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## Resilience for whom? Governing social-ecological transformation in Cambodia's Tonle Sap Lake

Amy Fallon<sup>1</sup> and Marko Keskinen<sup>2</sup>

<sup>1</sup>Water and Development Research Group, Aalto University, Espoo, Finland (amy.fallon@aalto.fi)

<sup>2</sup>Water and Development Research Group, Aalto University, Espoo, Finland

Growing water scarcity around the world is a crucial issue driven by global environmental change, as well as increasing competition for water resources for different economic and social pursuits. Climate change will have far-reaching consequences for water resources, particularly through increasing frequency and intensity of extreme weather events, such as droughts and floods. Such changes will acutely impact water and food security in developing countries, where large proportions of society depend on natural resources for their livelihoods. This can significantly undermine the resilience of such complex social-ecological systems, and the fulfilment of SDGs, including water-related SDG 6.

The capacity of freshwater systems to cope with stresses and shocks can be weakened when irreversible changes occur and thresholds are exceeded. It is therefore important for water governance arrangements to incorporate characteristics such as non-linear dynamics and unpredictability. Resilience is also gaining traction as a holistic framework to examine social-ecological system components, processes and feedback loops under change across scales. However, resilience has been critiqued for its inability to appropriately reflect socio-political dynamics, including power asymmetries, cultural values, and human well-being.

In this presentation, a novel theoretical framework for studying and describing resilience is presented for the analysis of freshwater system governance, using three dimensions of resilience across multiple scales of society: absorptive, adaptive, and transformative capacity. The audience is encouraged to engage critically with the concept, asking the question "resilience of what, to what, and for whom?". In doing so, we will also address the typically narrow technical focus on resilience, and its potential challenges in achieving societal resilience to climate extremes.

The framework is applied to Cambodia's Tonle Sap and its hydrologically and culturally unique flood pulse system. The lake provides food security for millions, yet is undergoing negative ecological and social transformation due to pressures along the Mekong River including climate change, hydropower development, and weak governance. The changing dynamics in its flood pulse system and an increasingly complex socio-political landscape are presented through the framework, addressing both positive and negative components of resilience. In this way, the framework helps to put the current research and actions on the lake's management into the broader context of resilience and change.

We will demonstrate absorptive and adaptive responses of people living on and around the lake, including urban migration and illegal fishing practices. The risk of so-called rigidity traps (inflexible system components) is also explored, including an increasingly resilient autocratic government regime – and the potential of such rigidity traps to undermine the resilience of the overall system. An enduring status quo of narratives around agriculture and hydropower development is shown as a key aspect of resilience of the Tonle Sap. Finally, we will present the key windows of opportunity for transformation, focusing on the role of local, largely informal institutions in facilitating sustainable and equitable governance outcomes.

The key aims of this presentation are to present a novel framing of resilience that incorporates societal dimensions more fully, and to identify pathways for transformative change that benefit all relevant groups of society.