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"Solidarity in a competing world — fair use of resources"

Sea Level Rise: Evaluating Adaptive Strategies and Options

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Abstract

As the reality of climate change draws closer, discussions among scholars and policy makers are beginning to shift from climate change mitigation to adaptation. One of the climate change impacts that surely concerns millions of people living in coastal communities globally is sea level rise. Whether it is city planners in New York, coastal dwellers in Lagos or rice farmers in coastal Indonesian villages, the question of how to adapt to projected rise in future sea levels is an important one. Drawing upon a wide spectrum of existing literature, this study outlines the various typologies of adaptive strategies to sea level rise that have been proposed, and presents a comparative analysis of three adaptive strategies (retreat, accommodate and protect) which have thus far been the most accepted typology. In addition, the criteria that may be employed to evaluate alternative options when faced with the decision of choosing specific sea level rise adaptation measures are also discussed. The comparative analysis brings to light the merits and demerits of the retreat, accommodate and protect strategies. Each strategy was found to appeal to different social, economic, technological and ecological settings, and no single strategy fits into all kinds of settings. In terms of criteria for evaluating alternative adaptation options, five criteria namely effectiveness, efficiency, performance under uncertainty, sustainability and equity are proposed. This study concludes that the options available to coastal communities to adapt to sea level rise are many, but so are the factors to consider, and apparently the decision of which option(s) to apply will be far from simple or straight forward. It is the hope that the ideas discussed in this study will assist in making the decision-making process a little less cumbersome.

Keywords: Adaptive strategy, climate change, sea level rise

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