



Assessment and Recommendations

WATER GOVERNANCE IN THE NETHERLANDS

Fit for the Future?



Launch by the OECD Deputy-Secretary-General, Yves Leterme
Dutch Ministry of Infrastructure and the Environment Headquarters
17 March 2014, The Hague, Netherlands

OECD – Netherlands Policy Dialogue on water governance

The report *Water Governance in the Netherlands: Fit for the Future?* aims to assess the extent to which Dutch water governance is fit for future challenges and suggests ways to adjust or reform policies and institutions. It builds on a one-year policy dialogue with over 150 Dutch stakeholders, supported by robust analytical work and international best practice.

OECD - Netherlands policy dialogue

Objectives

The dialogue aimed to provide evidence-based assessment drawing on OECD work on water governance, water security, water resources management and financing, as well as lessons and good practices from OECD member and non-member countries. It consisted in two interrelated pillars focused on:

- The **multi-level governance setting** of water management: particular attention was paid to stakeholders' interactions and ways forward for better integration and coordination ;
- The **financial, ecological and social sustainability** of water management to cope with current and future water risks and trade-offs.

Expertise

The OECD delegation included:

- A broad range of expertise from the **OECD Secretariat** on the economics and governance of water management; and
- High-profile **peer reviewers and experts** from the United States, Portugal, the United Kingdom, South Africa and France;

Process

- The OECD delegation carried out **two fact-finding missions** to The Hague (25 February-1 March 2013 and 5-6 June 2013) to discuss with key public, private and non-profit stakeholders. **Field trips** were organised to the Delfland Regional Water Authority, the municipality of Dordrecht, the National Water Authority Lelystad, and the Regional Water Authority Regge and Dinkel.
- Key findings and recommendations were discussed in a **Policy Seminar** on 23-25 September 2013, The Hague, in the presence of the Dutch Minister for Infrastructure and the Environment, and around 100 Dutch stakeholders.
- The report was peer-reviewed by OECD member and non-member states on 8 November 2013 in a joint session of the OECD Water Governance Initiative and the OECD Working Party on Biodiversity, Water and Ecosystems.

OECD Tools

The Dialogue builds on the following OECD tools:

- OECD Multi-level Governance Framework
- OECD Risk-based Framework for Water Security
- OECD Framework for Financing Water Resources Management

Assessment from the policy dialogue

Water governance in the Netherlands has an excellent track record in several areas

A GLOBAL REFERENCE FOR WATER MANAGEMENT

The Netherlands is a delta area where more than half of the territory and population and two-thirds of the economic activity are flood-prone and at risk of submersion; 29% of the country below sea level and 26% prone to floods from rivers. These conditions make certain dimensions of water management a national security issue, especially the maintenance of the country's system of dykes and pumps for flood defence and dry feet. This challenging task is further complicated by the country's position downstream of four international rivers (Scheldt, Meuse, Rhine, Ems), which has consequences for the variability of river discharges and water quality.

Since the 13th century and the creation of the Regional Water Authorities (traditionally known as "water boards"), Dutch water governance has been successful at reclaiming land from the sea and keeping the territory dry through the development of a sophisticated system of built and natural infrastructure. This performance has relied extensively on centuries-old, flexible and evolving institutions that have developed world-class engineering and on-the-ground engagement with stakeholders (the "polder" approach).

The long-standing performance of water management in the Netherlands has contributed to strong economic development, providing the conditions for a densely populated Randstad, the largest European port, the second largest net exporter of agricultural

products and foods in the world (in terms of value), and a leading water industry that is acknowledged as one of the nine "top sectors" in the country. This is achieved at an overall cost of 1.26% of GDP that covers water resources management, flood protection and water supply and sanitation services.

A ROBUST AND ADJUSTABLE INSTITUTIONAL AND POLICY FRAMEWORK

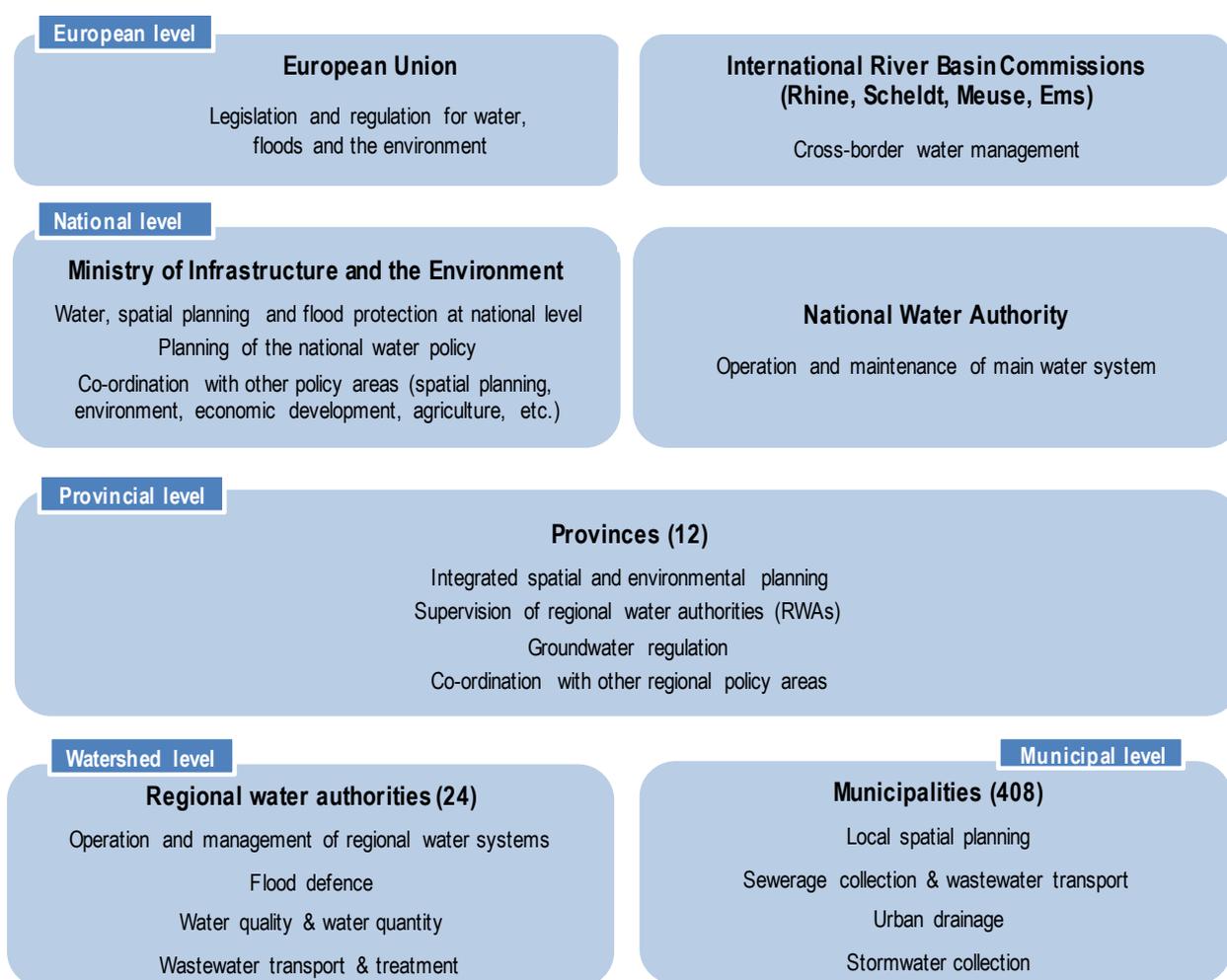
The features of Dutch water governance have adjusted over time, in response to changing economic, political and environmental conditions. Over the last 50 years, the trend has been towards consolidation: of Regional Water Authorities (RWAs; from 2 650 to 24), Ministries (the creation of the Ministry of Infrastructure and the Environment in 2010), public drinking water companies (from more than 200 to 10) and municipalities. The variety of local arrangements in the wastewater chain has increased, along with the adoption of successive plans as national level instruments for strategic planning.

Other important reforms have included the "modernisation" in 2006 of the *Rijkswaterstaat* (the National Water Authority and the executive agency of the Ministry of Infrastructure and the Environment), and the integration of the water-related legal framework in 2009, with eight water laws combined into the National Water Act.

The last episode of major floods in 1953 triggered responses that relied on large structural solutions and construction projects (the Delta Works) based on a traditional engineering and “defensive” approach to water management. More recently, a new paradigm has emerged to make “room for the river”, combining innovative architecture, urbanisation and landscape solutions to build *with* nature and live *with* water.

This new adaptive perspective (“the Delta Works of the future”), along with rising concerns about the consequences of climate change for water safety and freshwater supply motivated the adoption of the Delta Act in 2012. The Act established the Delta Programme, the Delta Commissioner and the Delta Fund to advance an adaptive governance approach to respond to the country’s current and future challenges on water safety and freshwater supply.

Institutional layers of water management in the Netherlands



Persistent and emerging challenges call for adjustments

The Netherlands is acknowledged as a global reference for water management in terms of ensuring protection from floods and ensuring freshwater supply. Regional water authorities and the National Water Authority have played a critical role in keeping Dutch feet dry. Dutch water governance and financing have unique characteristics (including functional decentralised democracies, a specific taxation regime, cost recovery) and provide a robust basis for several functions of water resources management, such as water supply, wastewater collection, protection against floods. The Netherlands has also received wide acknowledgement for the innovative implementation of concepts of integrated water resources management and river basin management, the governance of the Delta Programme (which includes the commitment of regional governments), and the high performance of drinking water supply with respect to quality, reliability and price. However, excellence should not lead to complacency. Some challenges need to be addressed for Dutch water governance to be “fit for the future”.

SOME CHALLENGES UNDERMINE THE PERFORMANCE AND SUSTAINABILITY OF WATER MANAGEMENT TODAY AND IN THE FUTURE

There is a striking “awareness gap” among Dutch citizens related to key water management functions, how they are performed and by whom. Similarly, the perception of water risks is low. Many people are not aware of the basics about evacuation policy, the origin of the water they drink or whether their property is built on a flood plain. This awareness gap is largely a result of a high level of trust in government and the successful avoidance of major flood disasters since 1953. But the “awareness gap” raises challenging questions for policy makers: how to increase

the awareness of the risks, to influence decisions of property owners, businesses and municipalities about exposure and vulnerability to risk, and thereby reduce the expected cost of damages in a flood event? How to make the public more aware of what is needed to keep the country dry and habitable, and to secure willingness to pay for flood safety?

Water governance relies on a system of many checks and balances, which present some limitations. In the Netherlands, checks and balances include, among many other tools, decentralised assemblies of water authorities, oversight of provinces, and voluntary or mandatory benchmarking. But if benchmarking can help assess if an investment was managed in an effective way, it does not help to assess whether that investment was required in the first place. Similarly, while water supply companies, municipalities and regional water authorities are committed to improve efficiency, it is not clear how the efficiency gains reflect the actual potential or contribute to a specific policy objective. The up scaling of service providers in the last 50 years and the reduced number of players increase risks of information asymmetry and monopolistic behaviour.

Concerns about water quality and the resilience of freshwater ecosystems have recently gained increased attention, and continue to pose significant challenges. Despite improvements, they call for a change in water policies and governance.

Economic incentives to efficiently manage “too much”, “too little” and “too polluted” water could be strengthened. For instance, those who benefit from spatial development, such as municipalities and property developers, do not necessarily bear the additional costs that these developments impose on water management. As a consequence, ongoing

spatial development, at times in highly unfavourable locations from a water management perspective, increases exposure to flood risk and leads to the escalation of costs for water management, today and in the future. There is also an absence of incentives for the majority of water users to proactively manage the risk of shortage. Finally, while there are numerous technical measures in place to reduce sources of pollution, the economic incentives to do so are generally weak.

Current financing arrangements raise issues related to the allocation of costs between different categories of stakeholders, both today and for future generations. Often, those who create liabilities (e.g. polluting freshwater by non-point sources) do not bear the associated costs (additional costs for treating polluted water for subsequent use). The distribution of the costs and benefits of spatial development also perpetuates the “snowball” effect, driving up the long-term cost of water management.

Once spatial development has taken place, path dependency restricts the available risk management options, as alternatives to risk prevention become increasingly less feasible, either economically or politically. In addition, it is not clear how cost recovery mechanisms for water supply, wastewater collection and treatment affect different socio-economic classes and different groups of stakeholders (e.g. large and small families), or encourage efficient water use. In particular, the fact that regional water authorities are functional democracies (democratic representation in governing bodies) with taxation powers and earmarked revenues derives from their initial focus on flood defence; such a governance and financing system is less appropriate for the delivery of wastewater services, for example. This is particularly relevant, since expenditure related to water quality (mainly wastewater treatment) and water system management each account for about 50% of the RWAs budget.

Distribution of total expenditures for water management across institutions and functions 2012 (EUR millions)

	Water quality	Flood risk management	Water quantity management/ water systems management	Water management-related tasks/ distributed across functions	Not specifically allocated/ for other tasks	Total
Ministry of Infrastructure and the Environment	273 ¹	650 ³	50 ¹	X	37	1 010
Provinces	x	20 ³	64 ³	52	x	136
Regional water authorities ²	1 467	270	992	X	62	2 790
Municipalities	1 360 ³	x	X	X	x	1 360
Drinking water companies	1 370 ³	x	x	X	x	1 370
Total	4 470	940	1 106	52	99	6 670

Notes: x: not applicable. For the Ministry of Infrastructure and the Environment and the provinces, costs associated with the management of water barriers is categorised here under flood risk management. For the regional water authorities, costs associated with wastewater treatment are included in the category water quality.

Sources: Based on: (1) Kokshoorn, personal communication, 27 May 2013. (2) The breakdown of regional water authorities' expenditure between the different tasks is based on a detailed estimation of the different cost components that form the total costs of these tasks (Dekking, Association of Regional Water Authorities, personal communication, 8 July 2013). (3) Ministry of Infrastructure and the Environment (2013).

FOUR MAJOR TRENDS GENERATE UNCERTAINTY ABOUT THE FUTURE OF WATER MANAGEMENT IN THE NETHERLANDS

Climate change. The projected impacts of climate change are well documented in the Netherlands. They are expected to affect flood risk (standards for flood protection are being revised under the Delta Programme), water scarcity (the current allocation regime is not well-equipped to deal with more frequent and severe water shortage), urban drainage (which will have to adapt to heavier rains). Regions will differ in the way they are affected and in their capacity to respond.

Regional disparities. Although regional disparities (in terms of GDP levels, growth rates and unemployment) are currently low in the Netherlands, they are expected to grow, driven by demographics and economic trends. For instance, 500 000 new houses are expected to be built in the Randstad by 2040, while populations in other parts of the country are expected to shrink. This trend has consequences for flood safety standards (which could rise in developing regions and be lowered in regions with shrinking populations) and on the capacity of different regions to finance the infrastructure they need (especially in shrinking regions).

Socio-political trends, including European policies. As exemplified by the Water Framework Directive (WFD) and other EU regulations (floods, nitrates, etc.), European policies put more emphasis on water quality and ecosystems, the reduction of encroachments on rivers and the environment, and inclusive water governance. The Netherlands has displayed a relatively low level of ambition *vis-à-vis* the WFD, claiming that most of its waters are artificial systems and that restoration could only be limited. Further, the distinctively high share of water bodies subject to exemptions in the first river basin management plans and the slow pace of

implementation of measures have been the source of concern for the European Commission.

Innovation, technical and non-technical. Innovation in the Netherlands has contributed to water security and a robust water industry. It has also generated a certain degree of path dependency based on conventional infrastructure approaches, as these cannot readily adapt to shifting conditions. For instance, in shrinking regions, some dikes might still have to be operated and maintained, even though they have become oversized in relation to the new safety standards. More recently, Dutch authorities have explored less capital-intensive green infrastructure options (such as wetlands) and spatial planning to deal with flood risks while minimising path dependency.

THERE IS A MOMENTUM FOR A RENEWED FOCUS ON DUTCH WATER POLICY

The current political context is sensitive in the Netherlands. Historically, administrative simplification and territorial reforms have been adopted to reduce complexity in public administration as well as in different sectors (water, health, security). This was done by contracting the government, decentralising tasks, and merging municipalities and other local and regional governments. In the current context of sluggish recovery from the economic crisis, further provincial mergers are foreseen in the entire country with a first step involving North Holland, Utrecht and Flevoland, not without resistance. This could have an impact on the water sector as these new entities could possibly take over some of the current functions of the (24) regional water authorities.

The size of municipalities has also long been debated, which has implications for the water sector given their role in urban water management and sewage collection. The number of municipalities has been reduced by

more than half following several mergers and reorganisations in the last six decades.

Willingness to cut public expenditure has implications for the organisation of the sector, with a search for efficiency gains across the water chain through improved co-ordination and partial reallocation of roles and responsibilities across public authorities and levels of government. The 2011 Administrative Agreement on Water Affairs sets joint objectives for cost reduction, and improved efficiency and transparency in the water sector.

The recent paradigm towards adaptive water management, which began with the Programme “Room for the Rivers” and

culminated with the recent adoption of the Delta Programme, has put thinking about the future and long-term sustainability at the heart of Dutch water policy. It is actively looking for flexible strategies to cope with future challenges related to water safety and freshwater supplies. This requires an integrated approach to allocating tasks and responsibilities across public authorities and the water chain, and reduces the risk of over- or under-investment. Cross-sectoral integration between spatial planning, nature conservation and water policy at the national level is being contemplated in the Environmental Planning Act, which is under preparation and planned to come into force by 2018.

Efficiency gains in the 2011 Administrative Agreement on Water Affairs

The Agreement is a step in the right direction to strengthen multi-level coordination in Dutch water governance. The agreement foresees total savings of EUR 750 million annually by 2020, broken down as follows:

- EUR 450 million of savings in the production of drinking water, sewage and wastewater purification. Regional water authorities and municipalities are responsible for EUR 380 million and drinking water companies for EUR 70 million.
- EUR 300 million of savings in the management of dykes, surface water and the provision of freshwater by the central government, provinces, regional water authorities and municipalities.

Of these total efficiency gains, EUR 200 million should essentially be used to reduce central government expenditures on water safety:

- The transfer of muskrat and coypus control from the provinces to the regional water authorities: EUR 19 million (from 2011).
- The partial decentralisation of the financing of construction and improvement of the primary flood defences from the central government to the regional water authorities: EUR 81 million annually (in the period 2011-13); EUR 131 million (in 2014). From 2015, the regional water authorities will then contribute EUR 181 million to the construction of the primary defences, which represents 50% of the total annual costs.

The other efficiency gains of EUR 550 million will structurally benefit the water system and the water chain in the form of increased investment and better quality of service through more effective co-operation across the water chain.

Source: Rijksoverheid (2011), 2011 Administrative Agreement on Water Affairs, *Bestuursakkoord Water*.

Key Policy Recommendations

New policies are required, which call for adjustments of water governance and financing

The following recommendations can help to shape an agenda for future Dutch water policies. They call for new approaches in terms of policy, investment, infrastructure and governance and need to be accompanied by the reform of policies which affect water demand and availability, such as land use and urban planning, or policies that contribute to non-point sources of pollution.

STRENGTHEN INDEPENDENT ACCOUNTABILITY MECHANISMS FOR MORE TRANSPARENT INFORMATION AND PERFORMANCE MONITORING

A **range of options** can be considered to bridge multi-level governance gaps towards greater cost efficiency and financial performance, accountability and stakeholders' awareness.

- Ensure that decisions with significant infrastructural and economic consequences are shielded from short-term political considerations and vested interests. Such **independent oversight**, at an arm's length from water institutions, can address the current absence of a third-party mechanism. It could be organised in different ways (e.g. national observatory or committee, a regulator, etc.). It could focus on opportunity costs of major investments, assess the financial performance in a transparent fashion and ensure that data produced is guiding policy and operational decisions.
- Facilitate **stakeholders' access to independent information on water costs, risks and performance**. Shedding

light and greater transparency on the allocation of costs can help bridge the awareness gap, improve accountability and bring higher visibility (to end users) on performance. This can take different forms, including strengthened prerogatives for the legislator, independent monitoring and evaluation (at an arm's length from water institutions) beyond existing self-assessment. Non-governmental organisations (NGOs) and academia could contribute, which can help to reflect the interests of the "unheard voices" (such as the environment).

- Provide and oversee a **harmonised accounting** of expenditure across water management functions in order to improve transparency in **tracking water management expenditures and cost recovery**. An independent review, commissioned by and reporting to ministers, could help shed light on relative and absolute efficiency, accountability and oversight for the full breadth of water services.

STRENGTHEN THE ECONOMIC INCENTIVES FOR MANAGING RISKS EFFICIENTLY AND EQUITABLY

The allocation of costs (among households, farmers, industries and government authorities) can be made more transparent and subjected to informed public debate. Specific measures can help ensure that those who generate liabilities with regards to water management also bear the costs.

- Abstraction **charges** could be put in place to provide incentives for more efficient water use; their impact on the competitiveness of businesses would be monitored. While there is currently an abstraction licensing system for large abstractions, it is not clear that they are monitored or that sanctions for non-compliance are consistently applied. Putting in place a robust **water allocation regime** that allows for consistently controlling and monitoring abstractions would be a basic step towards managing the risk of shortage more effectively. A bolder option would be to establish water-sharing arrangements in areas vulnerable to shortage.
- A **comprehensive study of the economic costs of water pollution** would contribute to policy coherence between water, agriculture and nature. It would inform targeted and tailored approaches to reducing emissions, which would take into account the opportunity costs of reducing pollution in specific regions. **Economic instruments** such as water quality trading and pollution taxes could improve the cost-effectiveness of measures to address non-point source pollution.
- The current development of the Environmental Planning Act provides an opportunity to put renewed **emphasis on freshwater ecosystems** and ensure a

better balance among various water policy objectives. Recent efforts to re-naturalise waterways, make room for the river and consider the multi-functionality of water management infrastructures that can improve environmental benefits are steps in the right direction. **Valuation of ecosystem services** should be thoroughly considered in planning decisions.

STRENGTHEN COHERENCE BETWEEN WATER, LAND USE AND SPATIAL PLANNING, BUILDING ON THE WINDOW OF OPPORTUNITIES OFFERED BY THE DEVELOPMENT OF THE ENVIRONMENTAL PLANNING ACT

As an instrument to assess the impact of spatial development on water management, the **“Water Assessment”** could be made more effective (e.g. binding) in influencing the spatial planning process and decision making.

The current agreements regarding the **financing of mitigation measures** for new developments set out in the Administrative Agreement on Water Affairs and the instruments provided for in the Land Development Act should be evaluated to see how they work in practice.

In addition, a **stronger role in spatial planning for provinces** is advocated, to enhance complementarity with water management and ensure alignment with overall policies.

Examples of water policy instruments to address water risks

	Regulatory	Economic	Information-based
Risk of water shortage (including drought)	<ul style="list-style-type: none"> – Restriction on water use (e.g. hosepipe ban) – Administrative allocation of water – Abstraction limits 	<ul style="list-style-type: none"> – Water pricing – Water trading (e.g. water markets, water banks, dry year options) – Payments for ecosystem services (PES) – Microfinance schemes (e.g. to invest in rainwater tanks) 	<ul style="list-style-type: none"> – Information and awareness campaigns to promote water saving – Drought warning and information
Risk of inadequate quality	<ul style="list-style-type: none"> – Water quality standards – Pollution discharge permits 	<ul style="list-style-type: none"> – Pollution taxes, charges – Tradable pollution permits – PES 	<ul style="list-style-type: none"> – Information and awareness campaigns – Technical assistance for improved farming techniques (to minimise negative impacts on water)
Risk of excess (including flood)	<ul style="list-style-type: none"> – Land-use planning, zoning restrictions – Building codes, standards 	<ul style="list-style-type: none"> – Flood insurance – Public private partnerships (e.g. for flood defence structures) – PES 	<ul style="list-style-type: none"> – Flood risk maps – Early warning systems
Risk to the resilience of freshwater systems	<ul style="list-style-type: none"> – Minimum environmental flows 	<ul style="list-style-type: none"> – “Buy backs” of water entitlements from the water to ensure adequate environmental flows 	<ul style="list-style-type: none"> – Promoting awareness of the value of freshwater ecosystem services

Source: OECD (2013), *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters*, OECD Studies on Water, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264200449-en>.

ORGANISE THE WASTEWATER CHAIN IN A COHERENT WAY, CONSIDERING ISSUES OF SCOPE AND SCALE

Two sets of issues should be addressed on the basis that **form follows both function and territorial specificities**.

- The potential advantage of municipalities in the delivery of **urban drainage** only materialises when this function is well co-ordinated with **urban planning** on the one hand and with management of the **sewage system** on the other. The current monitoring of the 2011 Administrative Agreement of Water Affairs by the Water Chain Visitation Commission provides a unique opportunity to report on the

performance targets and efficiency gains achieved, and **make sure opportunities in both areas are fully exploited**, especially as huge investments are foreseen in the coming decades to replace current sewage infrastructure.

- As mentioned previously, the governance and financing model of regional water authorities is adequate to manage floods risks. It is less so to invest in and operate **wastewater treatment services**. Regional water authorities can retain the wastewater treatment function, if it is managed and financed in a distinctive way, more in line with the needs for such services.

CONSIDER THREE PRINCIPLES WHEN ADJUSTING THE ORGANISATION OF WATER MANAGEMENT FUNCTIONS.

- The **voluntary and bottom-up approach** for adjusting the scale at which regional water authorities operate should prevail, to allow for **regional differentiation**, when appropriate. Potential reallocation of tasks and responsibilities in the future, if needed (e.g. wastewater collection, groundwater management), should be pilot-tested in selected areas before nationwide implementation. The **river basin concept**, **cost recovery** and the principles of **integrated water resources management** should, in any case, be respected.
- Ongoing decentralisation of nature policies could pave the way for **better integration of water functions with nature management and biodiversity** through co-operation platforms, joint agreements and other soft solutions. Conversely, it could compromise sectoral objectives where there is significant policy discretion and where short-term economic considerations prevail.
- Decisions to reorganise should rely on a **robust assessment of the progress achieved in the past towards efficiency gains across authorities and the water chain**. The monitoring of the 2011 Administrative Agreement on Water Affairs provides an opportunity to determine whether co-ordination efforts and voluntary approaches help reap economies of scale and scope.

SHORE UP THE FINANCING SYSTEM TO ENSURE LONG-TERM FINANCIAL SUSTAINABILITY

Although the current financing system has a number of strengths, including full-cost recovery for most water services, the OECD framework for financing water resources management can provide guidance to strengthen it:

- First, those who pollute and those who benefit from water services should pay accordingly. This can harness new sources of finance (e.g. property developers) and reduce the burden on public finance. Despite the challenges, the **polluter pays principle** could be more fully applied to cover non-point sources of pollution, in particular from agriculture. Economic instruments, such as abstraction charges or taxes, could be used in accordance with the **beneficiary pays principle**. Since the cancellation of the central government's **groundwater tax**, drinking water companies (along with beverage companies) pay a provincial tax, that covers the cost of groundwater management, but not entirely calculate the environmental or opportunity costs related to the use of that resource.
- Second, **equity** is often invoked to address affordability or competitiveness issues, when water bills are disproportionate with users' capacity to pay. In the Netherlands, fairness in the allocation of costs could be enhanced in two ways: *i)* those that generate costs for the community should bear them; and *ii)* the distributional consequences of water policies should be assessed thoroughly.

- **Coherence** between policies that influence water availability, water quality and flood risk (e.g. agriculture, spatial development) should be strengthened (e.g. see the problem of misaligned incentives noted above).
- Finally, it is not clear how the rise of **regional disparities will affect the financial sustainability** of water management in the long run. If shrinking regions do not have the resources to finance water security in their territory, cross-regional transfers may need to be considered in the future.

GIVE ROOM FOR NON-TECHNICAL INNOVATION, IN PARTICULAR IN URBAN WATER MANAGEMENT

Two issues deserve careful attention:

- On the one hand, the Dutch industry is very good at developing new technologies to address water risks and

to make the best use of water resources (including treated wastewater). But it is not clear how this inventive capacity is backed by an institutional framework (e.g. public procurement rules, water allocation regimes) that facilitates the diffusion and deployment of innovation. **Institutional and regulatory** frameworks could be reviewed to assess how they are conducive to the adoption of innovative approaches.

- On the other hand, non-technical innovation (e.g. making room for rivers, business models for water companies) could be more systematically considered. For instance, there are **opportunities to increase resilience in urban environments without structural works** by fixing limits on rainwater discharge. This may create opportunities for new industries, coming from outside the water box (e.g. architects, urban planners, property developers, construction companies). Again, institutional and regulatory frameworks could be assessed with this aim in view.

Further reading



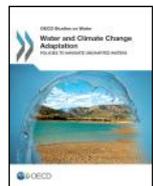
OECD (2014), *Water Governance in the Netherlands: Fit for the Future?*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264102637-en



OECD (2013), *Making Water Reform Happen in Mexico*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264187894-en



OECD (2013), *Water Security for Better Lives*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264202405-en



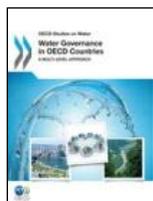
OECD (2013), *Water and Climate Change Adaptation: Policies to Navigate Uncharted Waters*, OECD Studies on Water, OECD Publishing, Paris,
doi: 10.1787/9789264200449-en.



OECD (2012), *Water Governance in Latin America and the Caribbean: A Multi-level Approach*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264174542-en.



OECD (2012c), *Meeting the Water Reform Challenge*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264170001-en.



OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Studies on Water, OECD Publishing.
doi: 10.1787/9789264119284-en.