



## **Delta environments and livelihoods are worldwide under pressure, offer strategic delta plans an adequate response for societies?**

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Globally, delta areas are under increasing pressure from urbanization and climate change. Questions arise whether societies should preserve existing land and water uses by protecting them against the impacts of such changes, or whether one can anticipate on the impacts by adapting future land and water uses. The latter is at the heart of strategic delta planning which is a relatively new planning phenomenon applied in delta's worldwide. It is also gaining increased scientific interest. We offer a reflection on, and positioning of strategic delta planning as an emerging theme for interdisciplinary research. We draw on five years of research in Bangladesh, the Netherlands and Vietnam, an expert and stakeholder discussion during an international research workshop (November 2018), and eleven manuscripts for a special issue on strategic delta planning with additional contributions from California, Italy and Indonesia.

We define strategic delta planning as a public sector led process through which a long-term vision (the strategic delta plan), as well as the actions and means for its implementation, are presented that shape and frame what a sustainable delta is and may become. Our analysis and reflection results in key features that define the current state of research on strategic delta planning:

1. A strategic delta plan provides a vision, a strategy. While it seeks to develop a transparent framework for decision-making – which supports the strategic choices in society with expert knowledge, it also includes a clear political dimension, and serves political objectives.
2. Deltas are used as the physical anchoring point, focusing on the interactions between land, water and ecology, and their implications for societal goals and values.
3. Uncertainty about future trends and developments is an important feature, resulting from a long-term planning horizon, to which strategic delta planning takes an open and adaptive approach, rather than a control-oriented approach.
4. Strategic delta planning is an essential part of a nested planning system. It provides a top-down vision, which offers the space for bottom-up iterations and specifications.

Currently underrepresented in the thinking about strategic delta planning and its supporting methods and approaches, is the role of people, at the individual level, and their importance for the course of shaping and implementing delta planning trajectories.

The rapid spread of delta plans (e.g. Bangladesh, California, Indonesia, the Netherlands, and Vietnam) shows the keen interests of governments. With our contribution, we intend to broaden the scientific debate on strategic delta planning, and stimulate linkages with other disciplines including socio-hydrology and water resources management. The challenging implementation of strategic delta plans offers an highly interesting and societal relevant field for further research, meanwhile offering an entry point to critically reflect upon top-down and bottom-up planning approaches for human-water systems in delta areas. Lessons learned from the various delta examples provide interesting insights, tools and approaches for governments and delta practitioners.