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New challenges for adaptive urban governance in highly dynamic environments: Revisiting planning systems and tools for adaptive and strategic planning



Joern Birkmann*, Matthias Garschagen, Neysa Setiadi

United Nations University – Institute for Environment and Human Security (UNU-EHS), Platz der Vereinten Nationen 1, 53119 Bonn, Germany

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ABSTRACT

The paper explores new challenges for adaptive urban and spatial governance in highly dynamic environments. It examines whether or not we have to rethink existing planning systems and tools in the context of climate change, natural hazards and societal transformation, focusing particularly on emerging economies in Asia. Key pressures for urban governance and planning in these countries are explored. Against this background requirements for a more adaptive and strategic planning approach are discussed by examining the discourses about climate change adaptation – including adaptive urban governance – and strategic planning. Compared to earlier papers on urban governance in the context of climate change, this paper aims particularly to provide an entry point for the discussion of the adjustment and modification of specific planning systems and tools. Two case studies are used for a concrete exploration of the gaps and challenges of adaptive urban governance on the ground, considering particularly formal regulative planning tools. The findings from the case study analysis show opportunities but also constraints of existing planning tools to strengthen adaptive urban governance. At the same time, a number of gaps have been found between currently debated planning tools for adaptation and the requirements emerging from adaptive and strategic planning theory. Recommendations to further strengthen adaptive urban governance and strategic planning are derived.

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* Corresponding author. Tel.: +49 (0)228 8150208.

E-mail address: birkmann@ehs.unu.edu (J. Birkmann).

1. Introduction

While urbanization and climate change have in recent years been acknowledged as important dimensions and drivers of global change, the significant challenges for urban and spatial governance emerging at their interface have only been recognized more recently (Ruth and Baklanov, 2012; Simon, 2007). Today more than half of the global population lives in cities, this proportion is expected to rise to 67 percent by the year 2050 (UN-DESA, 2012). At the same time, urban areas have been identified as particularly exposed to climate change and coastal hazards and managing settlement and infrastructure development is seen as an increasing challenge in rapidly growing urban centers in developing countries and emerging economies (Satterthwaite et al., 2007). Globally, 65 percent of urban settlements with more than 5 million inhabitants intersect with the low elevation coastal zone, hence being highly exposed to current and future natural hazards (McGranahan et al., 2007) such as climate change-related sea level rise as well as non-climatic coastal hazards in some regions, including, for example, tsunamis. In combination with future urbanization trends these exposure figures are likely to rise sharply in future, in effect calling for substantial efforts towards adaptation of settlements and infrastructures as well as planning systems themselves (Solecki et al., 2011).

However, many open questions remain as to how integrative development and planning can be brought about effectively and governed institutionally in order to strengthen adaptive capacities. While increasing attention has recently been focused on the necessity to adapt urban infrastructure in exposed cities, much less attention has been given to institutional dimensions of adaptation in the field of urban planning and risk management (Birkmann et al., 2010; Tyler and Moench, 2012). Against this background the paper examines new challenges for urban and spatial governance in highly dynamic environments by addressing three core questions:

- Do we have to rethink existing planning systems and tools in the context of climate change and natural hazards in countries undergoing rapid change that comprises transformation processes in socio-economic, demographic, political and administrative domains?
- Which demands and requirements result from the conceptual discourses on climate change adaptation and strategic planning for development and planning approaches at the local or provincial level?
- Do present planning systems and selected planning tools in case studies in Vietnam and Indonesia already consider these requirements? Which gaps and constraints are visible in different planning systems?

The paper starts by systematizing environmental and politico-economic dynamics that influence urbanization processes in emerging economies in Asia, with a special focus on Southeast Asia. On this basis, we examine conceptual discourses around climate change adaptation and strategic planning in order to identify core issues that need to be addressed when aiming to promote more adaptive and integrative planning in highly dynamic regions. While the cross-linkages between climate change and urbanization are increasingly recognized in the literature and the perspectives integrated accordingly (e.g. Solecki et al., 2011; Romero Lankao and Qin, 2011; Birkmann et al., 2010) considerable gaps remain when moving the focus beyond the conceptual level to penetrate practical tools and applied institutional dimensions of urban planning and management. Hence, we use two case studies in Vietnam and Indonesia (drawing on our own empirical research) to move the conceptual discourse on urban adaptation to the level of concrete planning tools by analyzing and comparing the practical opportunities as well as constraints for implementing adaptation in different planning contexts in emerging economies of Southeast Asia. Both case study cities (Can Tho in Vietnam and Padang in Indonesia) are already affected by changing environmental conditions and are likely to experience even more significant natural and anthropogenic hazards in the future. Furthermore, both cities are characterized by rapid coastal urbanization and the planning systems in both countries have undergone

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