



Learning from a History of Futures: 60 Years of Scenario use for Water Management in the Netherlands

H. Middelkoop (1) and M. Haasnoot (2)

(1) Utrecht University, Department Physical Geography, Utrecht, The Netherlands, (2) Deltares, Delft, The Netherlands

The future of human life in the world's river deltas depends on the success of water management. To deal with uncertainties about the future, policymakers in the Netherlands have used scenarios for developing water management strategies. Based on a review of six decades of scenario use in the Netherlands, we describe how scenario analysis in water policy studies evolved. We analyzed to what extent the use of scenarios in water management in the Netherlands has enabled robust decision making under uncertainty, and whether it has resulted in a learning process for water management. We found that the potential for robust decisionmaking increased, while the use of scenarios enabled learning about possible impacts of developments and effectiveness of policy options. This was reflected in several paradigm shifts that have occurred in the past decades: a) from flood control to integrated water management, b) from predicting to exploring the future with integrated scenarios and, c) from resisting water to accommodating and adapting to water. We conclude that scenarios proved to be useful for decisionmaking on water management under uncertainty, although the scenario approach is not yet fully exploited for decisionmaking under uncertainty. New scenario approaches are emerging that deal with the deep uncertainties water managers are facing nowadays.