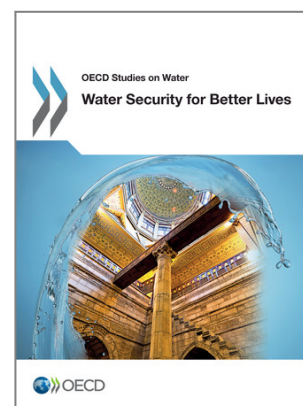


OECD *Multilingual Summaries*

Water Security for Better Lives

Summary in English



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Water security is a major policy challenge confronting governments around the world. In the absence of significant reforms of water and water-related policies, the outlook for water is pessimistic. Water security in many regions will continue to deteriorate due to increasing water demand, water stress and water pollution. Governments need to speed up efforts to enhance efficiency and effectiveness in water management to better manage the risks of potential water shortages (including droughts), water excess (including floods), inadequate water quality, as well as the risk of undermining the resilience of freshwater systems (rivers, lakes, aquifers). By taking a broad, long-term vision that emphasizes the explicit management of water-related risks and trade-offs between these risks, governments are more likely to meet their water-related economic, environmental and social objectives.

A risk-based approach addresses water security first and foremost by determining acceptable levels of different risks in terms of the likelihood that they will occur and the potential economic or other impacts if they do, and balancing this against the expected benefits of improving water security. While it is generally too expensive, and often technically impossible, to fully eliminate water-related risks, a risk-based approach can help to ensure that the implicit level of risk implied by different policy actions reflects societal values. For example, a number of cities worldwide -- including London, Shanghai and Amsterdam -- have protection against flood events of a magnitude that are only expected to occur on average once in 1 000 years, while New York planning has only protected the city against a 1-in-100 year event. Following the 2013 Sandy storm, New York is now considering how to strengthen its flood defences further.

A risk-based approach is also flexible, and the accepted level of risk can be adjusted at relatively short notice should more cost-effective measures to mitigate the risks become available, or if new opportunities for economic development warrant action to further reduce the level of risk. For example, a new housing or industrial development may justify increasing flood defenses for a neighbouring river, which may not have been justified if the land was used for agriculture or a natural park.

In practice, however, it is often natural disasters – and not new opportunities – that prompt countries to revisit the acceptable levels of water risks implicit in their policies and measures. For example, countries often revisit flood defense standards following a hurricane or major storm, or address water shortage challenges during or following a major drought. A risk-based approach triggers a move from reactive to more proactive policies. Instead of responding to water crises, which often entail excessive costs to society, governments can establish a process to carefully assess and manage the risks in advance and to review these on a regular basis.

By identifying water-related risks, and helping actors agree on acceptable levels for these risks, a risk-based approach can facilitate the process of allocating water risks between uses. For example, there are many regions where available water resources have been over-allocated and a more complete understanding of the risks and trade-offs around alternative uses of water can help to identify the benefits and policy options for improving the allocation of water between agriculture, urban and ecosystem users. This does, of course, raise significant political economy questions.

Once set, the acceptable levels of water risks should be achieved at least possible cost. Economic instruments, such as charging appropriately for water use and pollution, can help achieve this. Water pricing has been critical in decoupling water use from continued economic growth in almost one-third of

OECD countries in recent decades. Introducing prices that reflect water scarcity can help reduce demand to levels that can avoid the premature construction of new water supply infrastructure. In Sydney, Australia, analysis shows that if scarcity pricing had been introduced at an appropriate time it could have reduced water demand to a level which no longer required the development of a costly new desalination plant.

Setting acceptable levels of water risk should be the result of well-informed policy choices and trade-offs with other related (sometimes conflicting) security objectives – e.g. food, energy, climate, biodiversity. This is because policy measures aimed at security or other policy objectives in one area may result in spill-overs in another: efforts to increase energy security and reduce greenhouse gas emissions through biofuel production, for example, can result in reduced water or food security, while objectives to enhance food security can lead to overuse of pesticides and fertilizers, contributing to water pollution. More coherent policy approaches are increasingly being applied in a growing number of countries. For example, shifting agricultural support from direct production and input support to payments that are decoupled or even support environmental objectives has reduced incentives to intensify and extend production, thereby helping to improve water resource use efficiency and lower water pollution from agriculture.

Water security is about learning to live with an acceptable level of water risk. This requires a better understanding of the risks, ensuring that the level of risk that is used for planning and policy purposes takes account of social preferences, and managing risks and trade-offs between risks and across water and other policy objectives at least cost to society. The key success factors are to know, target and manage the water risks:

- **Know the risk** . Identify water-related risks, the likelihood and potential impact of their occurrence, how people perceive them, and make sure stakeholders have the information they need to understand and address different kinds of water risks.
- **Target the risk** . Consider whether the additional benefits of improved water security warrant the additional costs to society of achieving these improvements, and set levels of water risk accordingly. Policy objectives other than water security (for example food security, energy security, climate security, protecting nature) and the interrelated nature of water risks should be considered when weighing the benefits and potential costs to society of a given level of water risk.
- **Manage the risk** . Implement a policy mix to reduce hazards and limit exposure and vulnerability in order to achieve acceptable levels of risk at the least possible economic cost. Economic instruments can play an important role, as they can fundamentally alter the incentives facing water users, provide explicit signals about the likelihood and potential cost of water risks, and provide financing to support actions to offset risks. Managing water risks also require a coherent approach between water policies and sectoral and environmental policies.

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