

The technical and financial sustainability of the Dutch polder approach

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Abstract

In the light of changes in climate, economy and demography, civilians, politicians and scientists alike often wonder how far into the future the Dutch polder approach will last. The polder approach refers to the drainage and flood protection of low-lying areas by means of pumps, canals and flood defences. An increase in river discharges and sea levels is going to put pressure on the dikes, dunes, dams and storm surge barriers protecting the Netherlands from (extreme) floods. Coupled with changes in precipitation patterns, the capacity of pumping stations, and freshwater shortage due to drought, there are some serious challenges for the future. In this article, we consider to what extent our technical and financial abilities are able to keep up with these challenges. We also formulate indicators that show if there is going to be a need to abandon our country and return parts of it to the sea in the (near) future. From this research, it is concluded that there is neither a technical nor an economical reason to put question marks on the future of the Dutch polder approach, although societal acceptance and conflicting interests with other functions are critical factors in the continuation of its success.

Keywords

Benefits; costs; flood risk; sustainability; uncertainties

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