basin-wide approach for developing and evaluating adaptation strategies is needed’.

²¹ Sneddon, C. and Fox, Coleen, 2006.

²² Ibid.

²³ The orientation of the Mekong Program to implement Integrated Water Resources Management (IWRM) at basin scale was endorsed at the MRC’s 11th Ministerial Council meeting of 8-9 December 2004 in Vientiane, Lao PDR.

²⁴ Lebel, L. et al., 2005.

²⁵ Hirsch, P., 2004.

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