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# Migration in Deltas: An Integrated Analysis

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Deltas and low-lying coastal regions have long been perceived as vulnerable to global sea-level rise, with the potential for mass displacement of exposed populations. For deltas, this assumption of mass population displacement requires a comprehensive reassessment in the light of present and future migration in deltas, including the role of other adaptation to influence these decisions. Deltas are subject to multiple drivers of environmental change and often have high population densities as they are accessible and productive ecosystems. Climate change, catchment management, subsidence and land cover change drive environmental change across all populated deltas. Populations in deltas are also highly mobile, with significant urbanization trends and the growth of cities and mega-cities within or adjacent to deltas, especially in Asia and Africa. Such migration is driven primarily by economic opportunity, yet environmental change in general, and climate change in particular, are likely to play an increasing direct and indirect role in future migration trends. The policy challenges centre on the role of migration within regional adaptation strategies to climate change; the protection of vulnerable populations; and the future of urban settlements within deltas. This paper reviews current knowledge on migration and adaptation to environmental change to discern specific issues pertinent to delta regions. It develops a new integrated methodology to assess present and future migration in deltas using the Volta delta in Ghana, Mahanadi delta in India and Ganges-Brahmaputra-Meghna delta across India and Bangladesh. The integrated method focuses on: biophysical changes and spatial distribution of vulnerability; demographic changes and migration decision-making using multiple methods and data; macro-economic trends and scenarios in the deltas; and the policies and governance structures that constrain and enable adaptation. The analysis is facilitated by a range of consistent scenarios from global to delta scales, developed in consultation with stakeholders. Initial results suggest that migration decision-making strongly interacts with diverse measures for adaptation of land, water and agricultural management. A key normative challenge to better inform the policy process is to identify the parameters of successful migration and adaptation across delta regions.