Water Governance Centre

# Building blocks for good water governance

Herman Havekes, Maarten Hofstra, Andrea van der Kerk, Bart Teeuwen, Robert van Cleef and Kevin Oosterloo

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SUN-LIGHT 30

# FOREWORD

In many documents, the current water crisis, in which almost half of the world's population has no or insufficient access to clean water and sanitation, and flooding and drought appear to be an everyday occurrence, is referred to as a governance crisis. That's why good water governance is a prerequisite to improve water management all over the world. Fortunately, the notion of the importance of good water governance has strongly grown during the last years. The Organisation for Economic Co-operation and Development (OECD) in Paris, in a number of studies, has recently underlined the necessity for good water governance, and formulated even a series of specific principles in this field.

But what exactly is good water governance? At the end of 2011, the Dutch Water Governance Centre (WGC) produced a brief memorandum in which five elementary building blocks for good water governance are listed. These are:

- a powerful administrative organization of water management;
- a legally embedded system of water law;
- an adequate financing system;
- a systematic (planning) approach;
- the participation of stakeholders.

Without these building blocks, there can be no good water governance.

In a series of projects, the WGC has been confronted the five past years with the importance of these building blocks. For this reason, four water governance experts, Herman Havekes, Maarten Hofstra, Andrea van der Kerk and Bart Teeuwen were asked to further elaborate on each of these building blocks. The first edition of this book was published end-2013. It was the tangible result of that request. Now we are some years further and wiser. Because of the fact the notion of good water governance has become almost (inter)national common sense, WGC will stop its activities by April 2016. On occasion of this fact it seemed a good idea to publish a second edition of the book with the latest insights. For some chapters new authors were found with Robert van Cleef and Kevin Oosterloo.

This book has the following structure. Chapter 1 considers the term water governance in a more general sense, while the three-layer model of water governance is introduced and explained. This model is an extremely useful tool for assessing water governance. Chapters 2 to 6 then represent a further elaboration of the five building blocks listed above.
Chapter 7 and 8 are totally new. Chapter 7 underlines the necessity of cooperation in water management and gives some valuable examples. Chapter 8 – as a case study - reviews the Awash River Basin in Ethiopia through the building blocks for good water governance. For each element, the Dutch situation is briefly described, not to serve as a blueprint for others, but merely to provide a clear point of departure. However, the Netherlands has a reputation to cherish on water governance.
Like OECD Secretary General Angel Gurria twittered some weeks ago: "Tell the Dutch what water governance is is like tell the Eskimos about ice…". The book contains also a number of examples from international water management practice. In that sense, it brings together theory and practice.

On behalf of the WGC, I wish you much reading pleasure. I sincerely hope that this book will make once again a valuable contribution to improving water governance in the world. After all, for all our sakes, it is essential that we do achieve improved water management.

*Corné Nijburg*
*Director WGC*

# 1 Water governance: a framework for better communication

Author: Maarten Hofstra

## INTRODUCTION

The term 'water governance' has been gaining popularity in the world of water management since the turn of the century. Along with the development (since the 1980s) of the conviction that integrated water management – or integrated water resources management (IWRM) – is a prerequisite for effective, efficient and sustainable water management, the opinion is growing that good water governance is essential in order to be successful in water management. Without good governance it will be difficult to achieve the desired results in the control of water pollution, the prevention of disastrous flooding, and the effective, efficient and well-balanced dealing with periods of water shortage.

In his contribution to the Panel of the UN Secretary General, in preparation for the Johannesburg Summit in 2002, HRH the Prince of Orange stated that 'the world water crisis is a crisis of governance – not one of scarcity'.[1] The second World Water Development Report' report (2006) used the same statement to highlight the central role of water governance. The report makes clear that many believe that water governance requires attention.

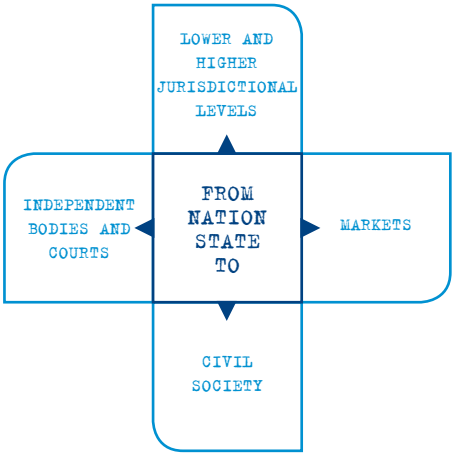
Less clear is what exactly 'water governance' is. How is it defined? What elements belong to it? How can it be used in practice? In this publication, I contribute to a better understanding of 'water governance' and offer a framework as a supporting instrument to compare the different definitions and descriptions of water governance.

In the following section, I show that the popularity (and use) of the word 'governance' has increased at the expense of the popularity of the word 'government' This more or less coincides with the decreasing attention to and attractiveness of the 'nation state'. After that, I discuss and compare various definitions of governance. Then I present a three-layer model of water governance. In the last section, I show the usefulness of this model in relation to other systematic approaches and make some concluding remarks.

[1] HRH Willem-Alexander, Prince of Orange (2002), *No Water, No Future: A Water Focus for Johannesburg.*

## GOVERNMENT AND GOVERNANCE

While searching the internet for an answer to the question 'What is water governance?', one of the websites I came across was the WATER GOVERNANCE BLOG, which was started by Dave Huitema of the Institute for Environmental Studies (IVM) of VU University Amsterdam and Sander Meijerink of the Institute for Management Research, Radboud University Nijmegen.[2] In their explanation they point out that in the 1990s, scholars seized on the term 'governance' to make better sense of the situation that had arisen in many countries since the 1980s, when 'big' government had retreated under the pressure of neoliberal reformers like Ronald Reagan and Margaret Thatcher. In essence, the power and authority of the nation state has been transferred to markets, civil society, independent bodies, the courts, and both higher and lower jurisdictional levels (based on Huitema, 2005).




The shift from government to governance is illustrated by this diagram, which shows the transfer of power and authority from the nation state towards:

- lower and higher jurisdictional levels (de-concentration, decentralization, devolution, Europeanization, globalization);
- Markets (privatizations, quasi markets, contracting out, public–private partnerships);
- Civil society (networks, self-governance, participation);
- Independent bodies (agentification) and courts (juridicialization).

This trend was also observed by Professor Balkenende in his inaugural speech[3] on 24 March 2011, when he accepted the chair on Governance, Institutions and Internationalization at Erasmus University Rotterdam. Balkenende stated that traditional organizational paradigms (ordeningsparadigma's) have become out-dated and that the current situation is somewhat ambiguous. He pointed at the end of the concept of nation state. Power is becoming more and more fragmented, and less exclusively the domain of governments: 'Authorities continue to exercise tasks, but they do so much more in dialogue with others.' Those 'others' can be new economies, multinationals, NGOs and religious groups.

[2] http://www.watergovernance.eu/what-is-water-governance/ - visited Nov. 2012

[3] Prof. Jan Peter Balkenende, *Over governance en maatschappelijke verantwoordelijkheid: hoe verder?* ('On governance and societal responsibility: how to proceed?'), Erasmus University Rotterdam, 24 March 2011.

That 'governance' is gaining attention at the expense of 'government' is also evidenced by Google's Ngram Viewer, which gives an indication of the frequency of the use of terms, based on 5.2 million books digitalized by Google. The graphs that can be made this way confirm the tendency described above. The data show that the use of 'government' gradually decreased between 1970 and 2008. Looking at 'governance' in the same way shows that here the situation is the other way around: the word is being used increasingly often and its popularity has grown especially since 1990.

Governance
What attracts scientists to the term 'governance' is its ability to 'cover the whole range of institutions and relationships involved in the process of governing'
Pierre and Peters 2000

## DEFINING 'WATER GOVERNANCE'

In June 2009, international experts were invited to a special workshop held in Singapore, in order to address the issue of water governance.[4]

The following is an excerpt from the summarizing paper:

*Governance has been used mostly as an umbrella concept and no agreed definition exists. Governance is not synonymous with government. It is instead a complex process that considers multi-level participation beyond the state, where decision making includes not only public institutions, but also the private sector, civil society and society in general. Good governance frameworks refer to new processes and methods of governing and changed conditions of ordered rule on which the actions and inactions of all parties concerned are transparent and accountable. It embraces the relationships between governments and societies, including laws, regulations, institutions, and formal and informal interactions which affect the ways in which governance systems function, stressing the importance of involving more voices, responsibilities, transparency and accountability of formal and informal organizations associated in any process.*

Let's look at the words that are used here: multi-level participation – public institutions – private sector – civil society – transparency – accountability – relationships between – laws – regulations – interactions – organizations – process.

That seems quite complex.

A factor that makes it even more complex is that we all may mean different things when we use words like this.

One of the difficult, but also challenging aspects of defining something is that we have to do it in a way, or a form, that enables communication. We mostly use language for this. One problem of using language, however, is that we sometimes

[4] Cecilia Tortajada (2010): *Water Governance Some Critical Issues,* International Journal of Water Resources Development, 26:2, pp. 297-307.

need many words to make something clear or to describe something. According to some, this can be considered almost impossible. Ludwig Wittgenstein is often quoted on this. The last of the theorems he gives in his *Tractatus Logico-Philosophicus*[5] is *'Wovon man nicht sprechen kann, darüber muß man schweigen'* (Whereof one cannot speak, thereof one must be silent).

Wittgenstein didn't mean that we should not use language, but that we should use it in such a way that we understand what is going on, based on the described facts that represent the truth, and that language is unable to express something that is not 'in the world', for instance ethics. Wittgenstein writes in the preface to his book: 'What can be said at all can be said clearly; and whereof one cannot speak thereof one must be silent.'

Let's look at some of the definitions of governance that have been given by various people and organizations.

In his *Governing as Governance* (2003),[6] Jan Kooiman describes what he calls a working definition of 'social-political' or 'interactive' governing and governance, or simply governing and governance, as follows:

Governing can be considered as the totality of interactions, of which public as well as private actors participate, aimed at solving societal problems, or creating societal opportunities; attending to the institutions as contexts for these governing interactions; and establishing a normative foundation for all those activities.

And:

Governance can be seen as the totality of theoretical conceptions on governing. In fact we see three levels in this definition of governing/governance:

- the level or layer of the problems to be solved or the opportunities to create,
- the level or layer of the institutions,
- the level or layer of the normative foundation.

I will return to this later on. Let's first look at some other definitions that are often quoted.

**Global Water Partnership (2002):**
Water governance can be described as a range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society.

**Rogers and Hall (2003):**
Governance aspects overlap with the technical and economic aspects of water, but governance points us to the political and administrative elements of solving a problem or exploiting an opportunity.

These are just a few of the many definitions that have been given.

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[5] Ludwig Wittgenstein (1918), *Tractatus logico-philosophicus,* Wien.

[6] Jan Kooiman (2003), *Governing as Governance*, London, Sage Publication Limited.

In their article 'Putting the cart before the horse: Water governance and IWRM',[7] Lautze and colleagues present selected definitions of governance. These are given in the following table.

**Graham et al. (2003)**

.. Governance is a process whereby societies or organizations make their important decisions, determine whom they involve in the process and how they render account. Since a process is hard to observe, students of governance tend to focus our attention on the governance system or framework upon which the process rests – that is, the agreements, procedures, conventions or policies that define who gets power, how decisions are taken and how accountability is rendered.

**International Institute of Administrative Sciences (1996)**

The process whereby elements in society wield power, authority and influence, and enact policies and decisions concerning public life, and economic and social development.

**Kaufmann et al. (2005)**

The traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.

**Institute of Governance Studies (2008)**

The concept of governance is ... the sum total of the institutions and processes by which society orders and conducts its collective or common affairs.

**UNESCAP (2009)**

The process of decision-making and the process by which decisions are implemented (or not implemented).

**UNDP (1997)**

The exercise of political, economic and administrative authority to manage a nation's affairs. It is the complex mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and obligations, and mediate their differences.

**ADB Institute (2005)**

Summary of existing literature on governance includes: the processes by which governments are chosen, monitored, and changed; the systems of interaction between the administration, the legislature, and the judiciary; the ability of government to create and to

[7] Lautze, J., de Silva, S., Giordano, M. and Sanford, L. (2011), *Putting the cart before the horse: Water governance and IWRM*, Natural Resources Forum, 35: 1-8.

implement public policy; and the mechanisms by which citizens and groups define their interests and interact with institutions of authority and with each other.

**Miller and Ziegler (2006)**

The manner in which power is exercised through a country's economic, political, and social institutions.

And of course a definition used by the Water Governance Centre should be mentioned:

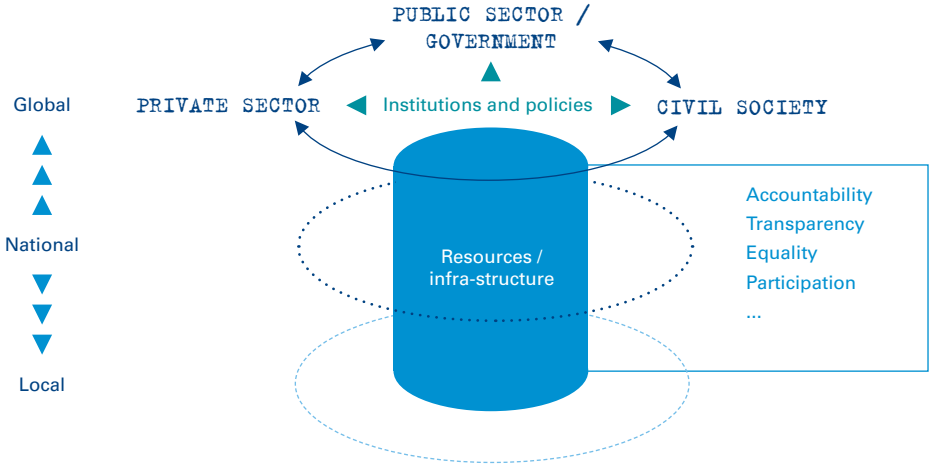
*'Water governance refers to the way the management of flood risk and water resources, fresh water supply and waste water treatment are organized, and the interaction between the organizations responsible for the related political, administrative, social, legal and financial elements.*
*Many organizations are involved in water issues, all on their own competences and disciplines. Together they make sure that clean and fresh water supply is guaranteed in countries such as the Netherlands, while flood risk is reduced to a minimum.'*

In short: Water governance is all you need to give water its place in society.

There are other forms of communication that may be used, like this graphical display.[8]

Nevertheless the use of language for explanation is still indispensable.

**WATER GOVERNANCE**

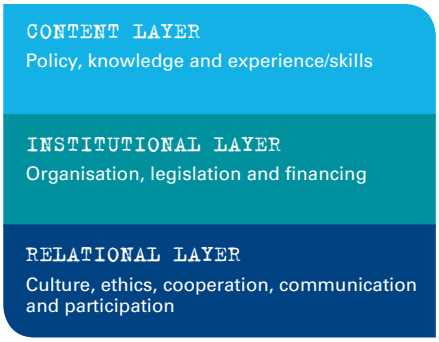



[8] Wehn de Montalvo, U. *Citizen participation in water governance through knowledge sharing and feedback*, paper presented at the European Commission Citizen Observatories Coordination Workshop, Brussels, 29–30 January 2013.

## A THREE-LAYER MODEL OF WATER GOVERNANCE AS A FRAMEWORK

To be able to communicate clearly about the important aspects of water governance, it seems useful to look more closely at the basic elements. The 'three-layer model of water governance' can be used for this. The core element of this approach is that good water management comprises three layers:

a content layer, an institutional layer and a relational layer.




A content layer: in addition to knowledge of the water systems and the nature of the problems, a good information position and the experience and skills required to solve the problems are also essential.

However, in most cases this is not enough to achieve a good water status. An adequate organizational framework together with the necessary legal instruments and a good financing structure are fundamental requirements for successful integrated water resources management (the institutional layer).

In addition, in order to successfully solve persistent water problems, attention to what is called the relational layer is required. Important elements of this layer are communication and cooperation between different actors and with the public, stakeholder participation, transparency and trust. Water governance focuses most explicitly on the institutional and relational layer, without neglecting the importance of and relations with the content layer.

## THE THREE-LAYER MODEL IN RELATION TO OTHER APPROACHES

The three-layer model is intended not merely to add yet another definition of water governance to the existing ones, but to create a framework that can be used to compare the different approaches and be employed as a checklist.

### The OECD

A different way of analysing and assessing water governance is used by the OECD in the report 'Water Governance in OECD Countries: A Multi-level Approach'.[9]

Referring to definitions of water governance given by both the Global Water Partnership and the UN Development Programme, the OECD

[9] See OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Studies on Water, OECD Publishing.

report describes water governance as ' ... the set of systems that control decision-making with regard to water resources development and management. It is therefore more about the way in which decisions are made than about the decisions themselves. It covers the manner in which roles and responsibilities (design, regulation and implementation) are exercised in the management of water and broadly encompasses the formal and informal institutions by which authority is exercised.'

The OECD Multi-level Governance Framework is organized around seven 'gaps'. These gaps can be seen as points of attention that must or may be considered:

administrative gap, information gap, policy gap, capacity gap, funding gap, objective gap and accountability gap (see also paragraph 2.4). Arranging them according to the three layers gives the scheme as shown here.

| THREE LAYER MODEL | OECD GAP ANALYSIS |
|---|---|
| CONTENT LAYER | Policy<br>Capacity<br>Information |
| INSTITUTIONAL LAYER | Administration<br>Funding |
| RELATIONAL LAYER | Objective (motivational)<br>Accountability |

## THE WATER GOVERNANCE CENTRE BUILDING BLOCKS AND THE ACADEMIC PANEL ASSESSMENT METHOD

The same can be done with the five building blocks described in 'Building blocks for good governance' by the Water Governance Centre (WGC)[10] and the assessment method developed by the academic panel of the WGC. The elements distinguished as building blocks are administrative organization, water law, financing system (and economic analysis), systematic planning approach and stakeholder participation.

The assessment method of the academic panel focuses on juridical quality, knowledge quality, economic quality, institutional quality, and acting & interacting capacities.

The following table shows the different approaches brought together in the three-layer model. As can be seen, there are quite some similarities between the approaches, but also some differences: legal instruments are not within the scope of the OECD, while information is not mentioned separately in the WGC methods.

[10] http://www.watergovernancecentre.nl/Publikaties/

| | THREE LAYER MODEL | OECD GAP ANALYSIS | WGC ACADEMIC PANEL METHOD | BUILDING BLOCKS WGC |
|---|---|---|---|---|
| CONTENT LAYER | **Clear policy**<br>**Knowledge and skills**<br>**Information** | Policy<br>Capacity<br>Information | Knowledge quality | |
| INSTITUTIONAL LAYER | **Organization**<br>**Legislation**<br>**Financing** | Administration<br>Funding | Institutional quality<br>Juridical quality<br>Economic quality | Administrative Organization<br>Water law Planning<br>Financing system |
| RELATIONAL LAYER | **Culture and ethics**<br>**Communication and cooperation**<br>**Participation** | Objectives (motivational)<br>Accountability | Acting and interacting capacities | Stakeholder participation |

## THE THREE LAYER MODEL AND THE 12 OECD PRINCIPLES ON WATER GOVERNANCE

In 2015, in the context of their Water Governance Initiative the OECD has formulated a dozen principles on water governance. The principles were endorsed by a large number of public, private and non-profit organisations at the 7th World Water Forum in April 2015 in South Korea. They were also welcomed by the OECD Council at Ministerial level in June 2015 and will be included in a Recommendation of the Council on Water in 2016.

The OECD Principles on Water Governance[11] intend to contribute to tangible and outcome-oriented public policies, based on three mutually reinforcing and complementary dimensions of water governance:

**Effectiveness** relates to the contribution of governance to define clear sustainable water policy goals and targets at all levels of government, to implement those policy goals, and to meet expected targets.

[11] http://www.oecd.org/gov/regional-policy/OECD-Principles-on-Water-Governance-brochure.pdf

**Efficiency** relates to the contribution of governance to maximise the benefits of sustainable water management and welfare at the least cost to society.

**Trust and Engagement** relate to the contribution of governance to building public confidence and ensuring inclusiveness of stakeholders through democratic legitimacy and fairness for society at large.

Each of these three dimensions in turn covers four underlying principles.

The dimension of **effectiveness** consists of the following four principles:

1. Clearly allocate and distinguish roles and responsibilities for water policy making, policy implementation, operational management and regulation, and foster co-ordination across these responsible authorities.

2. Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster co-ordination between the different scales.

3. Encourage policy coherence through effective cross-sectoral co-ordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use.

4. Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties.

Additional, with respect to the elements of the three-layer approach, is the attention requested in the second principle for the appropriate scale of the water management. An aspect that can be considered as part of the institutional layer.

The dimension of **efficiency** consists of the following four principles:

5. Produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.

6. Ensure that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent and timely manner.

7. Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.

8. Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.

The eighth principle - to promote innovative water governance practices - is not explicitly mentioned in the three-layer model. Innovation can concern both the

content and the institutions, including the communication (relational) which demands attention.

Finally the dimension of **trust and engagement** consists of the following four principles:

9 Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making.

10 Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.

11 Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

12 Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.

Most of these latter four principles reflect elements of the relational layer, although the eleventh principle of preventing of passing on (promoting fairness, equity) is a bit more explicitly elaborated.

## CONCLUSIONS

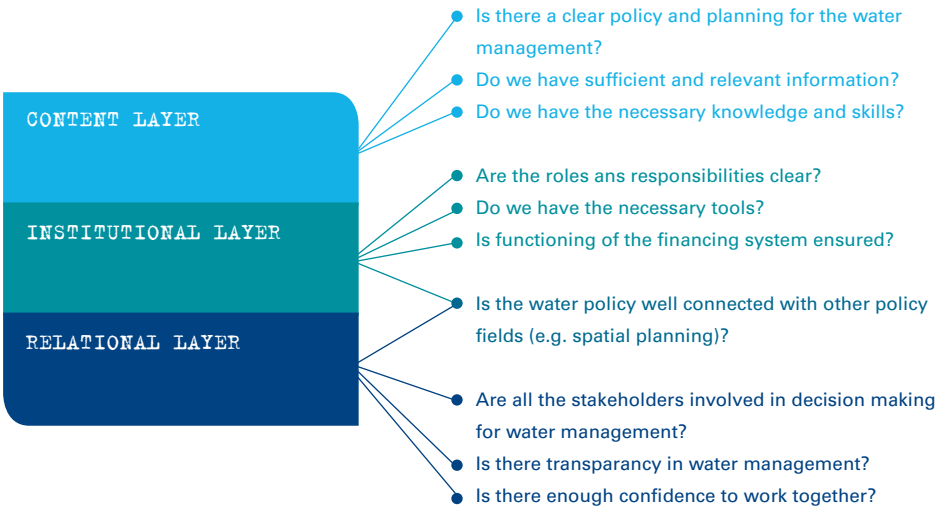
Each approach has its positive points as well as its points of discussion – as does the three-layer model. Nevertheless, the model can help to communicate about the essentials of water governance, and can also be of help when comparing the different approaches of water governance.

In the annex a short overview and summary of the three layer model is given together with a set of related questions. These related questions together with the questions "what do we have that works?", "what is missing?" and "how can water governance be improved?" can be used for a quick assessment as well as forming a basis for a more thorough analysis of shortcomings and possible solutions.

Although the OECD Principles are arranged in a different order, they do not deviate significantly from the elements of the three layer model of water governance.

In the following chapters, some important building blocks of the institutional layer and the relational layer are elaborated. We first look at the ORGANIZATION and the LEGISLATION, which are basic for any policy field to be able to work. Then, we pay attention to the instruments of PLANNING and FINANCING. Hereafter the various aspects of PARTICIPATION are explained. Thereafter the necessity for COOPERATION within and outside water management will be discussed. Finally, the building blocks will be tested for their relevance in Ethiopias Awash Basin.

## THREE LAYER MODEL OF WATER GOVERNANCE WITH RELATED QUESTIONS



| | WHAT DO WE HAVE THAT WORKS? | WHAT IS MISSING? | HOW CAN WATER GOVERNANCE BE IMPROVED? |
|---|---|---|---|
| Is there a clear policy and planning for the water management? | | | |
| Do we have sufficient and relevant information? | | | |
| Do we have the necessary knowledge and and skills? | | | |
| Are the roles and responsibilities clear? | | | |
| Do we have the necessary tools? | | | |
| Is functioning of the financing system ensured? | | | |
| Is the water policy well connected with other policy fields (e.g. spatial planning? | | | |
| Are all stakeholders involved in decision making for water management? | | | |
| Is there transparency in water management? | | | |
| Is there enough confidence to work together? | | | |

# 2 A powerful administrative organization of water management

Author: Herman Havekes

## 2.1 INTRODUCTION

This chapter focuses on the administrative organization of water management in respect of both the water system and the water chain (or water services). Effectively, the administrative organization of water management is not the same in any two places, and ranges from highly centralized to highly decentralized, from exclusively public through to a regime offering far more space for private parties and from all-encompassing administration through to separate functional water organizations. In itself, this situation is not necessarily problematic. After all, it does justice to the inherent differences that exist between countries in respect of their constitutional, political, social and cultural structures and principles. In that sense, therefore, it is not possible to provide a single blueprint. On the other hand, to ensure sound water management, it is essential that the administrative organization, irrespective of how it is structured, is sufficiently powerful.

In this chapter I discuss what is needed for a powerful administrative organization. Following a brief outline of the Dutch organization of water management in section 2.2, I provide a series of basic principles for a powerful administrative organization in section 2.3. Subsequently, in section 2.4, I identify the individual gaps that need to be filled on the basis of gaps identified in the past by the Organisation for Economic Co-operation and Development (OECD). Section 2.5 then deals with the importance of close cooperation between the various water managers on a national and international scale, thereby emphasizing their relevant administrative and social environment. In section 2.6, finally, I conclude by giving a number of specific requirements that should be imposed on the sound administrative organization of water management.

## 2.2 THE ADMINISTRATIVE ORGANIZATION OF WATER MANAGEMENT IN THE NETHERLANDS[1]

In the Netherlands, water management is undertaken at all levels of government: central government (Ministry of Infrastructure and the Environment), provinces, regional water authorities and municipalities – albeit that the 2009 Water Act allocates the tasks of 'water management' exclusively to central government and the regional water authorities. A role is also set aside for the drinking water companies. In real terms, the tasks are shared as follows.

On the one hand, central government is responsible for national water policy while on the other hand, via the agency of Rijkswaterstaat (RWS - the Directorate General for Public Works and Water Management), it is responsible for managing the hydrological main system consisting of the North Sea, the IJsselmeer lake, the Wadden Sea, the Eems-Dollard

[1] See H.F.M.W. van Rijswick and H.J.M. Havekes, *European and Dutch Water Law,* Europa Law Publishing, Groningen 2012, p. 151-158, and Water Governance. *The Dutch Water Authority Model,* fourth edition, Association of Regional Water Authorities, The Hague 2015, p. 14-29.

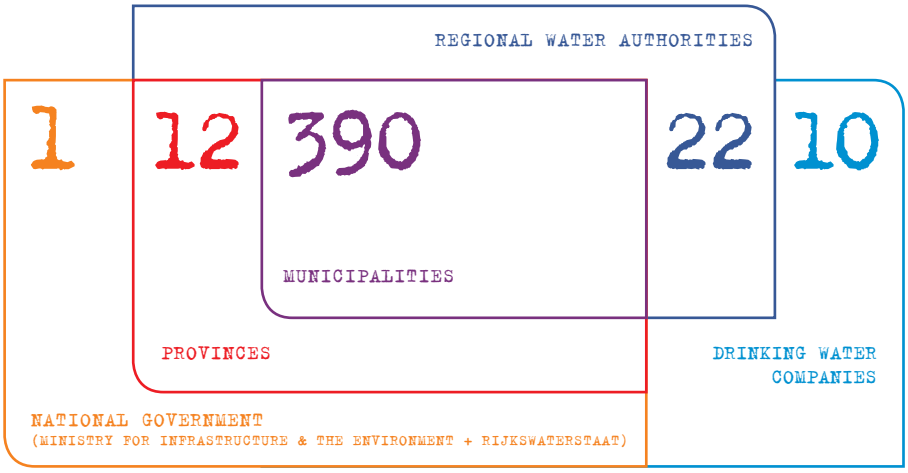
estuary, the Zeeland delta waters, the major rivers and a number of canals. Central government also bears responsibility for the coastline and is manager of three major flood defence structures (the Afsluitdijk and the Eastern Scheldt and Maeslant barriers). Central government also manages the main navigation channels.

The (12) provinces are responsible for regional water policy and the issuing of permits for three categories of big groundwater extraction (for drinking water, industrial extraction in excess of 150,000 $m^3$ per year and for so-called geothermal energy systems). Generally speaking they are also responsible for regional navigation channel management.

The (22) regional water authorities are responsible for water safety and manage the water quantity and water quality of all other waters, including groundwater and waste water treatment. In that connection, they manage more than 3,400 pumping stations, 230,000 km of drainage ditches and approximately 350 waste water treatment plants. They also manage approx. 3,450 km of primary flood defence structures and 14,000 km of secundary flood defence structures. The regional water authorities are also responsible for the control of muskrats and coypu. In certain cases, regional water authorities are also in charge of navigation channel management.

The (390) municipalities are responsible for managing sewerage systems. They also have legal duties of care for rainwater run-off and urban groundwater levels.

The (10) water supply companies, finally, are responsible for the public drinking water supply. With the exception of the Amsterdam Waternet, which is in the form of a foundation, these are private companies. However, the Drinking Water Act specifies that the shares of these companies must be in public hands, which effectively qualifies them as semi-public organizations.



This overview demonstrates that on the one hand the water organization in the Netherlands is entirely public while on the other hand, it is extremely decentralized. However, the private sector does play an important role in water management, for example in the construction and strengthening of dikes, the building of pumping stations and waste water treatment plants, the maintenance of waters and the replacement of sewerage systems. These are tasks not undertaken by government. The highly decentralized structure is partially a result of the historical perspective. The first regional water authorities date back to the second half of the thirteenth century, when there was not yet a State of the Netherlands. Decentralization of water management has some clear advantages: decrease of bureaucracy, increase of efficiency, distribution of administrative powers, better checks and balances, more control opportunities, use of local knowledge and close to the involved stakeholders, who are part of the decision-making process. For being fruitful and successful the Dutch experiences learn that decentralized authorities must have sufficient staff, skills and knowledge, a range of administrative powers (ordinances, permits, law enforcement), an adequate financial position (own tax income) and a strong relation with important stakeholders.

This overview at the same time reveals that in respect of the so-called water chain (drinking water supply – sewerage system – waste water treatment), the organization in the Netherlands deviates from that in many other countries where these tasks are often entrusted to a single administrative (often municipal) or private party. In the Netherlands, as already explained, these tasks are entrusted to the drinking water companies, the municipalities and the regional water authorities. Given the intrinsic ties between these tasks, in particular between the sewerage system and waste water treatment (the so-called waste water chain), this situation imposes severe demands on the coordination and cooperation between these parties. That coordination is laid down in law for the municipalities and regional water authorities, in section 3.8 of the Water Act.

In 2014 the OECD published its report on Dutch Water Governance.[2] The judgement was quite positive. Dutch water governance is qualified as a "global reference" and the "robust and adjustable institutional and policy framework" is appreciated. Nevertheless some elements, like the remarkable low awareness of Dutch people of the interest of proper water management and the relation between water management and spatial planning, could be improved.

[2] OECD (2014), *Water Governance in the Netherlands: Fit for the Future?*, OECD Studies on Water, OECD Publishing, Paris.

## 2.3 BASIC PRINCIPLES OF A POWERFUL ADMINISTRATIVE ORGANIZATION

We have observed above that the administrative organization of water management differs from place to place throughout the world, and that no specific blueprints can be provided. Nonetheless, a number of trends can be identified. Worldwide, one trend is emerging which is aimed at establishing organizations on the scale of entire river basins, the so-called River Basin Approach. A certain trend towards decentralization is also becoming apparent. Although central government does play an important role in water management in practically all countries and in Israel, Turkey, Japan and South Korea is effectively almost the only player, we are increasingly seeing responsibilities and authorities awarded to regional and local organizations, with a role even being set aside for local interest groups of farmers, businesses, fishermen and nature organizations. The (planned) Catchment Management Agencies in South Africa are an excellent example. Contrary to what is often assumed, therefore, the Dutch regional water authorities are certainly not the only example of regional and local water organizations of this kind. Finally, there is evidence that the trend towards privatization in water management as it started to emerge several years ago, has been brought to an end. Take for example the current discussions in France about the organization of water chain management, whereby certain (large) municipalities are considering the possibility of once again taking on these tasks, for themselves. Paris took such a decision some years ago. In other words, throughout the world, government has an important role to play in water management and in 85% of cases, the 'water service' or drinking water supply is in public hands. Given the existential importance of water management for the population and the relationship between water management and many other fields in which the government is active, this is a positive observation. It also does justice to the fact that water is not just another commodity, and as a consequence cannot be left in the hands of private parties. As already explained, however, there are plenty of opportunities for the 'market' in the actual execution of water management.

Although the organization of water management varies globally, a number of basic principles can still be identified for a powerful administrative organization of water management. Specifically, the following principles can be distinguished.

Firstly there must be absolute clarity on which organization is responsible for which water tasks. In this connection we should refer to article 3 of the European Water Framework Directive (WFD), which instructs the Member States to ensure 'the appropriate administrative arrangements, including the identification of the competent administrative authority'. This is effectively the starting point for everything. There must be absolute clarity on which organization is responsible for a particular water defence structure, the quality of a given water or the supply of drinking water. Only then will any citizen or farmer who is dissatisfied with a particular water situation know whom

he can call to account. In the Dutch Water Regulations, the implementing regulations for the Water Act, maps in appendices are used to give a precise indication of which waters are managed by whom (RWS or a regional water authority). In Brazil the Federal District as well as the (27) states have jurisdiction on the same rivers. This "double dominion" has been strongly criticized in the recent OECD report on Brazil.

A second absolute requirement is that the public organization entrusted with certain responsibilities has a sufficient administrative and organizational scale, and as a consequence can call upon a well-equipped administrative service. This service must offer the necessary knowledge and experience, which not only imposes demands on the training and education of the civil servants, but also the length of their period of service. In certain countries, the employees of water organizations commonly leave after just eighteen months. Naturally, this has negative consequences for the establishment of relevant knowledge. It also discourages the essential long-term planning process.[3] The administrative service must also have access to the necessary data and be open to cooperation with other (public) organizations and interest groups, be keen to innovate and be willing to provide transparency on its activities. All these elements therefore require an administrative service of a certain scale. As a consequence, wherever possible, even though it is not possible to identify the optimum scale, administrative fragmentation should be avoided.

A third point relates to the allocation of administrative powers. Imposing responsibilities is one thing, but allocating powers is quite another. Unfortunately, this point is all too often lost from view. The responsible public organization can only correctly execute its water-related tasks, if it can call upon specific (legal) powers. Those powers can range from the right to enter private land and to issue permits for the extraction of surface water and groundwater via the ability to force land owners to cooperate with waterworks essential for the common good, right through to the ability to impose administrative sanctions. Without such specific powers, little will come of the responsibilities.

A fourth point relates to money. Whatever its nature, the water organization must have access to sufficient financial resources to be able to execute its tasks (in this respect above all see chapter 5). Not only must sufficient financial resources be available for the necessary investments, which in respect of water management are always substantial, but also for the annually-recurring maintenance and management work that necessarily follows. Maintenance and management are unfortunately all too often forgotten. There must also be sufficient funding for the so-called

[3] See OECD (2013), *Making Water Reform Happen in Mexico,* OECD Studies on Water, OECD Publishing, p. 29. This report is the first so-called in-depth study by the OECD, that considers water governance in a specific country. In 2014 the referred report on the Netherlands was published and in 2015 a report on Brazil followed (OECD (2015), Water Resources Governance in Brazil, OECD Studies on Water, OECD Publishing, Paris).

governance costs (administrative service, monitoring, planning, permit awarding, the levying of taxes, enforcement and supervision). In many countries, it is common practice for water organizations to receive this funding from central government. It is however almost equally common for this funding to be insufficient, resulting in the below par execution of the water-related tasks. In that respect, effectuation of the principle of cost recovery for water services including the principle of 'the polluter pays' as laid down in article 9 of the WFD is much recommended. The OECD added the principle of 'the beneficiary pays' to this list.[4] This is a welcome addition, since it is surely not unreasonable that agriculture should pay for the water it extracts for irrigation purposes. This basic financial principle cannot be sufficiently underlined. After all, poor or inadequate financial arrangements almost by definition lead to poor water management, as has been demonstrated all too often, in practice. It is not without reason that in a previous OECD report, that will be further discussed below, the funding gap is identified by many countries as the greatest bottleneck in water management.[5]

A fifth and final basic principle relates to transparency, participation and accountability. The water organizations must demonstrate to the public and interest groups what they do or intend to do and must be ready to involve them in those activities in good time, to allow them to contribute their thoughts to the decision making process. Fortunately, this realization is becoming increasingly prevalent and many countries already operate a form of water resources councils or water users associations, in which households, businesses, farmers, fishermen, energy supply companies, shipping operators, nature conservationists and environmental protectionists and other groups are represented.[6] This development must be powerfully continued, since the necessary measures will be more successful if they enjoy more grassroots social support. The same applies to accountability. Water management becomes inherently more powerful if regularly accounted for. What progress is being made? What water quality has been achieved? How is taxpayers' money being spent? These are just some of the questions about which the public and interest groups will wish to be informed. It goes without saying that the water organizations must be absolutely honest in their actions. A high standard of integrity is required. Given the huge amounts of money spent on water management, worldwide, there is

[4] See OECD (2012), *A Framework for Financing Water Resources Management*, OECD Studies on Water, OECD Publishing, Paris, p. 41-45.

[5] See OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Studies on Water, OECD Publishing, Paris, p. 61-64.

[6] The governing bodies of the Dutch regional water authorities include representatives of local residents, farmers, businesses and nature land managers, whereby local residents, who indeed make the greatest contribution to the regional water authorities charges, always constitute the majority.

a considerable risk to which the water managers must be particularly alert. A system of benchmarking or mutual comparison could also play a useful role in this respect, by revealing any major discrepancies in cost levels. Furthermore, particularly if the benchmarking leads to bench learning, it can result in making improvements in performance.

When these five basic principles are complied with, the administrative organization of water management will be powerful enough to meet the many challenges we are facing nowadays. In the forthcoming OECD principles on good water governance (see chapter 1) the importance of a powerful administrative organisation is also stressed. The following elements can be mentioned: a clear allocation of (public) roles and responsibilities, managing water at the appropriate scale(s) within integrated basin governance systems, adapting the level of capacity and allocating financial resources, implementing and enforcing sound regulatory frameworks and promoting stakeholder engagement.

## 2.4 THE OECD REPORT "WATER GOVERNANCE IN OECD COUNTRIES: A MULTI-LEVEL APPROACH"

In the autumn of 2011, the above mentioned OECD report was published, as already referred to in chapter 1. This report identifies a number of gaps that are of huge importance in respect of the previously defined basic principles. These gaps are based on a study into water governance in 17 OECD countries[7], reliant heavily on information provided by the participating countries themselves. Specifically on pages 32 and 60 of the report, the following seven gaps are identified:

**Policy gap:** Overlapping, unclear allocation of roles and responsibilities, sectoral fragmentation of water-related tasks across ministries and agencies.

**Administrative gap:** Geographical "mismatch" between hydrological and administrative boundaries, this can be at the origin of resource and supply gaps.

**Information gap:** Asymmetries of information (quantity, quality, type) between central and sub-national governments, between different stakeholders involved in water policy, either voluntary or not.

[7] Australia, Belgium (Flemish and Walloon), Canada, Chile, France, Greece, Israel, Italy, Japan, South Korea, Mexico, the Netherlands, New Zealand, Portugal, Spain, United Kingdom (England and Wales) and the United States (Colorado).

**Capacity gap:** Lack of technical capacity, staff, time, knowledge and infrastructure, insufficient scientific, technical, infrastructural capacity of local actors to design and implement water policies (size and quality of infrastructure, etc.) as well as relevant strategies.

**Funding gap:** Unstable or insufficient revenues undermining effective implementation of water responsibilities at sub-national level, cross-sectoral policies, and investments requested.

**Objective gap:** Intensive competition between different ministries, different rationales creating obstacles for adopting convergent targets, especially in case of motivational gap (referring to the problems reducing the political will to engage substantially in organizing the water sector).

**Accountability gap:** Lack of citizen concern about water policy and low involvement of water users' associations, difficulty ensuring the transparency of practices across the different constituencies, mainly due to insufficient users' commitment, lack of concern, awareness and participation.

The participating countries identified the funding gap and the capacity gap as those which have the greatest practical influence.

At present, 34 mainly industrialized countries are affiliated to the OECD. It goes without saying that many of the gaps also apply to non-OECD countries. Upon further examination, it becomes abundantly clear that these gaps correspond more or less with the basic principles outlined above for a solid administrative organization of water management. This comes as no surprise, since both lists are inextricably linked to water governance. In respect of the basic principles, the following points should be made about the seven gaps.

The policy gap applies to a greater or lesser extent in practically all the investigated countries. The OECD points to the example of the United States, where a staggering 50,000 agencies and 3,000 county governments are involved in the elaboration of water policy. Clear reference is also made to Chile, where at central government level no less than 15 ministries are involved in water policy. This situation imposes extremely high demands on coordination and cooperation, and in that connection, the OECD makes a number of concrete suggestions. The OECD views the administrative gap ( the mismatch between hydrological and administrative boundaries) as an important challenge for half of the investigated countries. The absence of River Basin Authorities results in practical problems. South Korea in fact views this gap as its most important problem. After all, it hinders an integrated approach and promotes a situation in which all government stakeholders focus on their own interests. The information gap applies to approximately half of the investigated countries, in particular to Australia and New Zealand. There is a lack of good information, generally employed terms and the sharing of information with relevant interest groups. The capacity gap applies to many of the investigated

countries, more specifically at sub-national level. The absence of a well-trained and well-equipped administrative service and outdated infrastructure represents a serious threat to sound water management. The funding gap affects two-thirds of the countries, as a consequence of which there is insufficient funding for the necessary measures. This gap is above all felt at sub-national level. All too often, local and regional organizations are too dependent on central governments which themselves are also having to cut back on their expenditure. The objective gap is perceived clearly less often, affecting just four of the investigated countries. Nonetheless, everyone understands what the objective gap means.
Specific water-related interests often lose out in respect of spatial and economic interests, while water pricing systems are difficult to establish due to the desire to take into account social and financial objectives, and the specific wishes of individual sectors (for example agriculture). The transparency and accountability gap, finally, is clearly noted in half of the investigated countries, above all in the form of limited public involvement in water management, and limited involvement of interest groups in decision making processes. This situation can be much improved through better monitoring, reporting and evaluation.

In its report, the OECD offers specific suggestions for closing these gaps. The multilevel problems call for a differentiated approach, whereby a range of instruments could be deployed. The Multilevel Governance Framework presented by the OECD contains the following concrete guidelines that relate to the seven gaps (see pages 22-23 and 113-115 of the report):

1. Diagnose multi-level governance gaps in water policy making across ministries and public agencies, between levels of government and across sub-national actors. This will help clearly define roles and responsibilities of public authorities.

2. Involve sub-national governments in designing water policy, beyond their roles as "implementers", and allocate human and financial resources in line with responsibilities of authorities.

3. Adopt horizontal governance tools to foster coherence across water-related policy areas and enhance inter-institutional co-operation across ministries and public agencies.

4. Create, update and harmonise water information systems and databases for sharing water policy needs at basin, country and international levels.

5. Encourage performance measurement to evaluate and monitor the outcomes of water policies at all levels of government, and provide incentives for capacity building.

6 Respond to the fragmentation of water policy at the sub-national level by encouraging co-ordination across sub-national actors.

7 Foster capacity-building at all levels of government. This implies combining investment in physical water and sanitation, or "hard" infrastructure, and providing "soft" infrastructure, i.e. mainly the institutions upon which water outcomes rely and their ability to fulfil duties in an effective and coordinated way.

8 Encourage a more open and inclusive approach to water policy making through public participation in water policy design and implementation.

9 Assess the adequacy of existing governance instruments for addressing identified challenges and fostering co-ordination of water policy at horizontal and vertical levels.

## 2.5 THE NECESSITY FOR COOPERATION WITHIN AND OUTSIDE WATER MANAGEMENT

If the OECD report has demonstrated one thing, it is that cooperation inside and outside water management is absolutely essential. It goes without saying that coordination and cooperation are also key elements of its forthcoming principles on good water governance (see chapter 1 and especially the principles 2 and 3).
There are two main reasons for this need. Firstly, in many countries water management (the water system and the water chain) is allocated in administrative terms to different levels of government. Take the case of the Netherlands, where central government manages the hydrological main system, the regional water authorities are responsible for the regional water system and the waste water treatment, the drinking water companies organize public drinking water supply, and the municipalities have a duty of care for waste water collection (sewerage systems) and for excess rainwater and urban groundwater levels. All those individual tasks create a web of mutual relationships. Secondly, the various components of water management share extensive relationships with other policy areas. The most obvious is perhaps the relationship between water management and spatial planning, but there are also strong relationships with agriculture, food supply, energy supply, public health, shipping, nature and the environment, recreation, fishery, economic development and even then, the list is probably not complete. This applies all the more since the solution to a number of water problems will often have to be sought in those other policy areas (for example agriculture and energy supply). The administrative organization in each country is unique to that country, but one common characteristic is that generally speaking, these tasks - just like water management itself - are allocated to a range of public (and sometimes private) organizations. In all cases, central government plays a role, with subordinate roles for players at regional, provincial and municipal level, and for functional organizations, etc.

These relationships of interests on the one hand and the shared division of administrative tasks on the other make one thing clear: the water managers (whoever they may be) will first have to come into contact with one another, to harmonize and coordinate the execution of their tasks, and cooperate with one another. In some countries where the different water managers even hardly know each other (see the OECD reports on Mexico and Brazil) this is still a great problem. The various water managers can support each other through the exchange of best practices. Secondly, in exercising their tasks, they will have to collaborate with the public (or private) organizations responsible for the other related interests. After all, water management cannot stand alone; it is indeed specifically intended to allow justice to be done to the other policy fields or interests. Take for example water level management, whereby the actual water level is alternately determined by the agriculture or nature function of the land. It is abundantly clear that careful harmonization and cooperation can also result in cost savings.

The Netherlands is fortunate in having a tradition of a relatively positive approach to cooperation. For example, following the introduction of Pollution of Surface Waters Act in 1970, the water managers together with the private sector undertook sector-specific studies and drew up model discharge permits. The various water managers have also long been working together and consulting with one another on the measures to be taken. The planning system for water management – as considered in chapter 4 – represents an excellent reference point in that connection. Indeed, harmonization between regional water authorities and municipalities is laid down in law, in the Water Act. The practice of water management offers numerous specific examples of initiatives for cooperation, from the Room for the River project through to joint tax offices. The ultimate example of cooperation is represented by the Dutch approach to regularly establishing common administrative agreements that apply to all water organizations. These administrative agreements contain a series of specific undertakings and obligations to be tackled in a designated period. One key objective for these administrative agreements and certainly of the Administrative Agreement on Water entered into by the central government in 2011 with the provinces, regional water authorities, municipalities and drinking water companies, is to improve efficiency and achieve substantial cost savings in water management. Over the coming years, cooperation between regional water authorities and municipalities in the waste water chain is set to achieve major cost savings, rising to € 380 million per year from 2020 onwards.

As revealed during the sixth World Water Forum in March 2012 in Marseille, in many countries, there is as yet no sound cooperative structure. The government bodies charged with water-related tasks have little or no knowledge of one another's activities and coordination and cooperation with other relevant government sectors still leave a great deal to be desired. In the regularly referred to OECD report published in autumn 2011,

it is not without reason that the necessity of sound horizontal and vertical coordination is underlined. Although the report does outline a number of possibilities for bringing about the necessary coordination and cooperation, the Dutch approach via joint administrative agreements for the time being still appears unique. The European approach via treaties governing the Rhine, Meuse and Scheldt rivers also still remains new for many other countries. If we consider that worldwide, there are some 275 international catchment areas (water systems take no account of national boundaries), then this European approach is extremely interesting. This applies all the more if we consider that the growing water-related problems (restricted access to safe drinking water, poor sanitation, flooding, drought, poor water quality) as a consequence rapidly take on an international dimension. The dams that countries upstream wish to build for the purposes of energy supply, water safety or irrigation can present countries further downstream with huge, sometimes insoluble problems. Examples of such difficulties are unfortunately all too common.[8] The 'water wars' predicted in the past have as yet fortunately not broken out, but as a result of climate change, sea level rise, land subsidence, population growth and urbanization, the problems are only set to grow, rather than shrink. As a consequence, national and international cooperation will be required. It is therefore of vital importance that the UN Water Course Convention, drawn up in 1997 after thirty years preparation, has (finally) come into force in August 2014.

In chapter 7 the importance of cooperation is elaborated in greater detail.

## 2.6 CONCLUSIONS

This chapter has considered the administrative organization of water management. It has been shown that a powerful administrative organization is the first precondition for sound water management. Reference was made to the authoritative OECD study, which in essence contains exactly that message. The importance of (inter)national cooperation inside and outside water management was also emphasized.
By way of summary, five basic principles for a sound administrative organization for water management can be identified:

- a clear allocation of water-related tasks;
- sufficient administrative organizational scale;
- a number of suitable (legal) administrative powers;
- an adequate system of funding;
- transparency, participation and accountability.

In the subsequent chapters, the importance of sound legislation, planning, adequate funding, participation and cooperation are considered in greater detail.

[8] See L. Schelwald-Van der Kley and L. Reijerkerk, *Water: a way of life. Sustainable water management in a cultural context,* Taylor & Francis Group, London UK 2009, p. 71-84.

# 3 A legally-embedded system of water management

Author: Bart Teeuwen

## 3.1 INTRODUCTION

The administrative organization of water management as discussed in the previous chapter is an important aspect of water governance. To be able to execute their water-related tasks, the duly appointed government bodies must have access to adequate legal and financial instruments. The principle of the rule of law means that in applying those instruments, water managers must act according to the principles of sound administration, in order to ensure a balance between promoting the public interest on the one hand, and taking account of the special individual interests of citizens, farmers and businesses on the other. Also vital in that framework is a system of public consultation and legal protection. Furthermore, any damages suffered, depending on the nature of the decision that brings about those damages, must be eligible for full or partial compensation. Compliance and enforcement are other important elements. All these principles of water management based on the idea of a state under the rule of law must be thoroughly legally embedded. A legally-embedded system of water law is therefore one of the five building blocks for sound water governance.

At the same time, the principles based on the concept of integrated water management (centred on a river basin and integrated approach) must also be legally embedded. In the Netherlands, this concept was in fact introduced at policy level as long ago as 1985, and has subsequently been implemented in stages in water legislation. With the establishment of the Water Act in 2009, this process for the time being reached its culmination.

The concept of integrated water resources management (IWRM) has been developed worldwide, starting with the acceptance of the so-called "Dublin principles" at the world summit in Rio de Janeiro in 1992 (Agenda 21).[1] The IWRM principles have become a driving force in many countries (above all developing countries) for modernizing their water legislation.

This chapter has the following structure. Firstly, I briefly explain the principles of IWRM in section 3.2. Against that background, I then provide an outline picture of the current state of affairs concerning the implementation of the IWRM concept in water legislation in the Netherlands (section 3.3), the Member States of the European Union (section 3.4) and developing countries with a specific focus on South Asia and South East Asia (section 3.5), respectively. In conclusion, in section 3.6, I summarize the identified trends in the water legislation of the outlined countries.

[1] Dublin Statement on Water and Sustainable Development.

## 3.2 THE IWRM PRINCIPLES

The term integrated water resources management, which is commonly used in the Netherlands, was in fact developed as far back as 1985, with the publication of the policy document "Omgaan met water" (Living with Water). This document is discussed in the next section. IWRM is an ecologically-oriented concept that in terms of content ties in with the Dublin Statement adopted in 1992, and the IWRM principles accepted at the world summit in Rio de Janeiro, in that same year. The Dublin Statement was the outcome of an international conference held in Dublin in January 1992 for water experts who came together to discuss water and the environment. The Statement formulated recommendations for action at local, national and international levels aimed at reducing the ever rising scarcity of water as a consequence of conflicting and excessive consumption. In that process, four guiding principles were elaborated. The first principle states: fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment. The second principle states: water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels. The third principle states: women play a central part in the provision, management and safeguarding of water. The fourth principle reads: water has an economic value in all its competing uses, and should therefore be recognized as an economic good. These four principles recur in the IWRM principles (Agenda 21) adopted at the world summit in Rio de Janeiro.

'The widespread scarcity, gradual destruction and aggravated pollution of freshwater resources in many world regions, along with the progressive encroachment of incompatible activities, demand integrated water resources planning and management. Such integration must cover all types of interrelated freshwater bodies, including both surface water and groundwater, and duly consider water quantity and quality aspects. The multi sectoral nature of water resources development in the context of socioeconomic development must be recognized, as well as the multi-interest utilization of water resources for water supply and sanitation, agriculture, industry, urban development, hydropower generation, inland fisheries, transportation, recreation, low and flatlands management and other activities. Rational water utilization schemes for the development of surface and underwater supply sources and other potential sources have to be supported by concurrent waste conservation and wastage minimization measures.'

Source: Chapter 18 Agenda 21

The formulation of the IWRM principles referred to here led to a worldwide stream of publications, the purpose of which was to interpret, further elaborate on and discuss those principles. One shining example of the last of these aspects relates

to the question how the recognition of water as an economic good relates to the recognition (itself also laid down in international conventions) of the right to water as a universal human right. This question has become an urgent point for discussion above all in countries with structural or periodic water shortages, and is also visible in the way in which form and content have been allocated to this issue in water legislation in those countries. This is not the forum in which to introduce a substantive discussion of this and other questions about the IWRM principles. The essential point is that these principles currently enjoy broad support worldwide, and as a consequence have become contributory guiding factors in the renewal of water legislation in numerous countries.

In drawing this paragraph to a conclusion, it is valuable to point out that the IWRM principles are also adopted in a number of other international conventions and treaties, and must be implemented in national legislation. Take for example the 1997 United Nations Convention of the law of the Non-Navigational Uses of International Watercourses,[2] the 1992 European Helsinki Convention on the management of trans boundary watercourses, and the Treaties concerning the Rhine, Meuse and Scheldt rivers, to which treaties the Netherlands is a party.

[2] This worldwide convention is now in force since August 2014.

## 3.3 WATER LEGISLATION IN THE NETHERLANDS

The concept of IWRM was launched in the Netherlands in 1985, with the publication of the policy document "Omgaan met Water" (Living with Water).[3] The core of the vision on water management presented in that document is the water system approach. The initial steps towards such an approach had already been taken in practice in the major hydraulic engineering interventions in the country's south-western delta. The vision revealed in the document was an ecologically-oriented policy concept that required further elaboration in policy and legislation over the following years. The policy-based elaboration was achieved in the third National Water Policy Document published in 1989. The first legal elaboration of the policy also took form in that same year, in the Water Management Act.[4] The planning arrangement contained in that act bore an integrated character and included all aspects of water management (surface water and groundwater, both quantitative and qualitative). This represented the first important step on the road to the intended step-by-step expansion of the Act into what would eventually be a general Water Act.

[3] Parliamentary Proceedings II (*Kamerstukken II)* 1984-1985, 18739, no. 3.

[4] The Water Management Act (Netherlands Government Gazette 1989, no. 285) had a twofold objective. The Act on the one hand contained rules for planning and on the other rules for the operational quantity management of surface water. The latter issue had until that time only been organised at regional level in (autonomous) regulations from provinces and regional water authorities. As this subject was regulated in the Act, a number of aspects of water quantity management (such as the permit and water level decree) were at last regulated in a uniform manner, on a national scale.

This general act would eventually encompass all existing acts governing the various components of water management. The roadmap for this programme was laid down in the third National Water Policy Document already referred to. It was at the time recognized that this was indeed an ambitious challenge. With that in mind, a pragmatic approach was taken, whereby any bottlenecks that required urgent solutions from the point of view of integrated water management would be tackled by making improvements to existing legislation. In this period, however, the result was not a step-by-step expansion of the Water Management Act into a general Water Act. During the 1990s, the country was not ready for such a development. Instead, the approach taken was purely pragmatic. This pragmatism applied not only to water legislation in the strictest sense (the Water Management Act for operational surface water quantity management, the Pollution of Surface Waters Act and the Groundwater Act) but also to legislation relating to the water infrastructure. This last category of water legislation in fact underwent the most remarkable development towards innovation, in that period, as described below.

The legislation in respect of water infrastructure does not only concern the infrastructure that carries water, but also the infrastructure that retains it. Both types of legislation were highly fragmented and often fully decentralized. With the introduction of the Flood Defence Act in 1996, an important milestone in the organization of responsibility for flood defence was achieved, in the sense that uniform, nationally-applicable rules were laid down for a number of key elements in the field of responsibility for flood defence. Also during the 1990s, the water infrastructure legislation itself was fundamentally renewed, in several stages, and brought into line with the striving for modernization, harmonization and integration. Broadly speaking, this process involved two acts initially introduced around 1900, dealing with State managed infrastructure. These were the Act of 28 February 1891 on the establishment of provisions for State managed infrastructure (Act of 1891) together with the government regulations based on that act for the various types of infrastructure, and the Rivers Act 1908.[5] The first step was taken in 1991 with the broadening of the scope of the interest framework of the Act of 1891. From that time onwards, other interests than those of a strictly hydraulic engineering nature could be considered in the process of awarding licenses. The second step took place in 1996. The Act of 1891 and all the implementation regulations based on that act (such as the Dredging Regulation and the Regulation of National River Dykes) were then replaced by an entirely new concise act with a single, integrated licencing system for all types of activities: the Public Works Management Act. This brought to an end the previously existing system of detailed licencing systems contained in individual sets of regulations for the

[5] The Act of 1891 lays down rules for the protection and efficient use of infrastructures managed by the central government. The Rivers Act of 1908 has the same objective, but contains specific rules for the (large) rivers. The Rivers Act should therefore be viewed as a lex specialis of the 1891 Act.

various categories of structures. A truly remarkable deregulation operation. The final step was taken in 1999 with the incorporation of the issues dealt with in the Rivers Act 1908 in the Public Works Management Act.

Although the legislative operations described here very briefly represent important steps forward in terms of modernization, water legislation as a whole still remained highly fragmented. The true impulse towards the integration of existing water acts in a single act came with the European Water Framework Directive of 2000. Following the establishment of an Outline Memorandum in 2004, the bill for the Water Act was submitted to Parliament in 2006. This eventually resulted in the Water Act 2009, which brought together practically all previously existing water acts.[6] See the overview in the framework below.

**Overview of acts brought together in the Water Act 2009**

- The Water Administration Act1900 (sections related to water ways)
- The Land Reclamation Act 1904
- The Pollution of Surface Waters Act 1970
- The Marine Pollution Act 1975
- The Groundwater Act 1981
- The Soil Protection Act 1986 (the waterbed section)
- The Water Management Act 1989
- The Flood Defence Act 1996
- The Public Works Management Act 1999

The Water Act is an important milestone in the striving towards expressing the concept of integrated water resources management in the water legislation.[7] The first step in this direction was taken in 1989 with the integrated regulation of the planning processes for all elements of water management. With the introduction of the new Water Act in 2009, the same level of integration has been achieved as regards the implementation and enforcement instruments. In other words, there is now a single law, a single plan, a single water licence, and a single judicial appeal process. This advance represents a considerable achievement not only in terms of content but also from the point of view of legislative technique. The Water Decree based on the Water Act (an implementing government regulation) and the Ministerial Water Regulation based in turn on that Decree are also integrated in their character. In addition, thanks to joint efforts on the part of central government (the Ministry of Infrastructure and the Environment), the Provinces (in the Association of the Provinces of the Netherlands – IPO) and the regional water authorities (the Association of Regional Water Authorities) both implementation schemes and the necessary alterations to the Provincial and Water Board Regulations became effective at the same time as the Water Act. This fact too is worthy of mention. After all, in the past, the effective introduction of an

[6] The Wrecks Act and the Earth Removal Act are not included in the Water Act.

[7] For an instructive discussion of the Water Act, see the book by Marleen van Rijswick and Herman Havekes: *European and Dutch Water Law;* Europa Law Publishing, Groningen 2012. See also my book review in the Dutch magazine for Water Governance, volume 4/2012, pages 48-49.

act was only actually achieved in practice years later, due to the delay in the making of the necessary implementation rules.

At the end of this overview, it should be noted that the Water Act does not in fact offer an all-encompassing integrated character. The issues relating to drinking water supply are not included in the act. That particular subject was dealt with in a separate, also entirely renewed Drinking Water Act in 2009. That act replaces the old Water Supply Act dating back to 1957. The settlement of the position and function of the regional water authorities as decentralized water managers is also the subject of a separate (even organic) act: the Regional Water Authorities Act of 1992.

The introduction of the new Water Act represents for the time being the culmination of the efforts to integrate water legislation. Although in this act the relationship with adjoining policy areas such as the environment and spatial planning has been given a prominent position, in this respect, too, there is room for further integration. The next step is already on the horizon, namely the integration of the Environmental Act, The Water Act and the Spatial Management Act into a single integrated broader- based Environmental Management Act. This intention was announced to Parliament by the government, in March 2012. A Bill was sent to the Parliament in 2014 and passed the Lower Chamber in 2015. After the finalizing of the four implementing government regulations (a complicate and labour intensive project) the new act will become effective in 2018.

## 3.4 WATER LEGISLATION IN EU MEMBER STATES

The EU Water Framework Directive of 2000 (WFD) was not only a major boost for the further integration of water legislation in the Netherlands. For the other EU Member States, it was equally influential. What has been the result of the legislative efforts in the various Member States, and what similarities and differences can be identified? Producing a balanced and reliable picture would require access to an extensive comparative law study. Naturally, that is not possible in the framework of this publication, so instead we must rely on studies of that kind already undertaken. The desktop study undertaken in 2004 by Twynstra Gudde and Royal Haskoning comes closest.[8] The then Ministry of Transport, Public Works and Water Management had ordered the study in the framework of the start of preparations for the new Water Act. The purpose of the study was to gain an insight into legislative developments in the surrounding EU Member States and other countries possibly relevant for the Netherlands, and to draw any lessons from those developments that could be used in preparing the new Water Act.

[8] The results of the study were recorded in the report published in November 2004: *Legislative response to water management challenges; lessons from other countries*. In this study, the legislation in 22 countries was screened via a quick scan. Of those 22, 15 countries were described further on the basis of case studies, and 5 countries were studied in detail.

The EU Member States[9] investigated in the study share the common fact that just like the Netherlands, they are already well on the road to integrating their water legislation, and that the WFD served as an additional boost in that process. Although we are now eleven years further, and the state of the art of water legislation in the investigated countries as revealed in the study has partly been overtaken by new developments, the study does provide a fair picture of the developments in the striving to integrate water acts.
The following trends have been identified as emerging from the study.

For all the investigated countries, the implementation of the WFD served as a powerful boost to their own national legislation in accelerating the process of integration.
A second trend concerns the inclusion of principles of water law (anchored in international conventions) such as the polluter pays principle, the user pays principle, the standstill principle, the cost recovery principle and the precautionary principle. Many countries indeed explicitly refer to these principles in their legislation. Dutch water legislation does not share this tradition, even though these principles have been accepted and are employed in the practice of water management.
Even in the Water Act 2009, these principles were eventually not explicitly included. Taking all issues into consideration, the lawmakers judged this was not necessary, since it would anyway have only a purely symbolic value.

A third trend concerns the degree of integration in water legislation. The majority of countries place the key aspects of water management in a single Water Act. In relation to certain aspects, however, there are still remarkable differences. For example in some countries, the water quality aspect is not included in the water acts, but in environmental legislation. In the majority of countries, the water chain aspect (drinking water supply and sanitation) is not or only partially included in the water legislation, and instead is regulated in separate legislation. It was already indicated in section 3.3 that the aspect of drinking water supply is also regulated in a separate act in the Netherlands. In Sweden and France, the issue of water resources management in its entirety was placed in a broader-based environmental act. In Sweden, this integration was achieved in 1999 and in France in 2006. All aspects of water resources management have been placed in book II, Title I of the Code de l'Environnement, in the framework of the establishment of the Loi de l'Eau et les Milieux Aquatiques.

A fourth and final trend concerns the structure of water acts. In practically all cases, the structure is different, but there are similarities. The majority of water acts, for example, start with a preamble formulating the principles of water law and the objectives of the act. The settlement of planning is generally

[9] Among others Belgium (Flanders), Germany, France, Italy, England and Sweden. The EU was expanded in 2005 to take in a number of Eastern European countries. Naturally, these countries were not covered in the study. Water legislation in these countries is still under development. However, this process must be accelerated with a view to the implementation of the Water Framework Directive.

also laid down in an identical chapter. Finally, in all countries, the concluding chapters are dedicated to such subjects as monitoring, supervision and sanctions. In all other respects, the structure of the acts differs considerably. Indeed, the WFD had no intention of promoting a single, uniform structure. The Directive merely lays down what needs to happen, and not how the Member States should implement those activities in their national legislation. The Member States are indeed entirely free in making their choices. The structure of the Dutch Water Act of 2009 is characterized by simplicity and logic. Partly as a consequence (but of course primarily because of the way in which the act has been structured in terms of content) the Water Act is also transparent and easily readable for non-lawyers.

## 3.5 WATER LEGISLATION IN DEVELOPING COUNTRIES

### Case South Asia and South East Asia

### INTRODUCTION

The IWRM principles agreed at the world summit in Rio de Janeiro in 1992 served as a stimulus for developing countries to modernize their water acts in line with these principles. However, for practically all of those countries, this was not the primary driving force. The real driving force was the reform of the institutional structure. In many developing countries, a water sector reform was initiated at the end of the 1990s, characterized by a shift from an authoritarian, centralistic state system to a democratic, decentralized system with more attention for the involvement of the public in all phases of the decision-making process on water issues (participative approach. See also chapter 6 of this book).

There is no up-to-date worldwide comparative law study into the way in which developing countries have modernized their water legislation in accordance with the IWRM principles. The report "Water Governance in OECD Countries. A multi-level approach", published in September 2011 also offers insufficient material for gaining a clear picture of the current state of affairs.[10]

[10] The report appeared as part of the OECD series of Studies on Water.

The report is above all aimed at charting out the institutional aspects of water governance. As a consequence, the report does receive a great deal of attention in particularly chapter 2 of this book. Against that background, the best approach in this section is a case study approach.

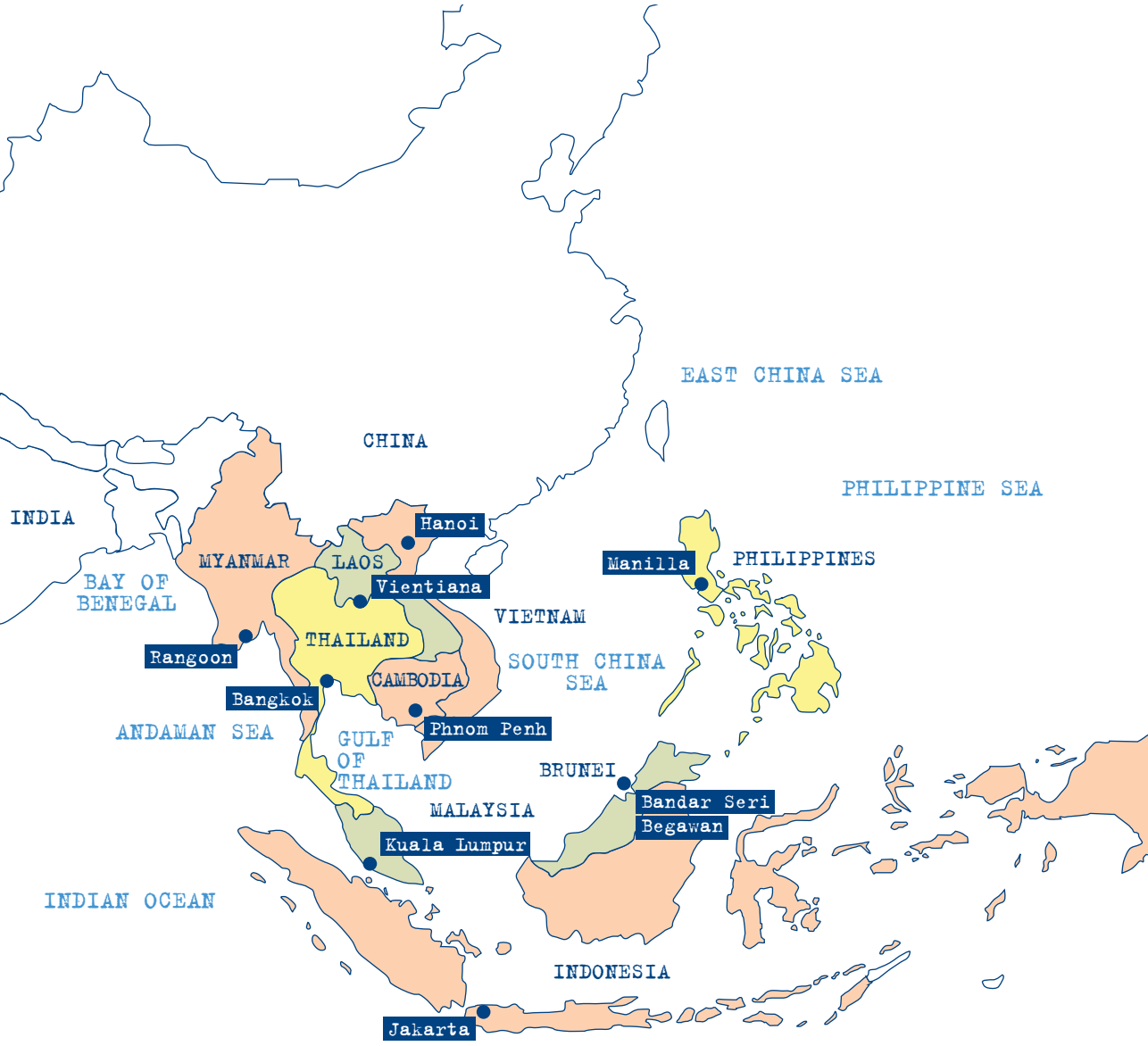
The developments in water legislation in a number of countries of South Asia and South East Asia will be sketched out, in outline. The choice of this region has been made for pragmatic reasons.
I was involved in the modernization of Indonesian water legislation as a legislative advisor in the period 2002 through to 2010. From 2002-2005 it took place under the umbrella of a Netherlands-Indonesia cooperation agreement and from 2006-2011 under the umbrella of a World Bank Fund. Since 2013 the scope of these activities was extended to some other Asian countries under the ADB funded project "Supporting National Legislation in South Asia and South East Asia".[11]
The countries concerned are: Bhutan, Bangladesh, Myanmar, Nepal, Sri Lanka, and Vietnam. These countries share with Indonesia the fact that they are also in a phase of institutional transition and of implementation of the IWRM-concept.

One final reason for having selected South Asia and South East Asia as the point of focus for the case study is the growing interest of the Dutch water sector in this region of the world.

The countries mentioned above are in different stages of the modernization of their water legislation. Bangladesh, Bhutan, Indonesia, and Vietnam have in common that they have already enacted new water acts and one or more underlying implementing government regulations (except Bangladesh).
The countries Myanmar, Nepal and Sri Lanka have in common that they are still in a starting phase of the modernization of the water legislation.
The limited number of pages for this chapter makes it impossible to outline and discuss all the mentioned countries in the same manner. For pragmatic reasons the focus will be on the water legislation developments of the countries Indonesia and Vietnam. The other countries will be reluctantly dealt with much shorter.

[11] The starting point for this extension was a presentation I gave about the importance of a good legal framework for water resources management during the 1st Asia-Netherlands Water Learning Week held in the Netherlands at the end of October 2012. The learning week took place under the auspices of the Asian Development Bank (ADB) and the Unesco-IHE Institute for Water Education. Delegations from 11 countries participated in the Water Learning Week: Armenia, Azerbaijan, Bangladesh, Japan, India, Indonesia, Myanmar, Pakistan, South Korea, Sri Lanka, and Vietnam. The project is carried out by a project team, existing of the author and Zaki Shubber, lecturer in Law and Water Diplomacy at UNESCO-IHE in Delft.

## SOUTH EAST ASIA



## Outline and comments regarding the water legislation of Indonesia and Vietnam

### INDONESIA

After the fall of the Suharto government in 1998, a process of far-reaching institutional reform has been taking place. The main characteristic of that process is a shift from an authoritarian, centralized state system to a democratic, decentralized administrative structure with far more attention for public participation in all phases of government decision making. The relevant legal framework comprises the decentralization acts established in 1999 and introduced in 2001. This legislation has provided for the allocation of far-reaching administrative authorities as well as the accompanying financial authorities to districts and municipalities.[12] Parallel to and in line with general institutional reform, a start was made on reforming the water sector, including modernization of water legislation. The result of the legislative process was the Water Resources Act of 2004 (Act 7/2004 or the Act). The Act fully replaced the existing Water Resources Management Act of 1974 (Act 11/1974) which still had a strong sectoral nature.

The new act only regulates the elements of which it is made up in outline, and as such it is a so-called umbrella act. Further elaboration must take place in the form of implementing government regulations and (more technically-oriented) ministerial regulations based on the latter. End of 2014 almost all of the in total 11 planned government regulations were in force. See the figure.

**IN FORCE**

- GR 16/2005 - Water Supply & Sanitation
- GR 20/2006 - Irrigation
- GR 42/2008 - Water Resources Management
- GR 43/2008 - Groundwater Management
- GR 37/2010 - Dam/Reservoir
- GR 38/2011 - River
- GR 98/2014 - Lake
- GR 73/2013 - Water Resources Lowland Management
- GR 69/2014 - Water Use Rights

**IN DRAFTING**

- GR on Water Quality & Pollution Control
- GR on Beneficial Water Use

The following observations can be made on the new Indonesian water legislation.[13] Firstly and foremost, the new Act represents a huge step forwards in the implementation of IWRM principles

[12] In the 1999 decentralisation legislation, far-reaching autonomous tasks and the accompanying financial support were allocated to the districts. (Act 22/1999). In 2004, this legislation was amended, and the position of the State and of the provinces has been somewhat strengthened. (Act 32/2004). In 2014 the decentralisation legislation is against revised with the goal to further strengthen the position of the provincial Governor as the representative of the central government. (Act 23/2014).

[13] A first review report about the new water legislation of Indonesia was made by the author in 2011. The report *"Review Technical assistance modernization Indonesian water legislation"* can be downloaded via the website of the Water Governance Centre. An article accessible to a broad target group about the report was published in the magazine for Water Governance, volume 2011, issue 3, pages 33-39.

in national legislation. The old Water Act 11/1974 did enjoy a broad scope, in formal terms, but was effectively a sector-oriented irrigation act with an emphasis on the construction of irrigation systems and dams (with their resultant reservoirs) for the supply of water to the irrigation systems. The act also lacked a structural, planning approach, as well as a participative approach. The scope of the new Act is integrated and as such geared towards all types of water resources including river basins, aquifers, irrigation systems, lowlands, dams and drinking water and sanitation systems. The act is also no longer focused exclusively on infrastructure (the construction of major hydraulic engineering works). It is a real management act, in which development (construction, including rehabilitation) and operation and maintenance have all been given an equivalent role. The Act also tackles such other important aspects of IWRM as planning (integrated for all aspects of water management), license requirements for interventions in the water system and for the use of water, public consultation, enforcement and legal protection.

Secondly, the Act is a framework act. In other words, the Act regulates the majority of issues purely in broad terms. This is a common approach worldwide to complex areas of legislation. The specific legal standard-setting elaboration of each of those issues must be implemented in government regulations (and underlying ministerial regulations). For all types of water resources, separate government regulations have been drawn up (see the figure above on page 48). The integrated approach in the Act has in other words not been continued in the process of further elaboration in regulations. Effectively, the tried and trusted sectoral approach has been chosen, leading to considerable overlapping and unnecessary duplication. This is unfortunate because as a result, mutual harmonization between the various regulations is limited and as a consequence will prove confusing in practice. Harmonization of the various regulations will be an unavoidable next step in the process of further improving the water legislation.

A third comment relates to the length of time needed for drawing up the government regulations. Effective, integrated introduction of the Act took place in phases over a period of at least 10 years, this in shrill contrast to the new Dutch Water Act, for example. One consequence of this 'time lag' in the regulations is for example that clarity on the content of the right to water for basic daily needs, as laid down in the Act, took 10 years.

Another point is the structure of the act. Three subjects dealt with in separate chapters form the pillars around which other chapters are more or less grouped. The pillars are conservation, utilization, and control of water damaging power. All government regulations have been consistently organized according to this structure. There is much to say in favour of the system adopted, but its elaboration in the regulations has proved anything but simple. Overlaps are common, making the regulations difficult to read.

A fifth area of attention relates to the regulation of planning. Although the approach to planning is integrated in terms of ensuring close mutual coherence within water management, the same does not apply to coordination with spatial planning. This aspect is dealt with only very briefly in the Act, and is not fully elaborated in the (more generic) GR on WRM 2008. Many water projects have major spatial consequences and in the same way, many spatial interventions initiated by other policy sectors have major consequences for water management. An explicit, binding set of rules for harmonization between the two forms of planning is of crucial importance.[14] (See also chapter 4 of this book).

Finally and unfortunately, the Act has been annulled by the Constitutional Court in a decision of 18 February 2015. The key element of the decision was that various provisions in the Act created too much involvement of the private sector and that is in conflict with Article 33 of the Constitution that stipulates that water resources are under the control of the State. To prevent a regulatory vacuum the Court decided that the old Water Act 11/1974 will be reinstalled during the transitional period to a new act which observes the decision of the Court by the lawmakers.

The Government immediately started a task force to solve this unexpected and far reaching decision of the Court. As a temporary solution all government regulations have been quickly replaced by regulations based on the old Act 11/1974. As a structural solution a new act is being drafted. The intention is to promulgate the new act mid-2016.[15]

## VIETNAM

Vietnam is a socialist people's republic in which the State traditionally occupies a strong position, and with a related centrally-planned economy. The country shares with Indonesia the fact that the process of institutional reform was the driving force for the modernization of the water legislation. That process of reform was initiated in 1992 in the framework of a major revision of the country's Constitution. In that process, a process of renewal (doi moi) aimed at economic growth, and launched in 1986, was anchored in the Constitution.
That same Constitution also contained the principle of environmental protection. This provided an important impulse towards the thorough review of the organization and approach to water

[14] In respect of the weak position of spatial planning in Indonesia, see my book review of the dissertation from Tristam Pascal Moeliono published in December 2011: *Spatial management in Indonesia: from planning to implementation*. This book review appeared in the Dutch Tijdschrift voor Omgevingsrecht, 2012/4, pages 128-131.

[15] Of course, a lot could be said here about this decision, but that is not possible in the context of this overview chapter. However, one remark needs to be made. A Supreme Court decision in 2005 (one year after the enacting of the new WRA 2004) already stated that the Act was "conditionally constitutional" with regard to the addressing of the private sector involvement. The Court formulated certain conditions that should be taken into account in the implementing government regulations. Unfortunately, that has not been the case. Thus, in my opinion it was not a surprise that this issue would raise again.
The Government has failed to act sufficiently proactive in this case.

management. Under the responsibility of the Ministry of Agriculture and Rural Development (MARD) the new Water Resources Act 1998 (WRA 1998 or the Act) was enacted. The Act represented the first step towards the implementation of IWRM principles. However, for a number of reasons, that step remained modest in scope. The most important limitations of the Act were concerned with the still central role of the State, the lack of an integrated approach to river basin oriented planning, and the still considerable focus on the development of water infrastructure projects, aimed at supporting the policy of economic growth for the country as a whole. Finally, the process of establishing implementing government regulations (and underlying ministerial regulations) took many years, and moreover the amount of regulations was very high, which has proved a major stumbling block, in practice. In the ten years since the introduction of the Act, some 300 regulations/decrees/circulars have been released, which often overlap or duplicate one another, and some of which have in fact been in contravention of the Act.[16] The main complicating factor in the process of modernization of the water legislation was the political decision in 2002 to transfer the responsibility for water management policy from MARD

[16] For an extensively documented overview of the multitude of legal implementation documents, see the report by Nguyen Thi Phuong Laon: *Legal framework of the water resources of Vietnam,* Bonn 2010.

to the then new established Ministry of Natural Resources and Environment (MONRE). Both ministries were not able to cooperate in harmony under the new task division. MONRE started in 2007 a process to review the WRA 1998 and to replace that act by an entirely new act. An important reason was the necessity to implement more consistently the IWRM concept in the legal framework of the water resources. Following heated discussions, Parliament approved the new Water Resources Act in June 2012 (WRA 2012 or the Act). One year later an implementing government regulation was available. That regulation (Decree 201/2013)[17] addresses the most important issues (in particularly the license instrument) that need to be elaborated in more detail.[18]

The following comments can be provided on the new Vietnamese water legislation. A first notable feature is that the IWRM concept is now addressed in all its dimensions. The development dimension is no longer dominant. The new Act is a true management act.

A second comment concerns the structure of the Act. The structure is at heart the same as that of its predecessor. It is worth noting in that respect that the subjects conservation, utilization and the control of water damaging power are the central pillars, around which the other chapters have been grouped. We saw that the same applies to the Indonesian water legislation.

A third observation relates to the regulation of the institutional structure. The relevant chapter is no longer focused on formulating the tasks and responsibilities of the State. The tasks and responsibilities of the provinces, districts and municipalities are now also explicitly outlined, including the obligation to report to central government. In other words, central government continues to fulfil a clear guiding role. Furthermore, public participation in decision making on water issues is expressly referred to in the Act as an IWRM principle. These issues are dealt with in a more general chapter, in which the principles of water law are also laid down.

A fourth observation concerns the regulation of planning. These matters are now explicitly dealt with in a specific chapter, in an integrated manner, representing a major improvement. The relationship with spatial planning, however, is not considered; clearly a missed opportunity.

Also noticeable is the fact that the arrangement of funding is now placed in a separate chapter, which helps give expression to the fact that in addition to its social function, water specifically also has an economic function. Water use for the needs of daily life is free while water for commercial purposes must be paid for. This is also a step towards stimulating the efficient use of water.

A sixth comment relating more to the technical aspects of law making concerns the way the Act is written. This above all

[17] Vietnam uses the term "Decree" for an implementing government regulation.

[18] In the same year a Decree about sanction of administrative violations was enacted. Decrees regarding corridors for the protection of water sources and regarding incentives for efficient water use are still under preparation.

applies to the more operational-oriented sections on conservation, utilization and the control of water damaging power. The regulation of all possible actions (infrastructural interventions and various forms of water use) is written down in detail, and sometimes in a repetitive manner. This was also the case in the old act. It is unfortunate that no simplification process was initiated. In the further process of improving the quality of legislation, there is much to be gained in this respect.

A final comment is concerned with the scope of the Act. The Act focuses on the management of the use of water for the different social purposes. Others than in the WRA 1998 the management of hydraulic works is no longer addressed in a specific chapter of the WRA 2012. However, that does not mean that hydraulic works do not fall under the scope of the WRA 2012. The Definition Article 2 clearly defines water resources as "the natural or artificial forms of water accumulation". The various types of hydraulic works are mentioned in many articles of the WRA 2012. It is important to indicate this, because MARD started in 2012 a legislative project to address the hydraulic works component in a specific act. A draft Act on Hydraulic Works was available in the second half of 2013. The intention is to finalize the draft Act in April 2016.[19] One can imagine that it is questionable if the WRA 2012 and the (draft) Act on Hydraulic Works are sufficiently harmonized. It is essential to do this to avoid competence disputes in the operational practice.

## OTHER COUNTRIES IN SOUTH ASIA AND SOUTH EAST ASIA

In addition to Indonesia and Vietnam, other developing countries in South Asia and South East Asia are also working hard to modernize their water legislation in line with IWRM principles. Among these are the countries that fall under the scope of the already mentioned ADB funded project "Supporting National Legislation in South Asia and South East Asia". It concerns the countries Bangladesh, Bhutan, Myanmar, Nepal and Sri Lanka. Bangladesh and Bhutan have in common that both countries have already enacted a new water act. Bhutan has done it in "The Water Act of Bhutan 2011" and Bangladesh in "The Bangladesh Water Act 2013".

Both acts address the relevant IWRM issues in broad terms. They need further elaboration in one or more implementing government regulations. Bhutan has already done it in one integrated regulation: The Water Regulation of Bhutan 2014. Bangladesh is still in the drafting stage. A draft "Bangladesh Water Rules 2015" was completed in October 2015, but needs further improvement.[20] Moreover, not all issues are elaborated in this regulation. Some issues will be addressed in a separate regulation. The intension is to enact the implementing regulation mid-2016.

[19] At the request of MARD I have provided some (by the World Bank funded) technical assistance with the improvement of the draft act in the period of May - August 2015.

[20] The project team of the ADB funded project has been invited to assist with the improvement of the draft regulation.

It should be noted that Bhutan has decided to put all issues in one integrated regulation. That is the best guarantee to also maintain the integrated approach at the level of government regulations. Bhutan is the only Asian country to have done so. It is remarkable and demonstrates vision.[21]

Finally, the countries Myanmar, Nepal and Sri Lanka. These countries are still running with the existing, highly fragmented and dated water legislation. All three countries have announced in their national water policy documents that the modernization of the water legislation has a high priority. However, no country already started this process. The main obstacle in all three countries is the continuing political instability. For that reason the ADB funded technical assistance project with the modernization of the water legislation of these countries is until now limited to fact-finding missions to Myanmar (in 2013) and Nepal (2015).[22] The start of providing technical assistance with the drafting of a new water act in these countries fully depends on the political developments in these countries.
The expectation is that Nepal will start this process in 2016. If this will also be the case in Myanmar and Sri Lanka is unclear.

[21] The ADB funded project team was strongly involved in the drafting process of the Bhutan Water Regulation 2014. It was a real pleasure for the project team to work with such a committed Bhutanese team. Other countries in the region can learn a lot of the applied project-based approach.

[22] A planned fact-finding mission to Sri Lanka of the ADB project team has been postponed.

## 3.6 CONCLUSIONS AND SUMMARY

This chapter has discussed how the IWRM principles based on the idea of the state under the rule of law should be embedded in a coherent legal framework. I have examined how the IWRM principles accepted at the 1992 world summit in Rio de Janeiro have been implemented in the water acts of the Netherlands, EU Member States and developing countries (focusing on the case South Asia and South East Asia), respectively.
The most important trends identified can be summarized as follows.

In the Netherlands, the policy concept of IWRM introduced in 1985 represented a powerful impulse for modernizing the highly fragmented existing water acts in line with this concept. However, this process required quite some time. The first step was taken with the integrated regulation of planning in the Water Management Act 1989. The second step was taken in the 1990s, whereby above all legislation relating to the water infrastructure underwent a remarkable process of renewal. With the Water Act 2009, a third important step was taken on the road towards the harmonization and integration of the water legislation. This new Act brings together the operational and enforcement instruments laid down in a series of other water acts, within a single act. One can therefore speak of one act, one plan, one licence and one process of appeal to the courts. Not only in terms of content but also from the point of view of legislative technique, this is a considerable achievement.

For the EU Member States, the WFD 2000 represented a powerful boost in accelerating the process of integration of water legislation in accordance also with the IWRM principles. The water acts of those countries not only demonstrate similarities but also in certain areas remarkable differences. The water quality aspect, for example, is not included in the water legislation in some countries, but is part of environmental legislation. In the majority of countries, the water chain aspect (drinking water supply and sanitation) is not or only partially embedded in the water legislation, and is instead regulated in separate legislation. In a number of countries, the subject of water management in its entirety is placed within a broad-based environmental act. The structure of the acts also differs considerably. This is entirely understandable, since the WFD 2000 merely states what has to be done and not how the Member States should implement the objectives formulated in the WFD in their own national legislation.

For the developing countries, the IWRM principles accepted at the 1992 world summit in Rio de Janeiro also formed a stimulus for modernizing their water legislation in line with these principles. However, institutional reform was in many cases the main driving force. Since no worldwide comparative legislation study is available, I opted for a case study approach focusing on the region of South Asia and South East Asia and within that region on the countries Indonesia and Vietnam, and to a lesser extent on the countries Bangladesh, Bhutan, Myanmar, Nepal, and Sri Lanka. The development of the water legislation in these countries demonstrates remarkable similarities. In most of them, the institutional reform process was the driving force for renewal in water legislation. In developing that legislation, the IWRM principles were one of the guiding factors. The countries Indonesia, Vietnam, Bangladesh, and Bhutan have made important steps forward with the new legislation introduced, in implementing the IWRM principles in the national legislation. However, the elaboration of issues addressed in broad terms in the act, has taken place in most countries in various separate implementation government regulations. Bhutan is a remarkable exception. The consequence of various implementing government regulations is the risk of overlap and unnecessary duplication. Harmonization and further integration are therefore essential future steps in these countries.

# 4 Planning

Author: Maarten Hofstra

## 4.1 INTRODUCTION

Planning is a broad-ranging concept. The core of its definition is a systematic approach to a specified problem or specific (groups of) activities.

A structural engineering project, for example, employs a project plan. Implementation plans focus above all on effectiveness and efficiency, in which the making of choices that affect social interests is relatively restricted. The key element in these plans is the effective and efficient deployment of manpower and equipment. A maintenance plan can for example concern the scope of paintwork to be undertaken, while an operating plan is often used to determine who will employ which infrastructural element at what moment in time, in which particular manner, with a view to achieving predetermined objectives. Take for example the operation of weirs and pumping stations for managing water levels. Monitoring plans relate above all to the systematic acquisition of data for policy and management. It could in fact be suggested that practically everything is based on some sort of plan. A commonly asked question is: what is your plan. You could even say that without plans there can be no results.

However, it is not my intention in this chapter to consider every conceivable form of planning; instead, focusing on the subject of water governance, I will be emphasizing the question of planning as a process, and more specifically planning in which socially-relevant choices are made and which as a consequence relates closely to social interests. When it comes to water resources management, there is a plethora of interests: safety, dry feet for living, working and recreation, drinking water, shipping, agriculture, nature, etc.

In other words, here we will be considering planning as a policy instrument in the form of both policy plans and implementation plans. Policy plans, such as the National Water Plan or a provincial water plan, above all define the objectives and the strategy for achieving objectives, while implementation plans represent a further elaboration of policy plans for specific subject areas (for example a sewerage plan) or specific areas (such as a management plan for State waters or a water management plan for a regional water authority). One key element in all such plans is the method of decision making. It is also abundantly clear (see also article 14 of the EU Water Framework Directive (WFD)) that planning relates closely to the subject of participation. The relationship between policy plans and implementation plans may vary; the space for making choices in an implementation plan will depend on the level of detail of the objectives and the strategic choices in the policy plan. Such choices are often governed by rules, such as the regulations in the Water Act in respect of planning.

In the next sections, an outline will first be provided of the development of water management planning in the Netherlands. This will be followed by a discussion of international planning, followed by lessons learned, translated in basics for planning, and finally some conclusions.

## 4.2 DEVELOPMENT OF WATER MANAGEMENT PLANNING IN THE NETHERLANDS

### PLANNING AT NATIONAL LEVEL

In the past, the various elements of water resources management such as quantity management for surface water and water quality management were separate policy areas. This separation was above all due to the fact that quantity was mainly an issue for rural areas, while water quality problems were concentrated in the urban environment. Gradually, however, a process aimed at greater coherence has emerged. This strengthening of internal coherence in water resources management was followed by a strengthening of the coherence between water resources management on the one hand, and other policy areas such as nature policy, environmental policy and spatial planning, on the other. This development went more or less hand in hand with the broadening of the vision of water resources managers, whereby in addition to the traditional interests and sectors such as agriculture, shipping and safety, attention was gradually also focused on interests which until that time had been less closely considered, such as recreation, nature, and landscape. The term 'broad-based vision' became much more widely used in the early 1990s. In the next section, this development is further examined according to a range of policy plans in the field of water resources management and its related policy fields that were published during the second half of the 20th century and the first decade of the 21st century.

#### National Policy Document on Water Management

The 1968 National Policy Document on Water Management can be viewed as the first national planning in the field of water resources management in the Netherlands. While major infrastructural projects were undertaken in the framework of the Deltaplan in the South-western Netherlands and in the framework of the Zuiderzee projects in the IJssel Lake area, this policy document was above all a future vision on the problems of water supply and water-related nuisance. In other words, it is not about protecting the land against flooding, sea and river water, nor does it discuss water quality, with the exception of the problems of salinization. The document suggests that there is justification in assuming that the Pollution of Surface Waters Act, at the time still under discussion in Parliament, would have the result that:

" ...it is possible, by the year 2000, to achieve a situation in which any pollution still present in a large part of our country need not represent any hindrance to the use of surface water for the majority of intended purposes."

This expectation has indeed almost entirely been fulfilled.[1] It is however clear that in respect of water quality, consideration is above all given to the interests of human consumption, while ecology plays no explicit role.

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[1] M.A. Hofstra en J. Leentvaar, *De klus geklaard?* In *25 jaar WVO,* The Hague, 1995.

In respect of the character of the policy document, the following should be noted:

"The objective of this document is to identify the route that will have to be followed in order to arrive at a well-functioning water resource infrastructure in the future" and "In as much as relating to the future, the policy document merely provides vision of a macro structure for water resources management for the first few decades. As a consequence, the cost aspect is beyond the scope of this document."

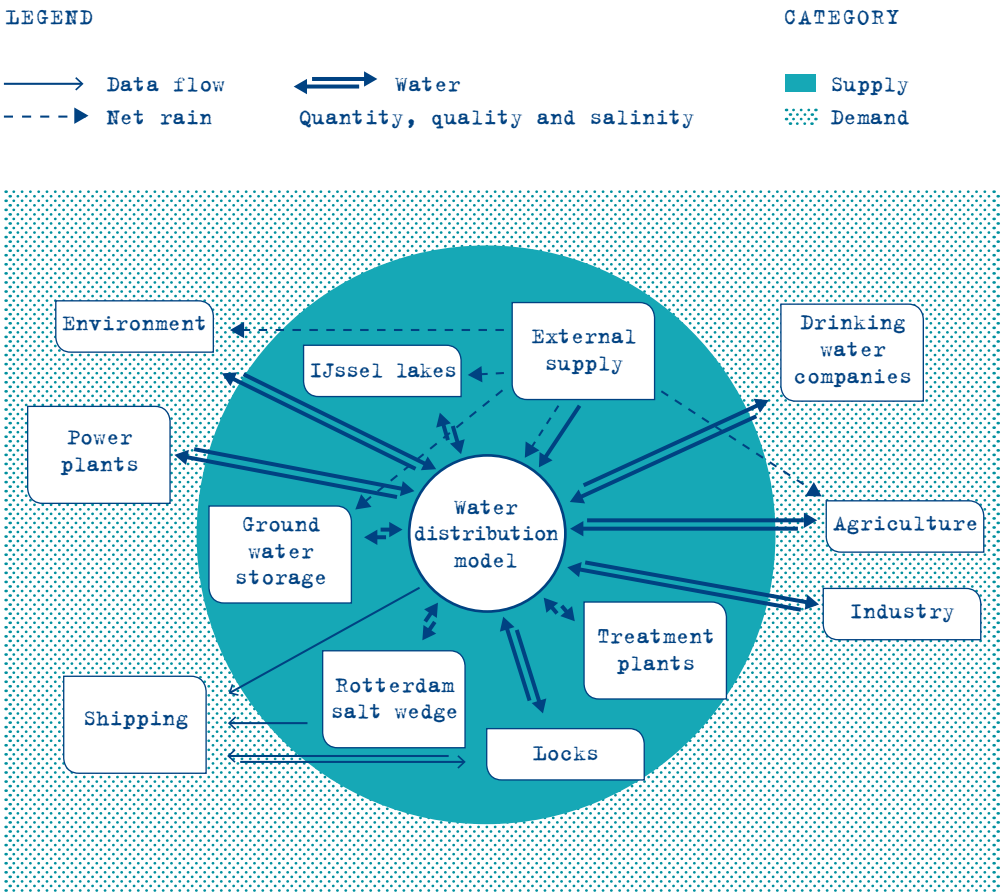
It was therefore a logical consequence that in the subsequent years, the options presented in the policy document were not immediately implemented, but instead further studies were undertaken.

### 2nd National Policy Document on Water Management

The urgent calls to take actual measures gained ground, following the extreme drought in the summer of 1976. Agriculture above all suffered considerable drought damage and salt damage, but also other interests such as shipping, energy production, industry and drinking water supply experienced the negative consequences. This situation gave birth to a broad-based policy analysis study of water resources management in the Netherlands (PAWN), which considered both the hydrological main structure and the regional water infrastructure, and was above all focused on water supply in dry periods. This study, undertaken by the Rijkswaterstaat, Delft Hydraulics and the Rand Corporation provided the first coherent analysis of water supply in dry periods, whereby the set of models offered the possibility of considering both the regional and national system in conjunction with one another, and calculating a range of scenarios. The results of the study formed the basis for the 2nd National Policy Document on Water Management (NW2) published in 1984. Although a series of measures for improvement were formulated, it was particularly noticeable that the study created the foundations for the conclusion that a number of measures that had previously been identified as possibly worthwhile could now be characterized as non-viable, based on policy-analytical arguments. The NW2 therefore represented the end for large-scale plans such as the 'North South link' and the 'Second Oostvaardersdijk' (as a minimum water resources facility for preventing salinization of the Markermeer) and the 'Canalization of the IJssel'. Although the PAWN study did not entirely ignore issues of water quality, the main point of focus in the study and in NW2 was on quantity management for surface water and groundwater, and above all the traditional interests agriculture, industry, shipping and drinking water supply set the scene.

The fact that more or less simultaneously with NW2, work was also underway on the third Indicative Multiannual Programme for Water (IMP Water) was clear evidence that water quality was on an entirely different track.

## PAWN SYSTEM DIAGRAM




Worth noting when it comes to strengthening internal coherence in water management, is that in the NW2 document, the government came out clearly in favour of a regional water management organization as being most desirable. The following underpinning arguments were presented in the document:

- The responsibility for regional water resources management has traditionally been one of the most essential tasks of the regional water authorities. In the future, too, this principle will be upheld, in particular in respect of the assessment of decisions on organization of regional water management. This in particular will relate to the Royal approval of provincial regulations.

- As far as possible, the organization of water management will have to comply with the requirements of coherent management as explained above. This means encouraging the placing of responsibility for quantity management and quality management of surface water with a single party. In that process, the splitting off of the actual purification task should as far as possible be avoided, in order to avoid as much as possible disrupting unity, within quality management. This latter fact is also particularly desirable from the point of view of efficiency.'[2]

### The Indicative Multiannual Programmes for Water (IMP Water)

The Pollution of Surface Waters Act as submitted to Parliament in 1964 did not provide for any planning at national level. On the other hand, the Explanatory Memorandum to the Act did provide a degree of insight into the speed at which it was considered desirable that the problem should be tackled.

Explanatory Memorandum to the Pollution of Surface Waters Act:

'Apart from the industrial area in Groningen for which sufficient regulations are already currently being prepared, at present, waste is discharged in our country of 12 million people, and by industry for the equivalent of a further 10 million. Of these discharges – i.e. in total for around 22 million – around 3 million is treated in purification plants. Of the remainder – in other words around 19 million – a fraction can be rendered harmless by the self-purifying capacity of the receiving water. It has already been submitted that in theory, this capacity cannot amount to more than around 5.5 million, in other words less than one third; in practice, the effectiveness is even less. The shortfall in this matter therefore at least (19 – 5.5) equals approx. 13.5 million units. It is essential that this backlog be caught up as quickly as possible. Continuing at the current pace, this would require approximately 20 years.'

The most notable feature of this citation from the Explanatory Memorandum is that a water quality approach (effect-based policy) is assumed, whereby measures will be taken, in as much as necessary from the point of view of water quality and whereby maximum use of the self-cleaning capacity of the receiving surface water is included in the calculations.

[2] See also chapter 4 by H.J.M. Havekes, *Functional decentralised water governance; guarantees, protection and developments. The institutional changes of the water authority in the past fifty years.* PhD University of Utrecht (Sdu Uitgevers, The Hague, 2009)

Later a subsequent turnaround led to a decision to opt for an emission-based approach, whereby, irrespective of water quality, the operating principle was control of pollution at the source, based on state of the art technology.

As already stated, the draft law initially contained no provisions on planning. This however changed during parliamentary discussion, when the members of the Lower Chamber Oele and Van Koeverden submitted an amendment which following some discussion and alteration was adopted, and read as follows: 'Our Minister of Transport, Public Works and Water Management will lay down an indicative multiannual programme every five years for tackling water pollution in our country, in consultation with the Minister for Social Affairs and Public Health, having heard the Council of State.'

The term indicative was included because of what Mr Oele described as sovereignty over own affairs, in other words because central government cannot simply impose obligations as contained in such a plan on lower tiers of government.

Initially, whenever reference was made to planning, the main subject of discussion was the planning of the technical purification projects that had to be implemented. Over the years, however, demand for a broader structuring of the plans for water quality policy rose. This included the inventory and allocation of functions to surface waters and the related quality objectives (e.g. swimming water) or the 'basic quality' which had been introduced by that time. In addition, in connection with international (EU) obligations, it became necessary to improve the planning processes, and embed them in law. As a result, the Pollution of Surface Waters Act was amended in 1981, among other matters in respect of this point. First of all, at provincial level, the obligation was imposed to draw up water quality plans, and in the event that water quality management had been delegated to regional water authorities, regional water quality plans had to be drawn up. The status of the Indicative Multiannual Programme for Water (IMP Water) was also amended, in the sense that the IMP became a general legislative framework for assessment of provincial water quality plans, which were required to 'take into account' the IMP programmes.

Although the obligation to draw up Indicative Multiannual Programmes was only included in the law at the last minute, it played a significant role in the progress of the execution of water quality policy. This obligation not only made it possible to analyze every five years where improvements to the approach were necessary and possible, and what actions should be considered over the next five-year period. The five-yearly report on the state of affairs in respect of the construction of public waste water purification installations also became an important benchmark, not only for the government in its progress-monitoring task, but also at regional level for the government bodies in comparing the progress in their area with that in other regions. In other words, a form of benchmark avant la lettre.

### Policy Document 'Omgaan met water' (Living with water) (towards an integrated water resources policy) and the third National Policy Document on Water Management (NW3)

The recognition of the need for greater coherence in the policy and execution of water resources management gradually grew throughout the 1980s. From the point of view of water quality, it became increasingly clear that reducing discharges although essential in achieving healthy water systems, was not enough to recover the ecological functions of the surface water. In particular with a view to this recovery of ecological values, structural aspects were of vital importance. Thinking in relation to integrated water resources management was clearly developing, but implementation in practice continued to lag somewhat behind. In turn, coherence within water resources management, as already called for in the 2nd National Policy Document on Water Management, was made more difficult by various elements, including the separation in management tasks at the level of the regional water authorities, between quantity management and quality management. The fact that the number of regional water authorities with a task concentrated on water quantity (despite their relatively small scale) was still far greater than the number of regional water authorities with a water quality task, played a significant role in that respect. In addition, in respect of external coherence at interdepartmental level, the area of tension brought about by the simultaneous development of an integrated environmental policy proved to be a key factor.

The policy document 'Living with water' (1985) with its clear calls for strengthening both internal coherence within water resources management and external coherence between water resources management and other policy fields, in particular nature policy, environmental policy and spatial planning, delivered an important boost at both policy level and implementation level. This set of ideas was elaborated in the 3rd National Policy Document on Water Management (NW3) published in 1989. The most notable aspect of this document was the central position occupied by ecology, in the targets set for the future. The necessity of a more ecologically-based structure and management of water systems, alongside the more traditional subjects such as tackling pollution and maintaining the water supply for human consumption functions, was the most obvious expression of this striving. It was also undeniable that both the organization of water resources management (integrated water authorities organized for each water system), the (statutory) set of instruments and funding had to develop in line with this initiated change in direction.

In as much as the discussion of renewal within the system of regional water authorities was or was not initiated by the policy document 'Living with Water', the elaboration of these policy principles in NW3 delivered an additional impulse. The establishment of integrated water authorities and the need for a 'broad view' in the exercising of tasks and financing were massively accelerated, as a consequence, in the 1990s.

### 4th National Policy Document on Water Management: Strengthening external coherence

Whereas environmental policy and water (quality) policy had been brought closer together for example through a combined target group approach, the substances policy and European Directives such as those in respect of Integrated Pollution Prevention and Control (IPPC), this coherence was less advanced in respect of the harmonization of spatial planning and water policy. This was one of the policy spearheads of the 4th National Policy Document on Water Management (NW4) in 1998: to strengthen external coherence. Also for the first time, responsibility for flood protection became a subject of a national plan. Another specific characteristic of the NW4 document was the open planning process that led to its establishment. This not only involved broad-based and intensive involvement by various stakeholders, but also the chosen mode of operation. The first step was the drawing up of a vision document ('Ruimte voor Water' – Space for Water) as a point for discussion. On the basis of the results of the broad discussions involving all levels of government and all relevant stakeholders, the next step was to draw up the 'NW4 Sketchbook'. In respect of those subjects in which the discussions had led to a clear direction to be followed, this sketchbook laid down the course to be set, while for other subjects the foundations were laid for continued discussions. This made NW4 one of the first policy documents to be drawn up in an open planning process, with contributions from all stakeholders. It was said of NW4 that 'by means of an open planning process, all parties involved in water resources management were given the opportunity to make their position clear, in respect of current and future water policy. The results of this process have been formulated in the policy outline in this, the fourth National Policy Document on Water Management.'

### High water and problems caused by excess rain

The near floods in the area of the large rivers and the floods in the river basin of the Meuse in December 1993 and January 1995 meant that the focus on space for water was not limited to the previously mentioned vision document, but that much attention was also paid to this issue in the new strategy for flood protection. Room for the River and the coastline is one of the key themes in NW4. It more or less formed the starting point for the 'Room for the River' process, and the discussion on the value and necessity of creating emergency overflow areas. Tying in with natural processes and the recovery of the resilience of water systems became important guiding principles in future water resources management. Nonetheless, it was clear that not everyone had as yet recognized the need to strengthen the relationship between spatial planning and water management outside the river areas and the coastal zone. Amendment of legislation on this point only succeeded following the considerable nuisance and damage (to the tune of more than € 450 million) caused by severe excess rainfall in various parts in the country in 1998, causing local flooding. Alongside the 4th National Policy Document on Water

Management, in a very short period of time, the policy document 'The Approach to flooding caused by excess rain (Aanpak Wateroverlast)" was drawn up (in 1999) in which central government, provinces and the regional water authorities drew up a joint plan of action for tackling excess rain problems. The plan is made up of four sections: a study of water resources management in the 21st century, administrative measures, measures in the regional system and measures in the main system. One of the subsequent determining actions was the appointment of the Committee for Water Resources Management in the 21st century (WB21). The NW4 document called for a roadmap based on the credo 'longer, wider and deeper'.

The longer element would have to be achieved by strengthening the focus on the intended targets and objectives laid down in the third National Policy Document on Water Management. Wider signified the need to opt for far stronger coherence in terms of water policy and water resources management with nature policy, environmental policy and above all spatial planning (it is remarkable how often the term spatial planning is used in NW4, in combination with the word coherence). Deeper, finally, focused attention on the possible consequences of climate change and the long-term effects of progressive land subsidence.

In its recommendations, the WB21 Committee responded in particular to the latter two elements:

'The Committee for Water resources management in the 21st century underwrites the course laid down in the water policy contained in the fourth National Policy Document on Water Management and the memorandum 'The Approach to flooding caused by excess rain'. The Committee supports the choice for spatial measures in the water system. At the same time, the Committee recognizes that this policy is not being sufficiently implemented, and has therefore issued a series of recommendations to strengthen the future implementation of water policy. The Committee also adds a new element: it suggests that water policy should anticipate more on future developments in the fields of climate, soil, population and economic value, rather than responding to incidents.'

### WB 21: New Living with water

The road proposed by the WB21 Committee, characterized by the new credo retain- store-discharge, above all aimed at focusing greater attention on preventing water nuisance problems such as those in 1998, received support from the government in the cabinet position on water resources management in the 21st century: 'New living with water'.

This new approach to water was also translated into a new form of collaboration through the joint establishment of agreements in a National Administrative Agreement on Water (2003), by central government, provinces, regional water authorities and municipalities. Whereas in the past, the instrument of the 'administrative agreement' had already been used in respect of a specific subject – phosphate removal – here it was applied to a far broader problem. It demonstrated the sense of solidarity in respect of the

approach to be followed. Or as put by the administrative agreement itself, 'The National Administrative Agreement on Water shows how all layers of government have joined forces, to work in phases but at all times in concert, enabling the Netherlands to live with water!'

### New Administrative Agreement on Water

The formula of an administrative agreement was re-employed in May 2011 to lay down agreements between the various administrative levels. In a new Administrative Agreement on Water, central government and the umbrella organizations for the provinces, regional water authorities, municipalities and drinking water companies laid down joint agreements on five key themes, namely:

- Clear responsibilities and less administrative burden
- Manageable programme for flood defences
- Efficient management of the water chain
- Smart combination of tasks and activities
- The administration of the regional water authorities

### National Water Plan 2009-2015 and 2015-2021

The latest additions to this family of policy documents are the National Water Plans, of which the first document focuses upon implementing the European Water Framework Directive. All water-related subjects are discussed in this plan, including water safety and water nuisance, quantitative water management for ground and surface water, including drought problems, and policy in respect of water quality and ecology. The relationship to spatial planning is also considered, since in addition to the main outlines of national water policy, the plan also considers the related aspects of national spatial policy, and in respect of those spatial aspects, also serves as the structural vision as intended in article 2.3 paragraph 2 of the Spatial Planning Act (Wro). In line with the requirements of the WFD, the plan will be reviewed at least once every six years. The second document, the National Water Plan 2015-2021 is more than only a six year update of the first NWP. The plan is also based on the four year Delta Programme Project, which in the years 2011 – 2014 studied the possible long term challenges for the Netherlands concerning flood protection and the fresh water supply. Long term in this case means that potential climate change effects are taken into account and that the project is looking forward to the situation in 2050 and 2100. Based on the studies that were carried out, strategic decisions were taken by the government and end- 2015 adopted by the Parliament about five important subjects: flood risk management; fresh water; spatial adaptation; the IJssel Lake region and the Rhine-Meuse delta.

## REGIONAL PLANNING

The formal planning process at regional level was initiated later than national level planning.

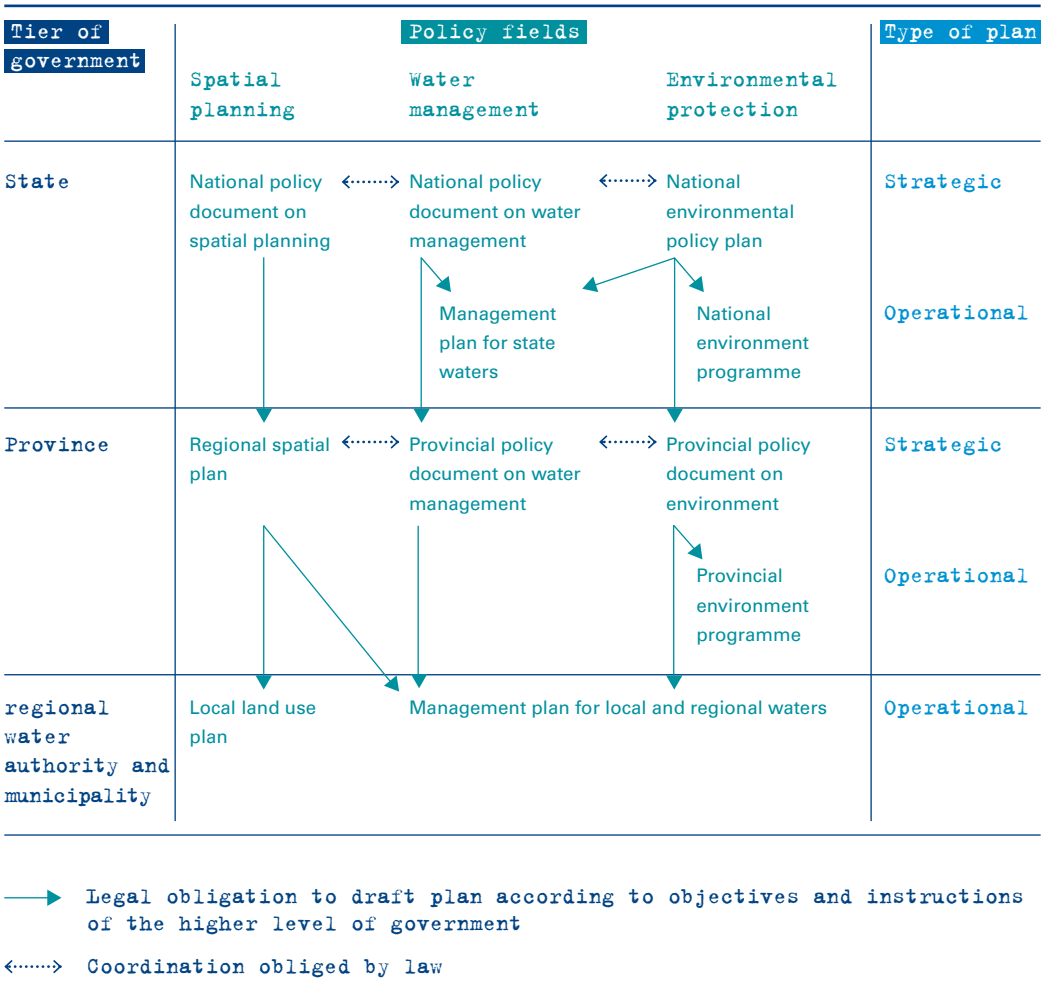
### Provincial water quality plans

In the early 1980s, the Pollution of Surface Waters Act (WVO) was revised in such a way that in addition to the obligations upon central government to draw up a central government water quality plan,

the provinces were required to draw up provincial water quality plans. In this period, the situation in three provinces (Groningen, Friesland and Utrecht) was still such that water quality tasks had not been delegated to the regional water authorities, as a consequence of which the provinces were responsible for implementation of this policy themselves. For these provinces that had not delegated the task, the plan was therefore not only a policy plan, but also an implementation plan. In the evaluation of those plans, submitted to the Dutch Lower Chamber in 1988, it was pointed out that much attention had been focused on the functions for which legal quality objectives had been formulated (swimming water, water for salmon and carp varieties, shellfish water, surface water for the production of drinking water) and for basic quality. It was however also noted that "Specific ecological objectives have only been allocated on a limited scale. Further development of these objectives is essential. Since we are still lacking a great deal of knowledge, research is currently being undertaken on a large scale, and initial fieldwork is being carried out. The study results will be used in a future elaboration of the ecological objectives, also on the basis of the CUWVO report 'Ecological standards for Dutch surface waters'. These plans represent a positive first step in the further development of the ecological objectives."

### Provincial groundwater plans

The provincial groundwater plans enjoyed only a short life. The plans that had to be drawn up on the basis of the 1981 Groundwater Act, were replaced after a single series at the end of the 1980s, by provincial water resources plans, in which groundwater management was linked to the quantity and quality policy in respect of surface waters.
On the basis of the Groundwater Act, the provinces were required to draw up a policy plan in which the outlines of the policies to be undertaken by the province over the coming ten years would be laid down. The internal function of the plan was expressed by the requirement that the Provincial Executive would have to take account of the plan in any decisions to be taken by them on the basis of the Act. This related to the upholding of the authority of the Provincial Executives to issue permits. In addition to this internal function, the plan also fulfilled an external function. On the basis of the plan, it must be possible for people to identify their entitlements to the available groundwater, and the consequences of proposed policy for stakeholders.
The Groundwater Management Committee (Commissie Grondwaterbeheer) evaluated the first generation plans and in February 1989 issued a final recommendation on those plans to the Minister of Transport, Public Works and Water Management ("Green light for groundwater management"). In its recommendations, the Committee pointed out that the current groundwater level is often implicitly accepted as the starting point in the consideration of interests. In the opinion of the Committee, this assumption ignored the problem of drought, and the resultant damage to natural values and the possibilities of repairing any such damage after the event.




According to the Committee, it was preferable to take the desired groundwater situation as the starting point. As a consequence, provincial water resources plans would have to contain a statement of the groundwater situation (level, flow and quality) towards which the province intended to work, on the basis of a careful consideration of all affected interests.

### Provincial water management plans

The developments towards integrated water resources management gradually made their way into legislation and planning. The 1989 Water Management Act represented a real step in this direction, with the integration of the planning of quantity and quality of surface water and groundwater, in water management plans. At provincial level, these plans took the form of compulsory plans, and at regional

water authority level, voluntary plans. One particularly important area for attention at provincial level was the harmonization and coordination of planning in respect of water management, and planning in other policy fields such as environmental policy and spatial planning. This had to be achieved via a form of planning described as 'leap frogging' whereby the most recently appearing plan incorporates the most recent developments in the individual fields, and as far as possible harmonizes these elements. At the same time, however, the provinces were taking initiatives aimed at establishing so-called 'environment plans', in which local district plans, environmental policy plans and water resources plans were all brought together, at provincial level. Today, the provincial water resources plans have been replaced in the 2009 Water Act by 'regional water plans'. This fact expresses the idea that – based on the river basin principle – a regional plan need not be restricted to the territory of a single province. However, the Provincial Executives will be required to make sure that the regional water plans together cover the entire territory of all provinces (section 4.4, paragraph 3 of the Water Act). For the first-generation regional plans, the provinces did in fact uphold the provincial boundaries. In terms of spatial aspects, the regional water plan also serves as a structural vision as referred to in section 2.2 of the Spatial Planning Act. As a consequence, as is the case with the national plan, the regional water plan implements the intended coherence between water resources management and spatial planning and, also at provincial level, makes it possible for the Spatial Planning Act instruments to be deployed for achieving the objectives as laid down in the regional water plan.

### Implementation and maintenance plans

Central government for state waters, and the regional water authorities for the regional waters were required to draw up water implementation and maintenance plans. The water quality management plans as referred to in the Pollution of Surface Waters Act were still optional – later becoming compulsory on the basis of the Water Management Act, whereby the regional water authorities were required to take into account the provincial plan, and provincial government the national plan – the National Policy Document on Water Management. According to the Water Act, these two are compulsory plans. For all of the water systems under their management, regional water authorities are required to draw up a management plan. A management plan describes all the actions taken by the manager in fulfilling his tasks, in particular in respect of:

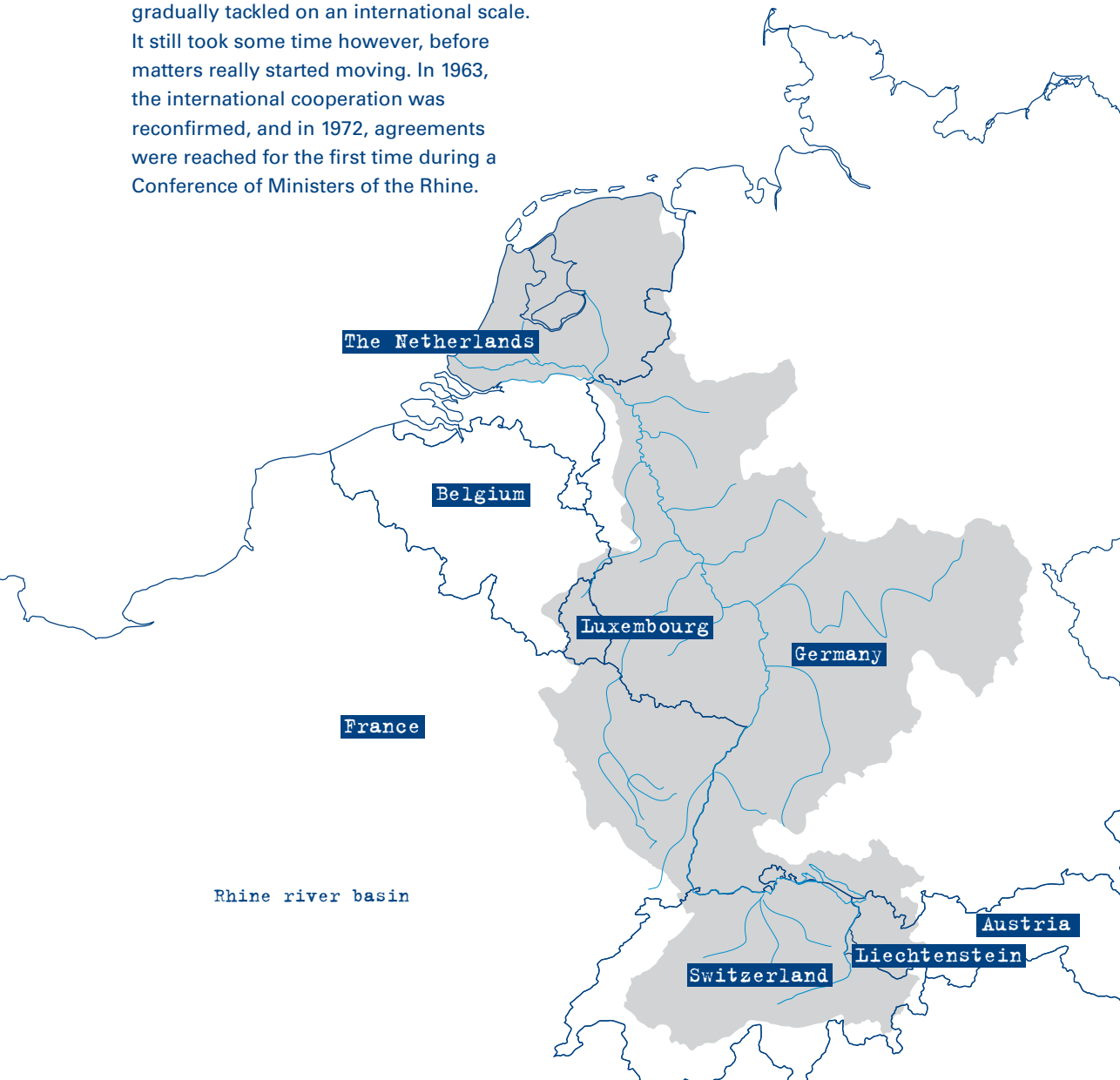
- the programme of measures and provisions;
- the additional allocation of functions;
- the way in which management will be undertaken;
- an overview of the financial resources.

One noticeable difference with provincial plans is that in respect of the provincial plan there is no obligation to take account of the national plan, while management plans of the regional water authorities do have to take account of the provincial plan.

## 4.3 INTERNATIONAL PLANNING

### International action programmes: the Rhine Action Programme

Following the establishment in 1950 of the International Commission for the Protection of the Rhine against Pollution (ICPR), the war on water pollution was gradually tackled on an international scale. It still took some time however, before matters really started moving. In 1963, the international cooperation was reconfirmed, and in 1972, agreements were reached for the first time during a Conference of Ministers of the Rhine.




Rhine river basin

True steps were taken in 1976 with the agreement between the member States (Switzerland, France, Germany, Luxemburg and the Netherlands) on the Rhine Chemical Treaty and the Rhine Salt Treaty, implementation of which brought about a visible improvement in water quality. Nonetheless, these developments also occasionally stagnated, for example with the implementation of the Rhine Salt Treaty.

The major fire at the Sandoz Chemical plant in Basel (in 1986) was an important event that made it clear to the international Rhine community that major improvements were still needed in the quality of the water of the Rhine. This fire led to a change of direction and the decision to implement an 'action plan approach'. Instead of a subtle approach to achieving objectives by formulating emission standards for each substance and each sector, taking deliberate account of competitive positions, a daring target was set of halving the pollution burden in the Rhine at that moment, within a period of 10 years. The long-term image chosen to stand for a clean Rhine was 'the return of the salmon to the Rhine'.

This action plan approach was then also applied to the North Sea, with the drawing up of the North Sea Action plan.

### Rhine warning and alarm plan

The warning and alarm plan for the Rhine (WAP) represents a special element in the collaboration within the Rhine Committee. The aim of the WAP is to report any suddenly-occurring contaminations in the Rhine basin with water-hazardous substances, which due to their quantity and concentration could negatively affect the quality of the water and/or the biocoenosis of the Rhine, and to notify the authorities and services responsible for dealing with such calamities.

The WAP distinguishes between warnings, information notices and search actions. Warnings are issued by the international main stations (IMWS, see illustration) in the event of contamination of the waters with water-hazardous substances which due to their quantity or concentration could negatively influence the water quality of the Rhine or the drinking water supply of the Rhine.
Information notices are sent by the IMWS stations to pass on objective, reliable, expert information, irrespective of the media. Information notices are also passed on by the IMWS stations to the Rhine basin nations for example in the event of a violation of the orientation values. The information is also used to provide authorities with preventive information.
Search actions are above all intended to trace the root causes of raised levels of contaminants, so that action can be taken.

## MAP OF MAIN INTERNATIONAL WARNING STATIONS

### The EU Water Framework Directive (WFD)

As we have already suggested, starting in the mid-1980s, ecology started to acquire a more prominent role as an element to be taken seriously in considering water systems. Midway through the 1990s, the European Commission took initiatives to develop a new Water Directive. The background for this decision was that a previous Conference of Ministers had concluded that an instrument was needed to secure the ecological quality of the water. As in the past, the Commission continued its standard approach of drawing up yet another Directive, with individual planning, monitoring and reporting procedures. Among other countries, the Netherlands at the time urgently called for a framework directive based on a river basin approach, aimed at eradicating the fragmentation which was prevalent at the time (with the resultant far too high administrative costs), and which at the same time would allocate a far more central position to ecological issues.

The Water Framework Directive published by the European Union at the end of 2000 has assisted in ensuring that the – international – river basin approach has been taken up in all EU countries, with the aim of ensuring ecological protection for surface water and those areas dependent on groundwater. The essence of this approach is that it is based on river basins and that – in the event of international river basins – the operating principle is cross-border cooperation. In the Netherlands, too, this approach has borne fruit in terms of cooperation between the various stakeholders.

The Directive was introduced at a useful moment, for the Netherlands. In a period where interest in water quality and ecology was gradually ebbing away, the WFD delivered a major boost to the ecological function of water systems. One other important aspect of the Directive is that it has resulted in greater uniformity in the use of definitions, monitoring programmes, reporting, etc. The various guidelines drawn up jointly by the Member States with the EC have played an important role in that respect.

Whereas in the past the ecological status had not always received full attention, the WFD clearly laid down responsibility for guaranteeing sound ecological values as one of the core tasks of water managers. This has had a positive effect on the integrated approach to water resources management in the Netherlands and the other European countries. Even in periods of waning enthusiasm for nature, this remains in place as a clear final objective. The WFD also served as an important driving force in the integration of water laws in the Netherlands into what is today the Water Act.

The central element of the implementation of the Water Framework Directive is the river basin management plan[3] (article 13

[3] See also Van Rijswick and Havekes in *European and Dutch Water Law,* Europe Law Publishing, Groningen 2012, in which they indicate 'European water law is characterized by a planned and programmatic approach to achieving the objectives of the various water directives. Both the older water directives and the newer directives such as the Water Framework Directive, the Floods Directive and the Marine Strategy Framework Directive contain obligations requiring Member States to draw up plans and programmes'.

WFD), which is described by the EU as follows: "All elements of this analysis must be laid down in a plan for the river basin. The plan is a detailed report of how the objectives for the river basin (ecological status, quantity status, chemical status and objectives for protected areas) must be achieved within the set timeframe. The plan contains all results of the above analysis: the characteristics of the river basin and assessment of the effects of human activities on the status of the waters in the river basin, an estimate of the effect of the existing legislation and the remaining 'gaps' in achieving these objectives, and a series of measures to fill the gaps. An additional component is that an economic analysis of water consumption in the river basin must be undertaken. This creates the possibility of a rational discussion on the cost effectiveness of the various possible measures. It is essential that all stakeholders be fully involved in this discussion and also in the preparation of the river basin management plan as a whole."[4] Another important element is that the WFD (article 14) encourages active participation not only in the implementation of the Directive, but also by encouraging active participation by all stakeholders in the preparation, revision and adaptation of river basin management plans. The draft plan on the basis of article 14 of the WFD must also be available for examination, for six months.

### The EU Flood Risk Directive

The main objective of this Directive (2007) is to limit the consequences of floods for the health of man, the environment, cultural heritage and economic activities.

The Flood Risk Directive was included in the Dutch national legislation in 2009, in the Water Act. In 2010, a start was made on actual implementation of the Flood Risk Directive, in other words the production of flood hazard and flood risk maps and flood risk management plans.

Obligations of the Flood Risk Directive are:

- An (initial) risk assessment for identification of areas with significant flood risks requiring planned management.

- Flood hazard maps showing the characteristics of floods (geographical scope, water depth, etc.) and flood risk maps showing the consequences of flooding in terms of potential damage and numbers of persons affected. Deadline: 22 December 2013.

- Flood risk management plans, with objectives and measures for reducing flood risks. Deadline: 22 December 2015.

[4] http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm

The flood risk management plans must contain the following elements:

- the conclusions of preliminary flood risk assessment in the form of a summary map of the river basin district or the unit of management referred to in article 3(2)(b), delineating the flood risk areas (identified under article 5);
- flood hazard maps and flood risk maps and the conclusions that can be drawn from these maps;
- a description of the objectives of flood risk management;
- a summary of the measures and their prioritization with which it is aimed to achieve the objectives of flood risk management, including flood-related measures taken under other European legislation, including the EIA Directive, the SEA Directive and the Water Framework Directive;
- for shared river basins or sub-basins, a description of the methodology defined by the Member States concerned, of cost-benefit analysis used to access measures with transborder effects.

### The EU Marine Strategy Framework Directive

This Directive, introduced on 17 June 2008, is aimed at laying down a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).
The aim of this strategy is 'to protect and preserve Europe's seas and oceans and to ensure that human activities have a sustainable character, so that current and future generations can enjoy and profit from clean, safe, healthy and productive seas and oceans, rich in biological diversity and dynamism'.

The core of the Marine Strategy Framework Directive consists of the obligation upon the Member States to adopt a marine strategy in respect of waters under their sovereignty or jurisdiction, for each marine region or subregion concerned (article 5, paragraph 1). For the Netherlands, this is the subregion North Sea as part of the north-eastern section of the Atlantic Ocean. In the marine strategies, an 'ecosystem-based approach to the management of human activities' must be employed, in addition to which 'the sustainable use of marine goods and services by present and future generations' must be made possible (article 1(3)).
In the Water Decree, it is determined that the core elements of the marine strategy will be contained in the National Water Plan (NWP) and the Management Plan for State Waters (BPRW). At present, these plans include policy for spatial planning, user functions and the environment on the North Sea, as well as their financing and realization. The marine strategy is incorporated in the integrated North Sea policy as contained in the NWP and BPRW. The Water Decree also regulates public participation and coordination within the marine region.

### EU Blueprint

Following the introduction of Directives governing subareas of water management, the next step by the EU is aimed at the further integration of these subareas. In 2012 the European Committee has launched a Blueprint to Safeguard Europe's Water Resources, a strategy for ensuring that enough good quality water is available to meet the needs of people, the economy and the environment. The Water Blueprint highlights that preserving water is not only about environmental protection, health and well-being. It is also about economic growth and prosperity. It is a way of ensuring that the EU water industry fully develops its growth potential and that all the economic sectors that depend on availability of water of a certain quality can prosper, thereby creating growth and job opportunities.

The Water Blueprint sets out a three-tier strategic approach:

- Improving **implementation** of current EU water policy by making full use of the opportunities provided by the current laws.
- Increasing the **integration** of water policy objectives into other relevant policy areas such as agriculture, fisheries, renewable energy, transport and the Cohesion and Structural Funds.
- **Filling the gaps** in the current framework, particularly in relation to the tools needed to increase water efficiency.

## 4.4 LESSONS LEARNED: BASICS FOR PLANNING

### The importance of planning

Planning is an essential building block for achieving objectives in integrated water resources management. In establishing greater coherence within water management – quality management and quantity management of surface waters and groundwater – on the one hand and between water management and related policy fields – environmental policy, spatial planning, nature policy, etc. – on the other, planning will also have to become more integrated in character. The examples of this integration at national and international level outlined above are clear examples of such a development. A well-balanced planning system with sound coherence between the individual components at international, national, regional and local level forms a powerful instrument in formulating and realizing policy objectives. Moreover, planning is the ideal instrument for awarding sufficient attention to the long term in which these developments are taking place.

Below, a number of the aspects previously discussed are once again considered in the form of lessons learned and basic elements for good planning. At the end of the section, I point out that planning is not always the success factor it could be in theory. There are all too many examples of pitfalls that can result in excellent plans never reaching fruition; and some of these pitfalls are remarkably deep.

### Internal and external coherence

One major line in the development of water management planning, both nationally and internationally, concerns the development from planning in subareas towards increasingly integrated planning. Firstly, this involves the strengthening of internal relationships between water quantity management and quality management for surface water and groundwater. There is also growing attention for external coherence with other policy fields such as spatial planning , environmental policy and nature policy. The development of the European Directives more or less follows this same line.

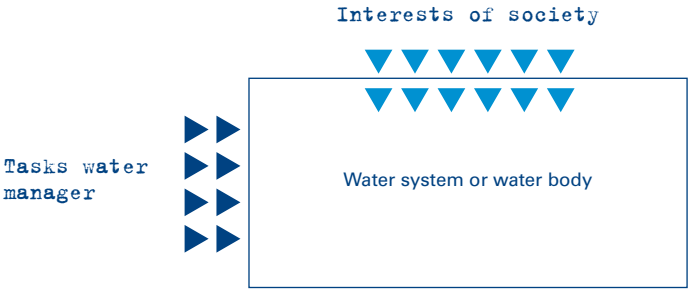
### Communication and participation

Another development – taking place more or less hand in hand with the above mentioned internal and external broadening of scope – relates to the increased attention for communication and participation. Whereas plans were originally drawn up by the responsible authority with an opportunity for public consultation, gradually, an intensive interactive process has been introduced aimed at involving all stakeholders in the preparation of plans, in time and to a sufficient extent.

### Tasks and interests

When it comes to planning for regular circumstances, the planning activity will always in part be focused on ensuring a better, more structured and more integrated approach in implementing government tasks. Effectively, it is nothing more than a form of good preparation. At the same time, the importance of planning also lies in the process of making strategic choices. This calls for sound communication with the stakeholders and careful decision making. The objectives must be clear as must the instruments, and how they are to be used. Where priorities need to be set between these interests, decision making will have to take place clearly, in such a way that the parameters and criteria employed are clear to all stakeholders. Planning will often be an interactive process in which decisions are taken in consultation with the social sectors.

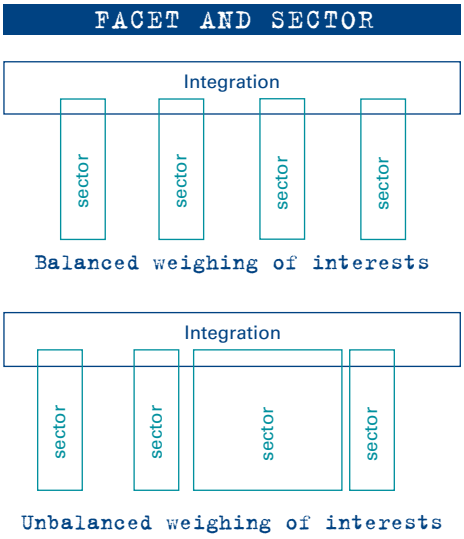
One important additional element of planning is that it makes it possible to evaluate progress both in respect of the measures and activities to be (under) taken, and in respect of the objectives to be achieved. In other words, planning results in transparency in the exercising of the tasks of the water manager.



### Balance of interests

One common phenomenon is that management is undertaken according to a single specific interest (for example agriculture) or a limited number of specific interests (safety and shipping). The other interests are then considered as being less relevant. This applies in particular if the water manager has or believes it has a specific responsibility in respect of a social sector.

In the past, this was for example the case in the Netherlands with the regional water authorities which, based on their history, were tied closely to the agricultural sector. In the case of the Department of Public Works and Water Management, shipping was another sector in which policy responsibility at the Ministry of Transport, Public Works and Water Management was a specific responsibility that had a clear influence on priority setting when it came to taking measures. It is of key importance that all interests be balanced as is required in the Water Act.




### Cooperation without compulsion

A final comment relates to the lesson learned that less strict legal forms of cooperation sometimes bring about faster results than highly regulated forms. Cooperation in the international Rhine Committee often proved to be a forerunner in comparison with the establishment of EU Directives. One essential building block for the Rhine agreements was trust, whereas EU agreements were for a long time based on detailed regulation. A similar trend appears present at national level in the implementation of administrative agreements as a means of optimizing efforts in mutual cooperation. Such administrative agreements specifically offer less detailed frameworks thereby making it possible to take account of regional differences.

### Planning as a pitfall

In addition to the undeniably numerous positive elements of planning, it is equally important to point out the pitfalls that planning can sometimes represent. All too often, plans turn out to be nothing more than paper tigers that end up on the backburner, and are barely implemented, if at all. The procedure for the establishment of plans can also be an argument for postponing measures. For example one effect of the WFD was that in a period of allmost 10 years between the entry into force of the Directive (2000) and the adoption of the river basin management plans (2009), in a certain sense a brake on the implementation of actual measures was applied. After all, so went the argument, let us not take any measures now, while we are still at

work drawing up the plans. In a recent publication by Zanting and Leewis[5], it is noted that the decisiveness demonstrated in the elaboration of (new) policy is often almost entirely absent in actual execution. There is often a gap between plan and implementation.

There are also numerous international examples of policy plans drawn up in the framework of development aid that years later turn out to have not been implemented, but merely replaced by the next plan. With reference to the first chapter on the three-layer approach to water governance, it should here once again be emphasized that a plan alone is not enough, if equal attention is not paid to other elements of the institutional and relational layer of water governance in relation to the content of the problem. Organization, legislation and funding must be adequate, and at the relational level, the culture (expressed for example in a shared sense of urgency) and collaboration must be such that decisive action is taken.

[5] Harm Albert Zanting en Martine Leewis, *Klimaat voor waterlanders, Bericht aan de Deltacommissaris,* Eburon, Rotterdam 2011.

## 4.5 CONCLUSIONS

In particular for integrated water resources management in the future, it is essential that measures be considered at an early stage, in order to be prepared for developments that are likely to take place in the (far) future (climate change, sea level rise, salinization, land subsidence, urbanization, etc.). This calls for a solidly-planned approach. Via a structured approach of this kind, the intended objectives of water management can be identified, the necessary measures developed, and all taken into joint consideration. In that process, both internal and external coherence must receive sufficient attention. Internal coherence calls for the specific consideration of the water systems and policy, as a whole, and the implementation of water safety, quality management and quantity management of groundwater and surface water, including the wastewater chain, all designed coherently.

External coherence relates to a range of other policy fields, such as spatial planning, nature and environmental management, agriculture and market gardening, traffic and transport, power supply, urbanization and economic development. Above all the harmonization of water management with spatial planning is crucial, also on an international scale. In many (delta) countries, there is as it were a struggle for every square metre of land, whereas it is sometimes wiser to zone that particular land for water-based purposes. If that does not happen, at the end of the day,

the water will eventually take back its own space, with all the resultant disastrous consequences. A planned approach can help ensure that water is given its due position in good time, in all spatial area developments, without us being faced with a fait accompli.

One essential precondition for any plan is the provision of sound financing.
A plan without a budget will generally speaking have no chance of actually being implemented.

A planned approach is also the ultimate tool for closely involving a diverse group of stakeholders in water management, in good time, in the water policy and water management to be implemented. Via this early involvement, it is possible to tie in as well as possible to the wishes prevalent in society. The same applies to international river basins in case of transnational water problems.

European water policy is also characterized by a highly planned approach, whereby clear examples are the compulsory river basin management plans and the flood risk management plans from the WFD and Flood Risk Directive. In other countries, the realization that such a planned approach is essential is becoming increasingly common (Indonesia) and 'delta plans' are currently being prepared (Vietnam).

Finally, it is important that we guard against the risk of plans becoming stranded at the level of good intentions. Instead, conditions must be created to ensure that plans are actually efficiently implemented.

## 4.6 A NEXT STEP IN THE NETHERLANDS: THE ENVIRONMENTAL MANAGEMENT ACT

Although still rather young, the Dutch Water Act will – in the next years – be succeeded by a new law, the Environmental Management Act. In line with the aims of the Water Act, the new act is meant to integrate different aspects of environmental legislation and should at the same time make things less complicated and easier in use for the stakeholders. One of the leading ideas is that a citizen or company for getting permission for an activity only needs to submit one application.
The government is then responsible to ensure internal coordination. Important consequence for the planning process is that its scope is also widened from water in conjunction with spatial planning to all environmental aspects. The law has been adopted mid-2015 by the Lower Chamber but - at the beginning of 2016 - still has to pass the Senate.

# 5 Adequate financing of water management

Authors: Herman Havekes en Robert van Cleef

## 5.1 INTRODUCTION

Good water management requires a great deal of money! Means are required not only for investments in dykes, dams, irrigation systems, purification plants, sewerage systems, etc. but also for the day-to-day costs of management and maintenance and the governance costs of water management. Sound financing must therefore be available. Unfortunately, however, in practice this often proves not to be the case. As a consequence, what is known as the 'funding gap' is one of the greatest bottlenecks in water management. As already outlined in chapter 2, the 17 countries investigated in the OECD survey have identified the funding gap as the most important of the gaps facing them.

Without sound funding, little will come of any water management plans. Fortunately, the importance of an adequate financing system has today been broadly recognized, and international treaties, guidelines and studies include a number of extremely important principles in that respect, such as the principle of the polluter pays and the principle of cost recovery for water services. Particular reference should be made to the relevant provisions in the European Water Framework Directive (WFD). A turnaround also seems to be taking place in the idea that water is supposedly a gift from God, for which no payment can be demanded. At the sixth World Water Forum held in Marseille in March 2012, one mayor from an African country succinctly summarized the situation. "Water may be a gift from God, but He doesn't bring it to your front door". This turnaround is making it simpler to employ basic funding principles whereby clear account is automatically taken, and indeed must be taken, of the payment capacity of the various population groups.

The structure of this chapter is as follows. In section 5.2 we give a brief outline of the funding of water management in the Netherlands and recent developments. Section 5.3 deals with a number of important principles according to the OECD and the WFD, whereby the Blueprint from the European Commission and a study by the OECD on the funding of water management are also considered. In section 5.4 we briefly discuss the Financing System Assessment Tool, developed by the Water Governance Centre, and in section 5.5 the need for economic analyses within water management. After all, generating the necessary funding is one thing; spending the money thus collected in a sensible manner is quite another. In section 5.6 we plead for introducing an international standard, 1% of GDP, for the required funding on a country level. Section 5.7 ends the chapter with a number of conclusions.

## 5.2 THE FINANCING OF WATER MANAGEMENT IN THE NETHERLANDS

The financing of water management in the Netherlands, which in 2013 amounted to a total of 7.8 billion euros, can be described, according to the tasks allocated to the various levels of government.[1]

Central government is responsible for managing the main water system, waterway management and a number of major dykes and dams. Central government is also currently undertaking the Room for the River programme. The funding required for this work – in 2013 totalling 2 billion euros – is obtained almost entirely from nationally-levied tax income. Only for the discharge of waste water in State waters a separate pollution levy is charged (see article 7.2 et seq. of the Water Act), which generates approximately 20 million euros each year.

In 2013, the provinces spent 305 million euros on water and waterway management. Only for the abstraction of groundwater do they charge a levy (see article 7.7 of the Water Act) which each year generates approximately 15 million euros.

The regional water authorities are almost entirely self-supporting and for the most part finance their activities via their own levies. They only receive a financial contribution for the strengthening of primary flood defences from central government. Until recently, this contribution covered 100% of the relevant costs. In the Administrative Agreement on Water, it was however agreed that from 2011 onwards, the regional water authorities would also make a contribution to this amount. In 2015, with a contribution of 181 million euros, they are paying half of those costs, per year. For water system management (water retention, water quantity and water quality), the regional water authorities operate a system of water levies as laid down in articles 116 et seq. of the Regional Water Authorities Act. In 2013 this levy generated more than 1.23 billion euros. This bill is paid by households, owners of buildings (including dwellings), farmers and land managers of nature areas. This final category pays a marginal amount totalling 2 million euros per year. The waste water treatment tax regulated in articles 122c et seq. of the Regional Water Authorities Act is spent on waste water purification measures. This levy is paid by households and businesses connected to the purification plants, and in 2013 also generated 1.2 billion euros. Finally, anyone directly discharging into water managed by the regional water authorities pays a pollution tax which in 2013 generated approximately 9 million euros.[2] These sources of income enable the regional water authorities to cover their regular management and installation costs, as well as investing more than 1.3 billion euros each year in water management activities.

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[1] *Toekomstbestendige en duurzame financiering van het Nederlandse waterbeheer,* Twynstra Gudde, Tauw, 30 juni 2015.

[2] *Waterschapsbelastingen in 2014,* Association of Regional Water Authorities, The Hague 2014.

## EXPENDITURES DUTCH WATER MANAGEMENT TASKS 2013

In million euros

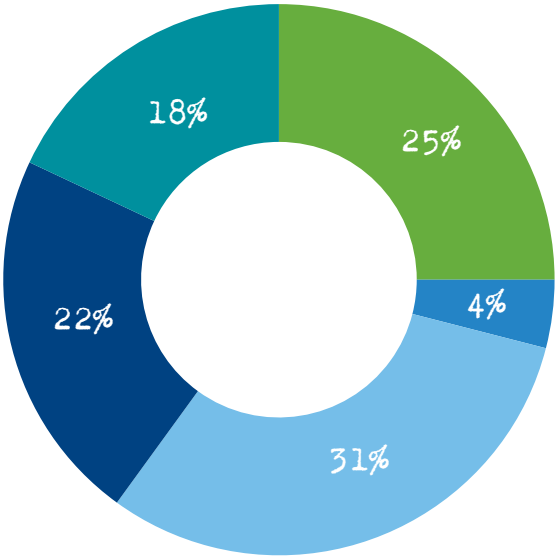
National government
1.998

Provinces
305

Regional water authorities
2.427

Municipalities
1.760

Drinking water companies
1.384




The municipalities finance their sewage management tasks and duties of care for rainwater run-off and urban groundwater levels via the sewerage charges regulated in the Municipalities Act. These charges are paid for by households and companies connected to the sewerage system, and in 2013 generated approximately 1.46 billion euros.[3]

Finally, the drinking water companies send bills to their customers for the delivered drinking water. In 2013, this amounted to a total of 1.44 billion euros.

[3] *Atlas van de lokale lasten 2013,* Coelo 2013, p. 24.

## Recent initiatives

In 2013 the OECD conducted an open-minded study on the question: is the Dutch water management fit for the future? The final report that was published in 2014, states that the Dutch water management has an excellent reputation and can be seen as a reference for the world. In relation to the financing system the report holds recommendations and states that 'economic incentives could be strengthened and made more consistent with water policy objectives. In particular they can ensure that those who generate liabilities with regards to water management also bear the costs'.[4] In short it recommends to strengthen economic incentives to manage "too much", "too little", "too polluted" water efficiently and equitably by making beneficiaries and/or polluters pay.

Following these results, the Dutch Minister of Infrastructure and the Environment and the governing bodies responsible for water management (provinces, regional water authorities, municipalities and drinking water companies) agreed to start a process towards a sustainable and future proof financing system. The main principles in this process are described in a letter of the Minister of Infrastructure and the Environment to the Dutch Parliament.[5] The process started in 2015 with a baseline study to gain insight in the existing financial arrangements and map the future developments that might impact water management and the financial arrangements. Now all stakeholders have joined forces to define proposals for improvement of the Dutch financing system, by the end of 2016.

This brief summary of the funding of Dutch water management leads to the following conclusions. Firstly, even in a country as small as the Netherlands, we see that each year almost 7.8 billion euros is spent on water management. This underlines the fact that water management is a very costly business. It should be pointed out that the various public bodies are specifically working towards increasing the efficiency of water management, as a result of which substantial cost savings could be achieved (from 2020 onwards 750 million euros per year). Specific agreements on this issue have been laid down in the Administrative Agreement on Water entered into in May 2011 by the various parties.

Secondly, central government spends relatively little money on water management. Less than 0.8% of the national budget is spent on water management, and central government is responsible for not more than approximately 25% of the total annual expenditure on water management. For a water-rich and vulnerable delta country like the Netherlands this is a fairly remarkable observation; and even that money is generated almost entirely via general tax income, in other words, levies not relating to water.

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[4] *Water Governance in the Netherlands: Fit for the future?*, OECD Studies on Water, OECD Publishing 2014, p. 18.

[5] Parliamentary Proceedings II *(Kamerstukken II)*, 2014-2015, 27625, no. 340.

Thirdly, in connection with the above comments, it is observed that the vast majority of the total of 7.8 billion euros spent on water management in the Netherlands in 2013 was financed via decentralized levies and prices paid by stakeholders, users and polluters. Particular attention should be paid to the levies charged by the regional water authorities and municipalities and the price charged by the drinking water companies for their product. On average, Dutch households in 2012 spent almost 540 euros on these levies and prices, representing a slight fall as compared to 2011. It should also be noted in respect of these decentralized levies – an aspect that is also important on an international scale – that there are various possibilities for remission that take account of the payment capacity of lower income categories. It has also become clear that the Dutch authorities still have work to do and it is promising to see that all water related institutions have welcomed the challenge to further improve the financing system.

As a consequence – in fourth and final place – we can speak of a financing structure which to a considerable degree does justice to the principle of the recovery of costs of water services, including 'the polluter pays' as laid down in article 9 of the WFD. This provision is discussed in the next section.

## 5.3 BASIC PRINCIPLES FOR THE FINANCING OF WATER MANAGEMENT

As emphasized above, water management costs a great deal of money. This funding is often unavailable in sufficient amounts from central government. This is exacerbated by the fact that good water management is above all an issue for the medium to long term. Even if at first glance there appear to be no acute water problems, money will still have to be spent for management and maintenance and installation costs. However, this is a difficult political issue, as experience has taught us in many countries. For more than one reason it is therefore wise to allocate the costs or most of the costs of water management to stakeholders, users and polluters, thereby guaranteeing sufficient funding. Because of their direct demonstrable interest in good water management, it is not more than reasonable for these categories of stakeholders to contribute to the costs of the water management.

Although the principle of 'the polluter pays' has existed for quite some time, the WFD, which entered into force at the end of 2000, is of particular importance in this connection. Article 9 of the WFD calls upon the Member States to take account of the principle of the recovery of costs for water services, in particular the polluter pays principle. In addition, the Member States must make sure that water pricing policy contains adequate incentives to encourage users to make efficient use of water supplies, thereby making a contribution

to the environmental objectives of the WFD. Furthermore, on the basis of this provision, the various water consuming sectors, broken down into at least households, businesses and agriculture, must make a 'reasonable contribution' to the recovery of costs for water services. In the light of this terminology, there is no question of the complete recovery of costs. Nonetheless, the European Commission (EC) does attach considerable value to cost recovery. This is reflected in the EC's earlier communication on water pricing policy, published on 26 July 2000. Its 'Blueprint to Safeguard Europe's Water Resources' published on 14 November 2012 also underlines the importance of pricing policies. In setting their water pricing policy on the basis of article 9 of the WFD, the Member States are able to take into account the relevant social, environmental and economic effects, and the geographical and climatological circumstances of the affected areas. Paragraph 4 of article 9 also contains a generally formulated possibility, in accordance with established practices, not to apply the obligations referred to for a specific form of water-use activity, if such non-application does not compromise the purpose of the Directive and the achievement of its objectives. In this way, the Member States are offered a degree of leeway, particularly useful for a number of Southern European countries. As yet, water services in these countries are still practically free or are financed entirely from the central government treasury. Despite this leeway, the message is clear: the WFD intends to achieve a system of water pricing.

To thoroughly understand the principle of the recovery of costs of water services, it is of course first important to understand what is meant by the term 'water services'. Article 2 of the WFD defines the term as follows: 'all services which provide, for households, public institutions or any economic activity:

a. abstraction, impoundment, storage, treatment and distribution of surface water or groundwater;
b. waste-water collection and treatment facilities which subsequently discharge into surface water'.

This definition reveals that under all circumstances, the entire 'water chain' must be viewed as a water service, in other words drinking water supply, sewerage and waste water treatment. There are also sound reasons for viewing water quantity management as a water service, because surface water is stored and distributed over large distances, in respect of specific economic activities (agriculture, shipping, energy supply, etc.). Responsibility for flood defences is more difficult to fit within this description. The Flood Risk Directive introduced in 2007 in no way altered this situation. In the Netherlands, as already outlined in section 5.2, half of the costs for water defence structures are already charged to the stakeholders, via the system of water levies.

The essence of the WFD is to bring about a situation in which these water services are no longer financed via the general tax income of central government, but via specific taxes or prices that are charged on to the various sectors, including at least

households, businesses and agriculture. According to the EC, this approach offers a better guarantee that sufficient funding will be available for water management.

In a study by the OECD[6], the importance of adequate 'public funding' for water management is once again emphasized, which will surely come as no surprise, given the OECD report on water governance discussed in chapter 2.

In an appendix to this new report, a rough estimate is given of the worldwide investments in (exclusively) drinking water and sanitation provisions up to the year 2050. Depending on the precise method of execution, the OECD estimates the amount between 7.52 and 9.23 trillion USD. These are almost inconceivable amounts. No figures are given for the necessary investments in dykes, dams, retention areas and irrigation projects. Given the climate problems, sea level rise, land subsidence and population growth, enormous investments will also be necessary in those areas, which may even be of a similar order of magnitude. After all, an ever growing proportion of the world's population, in the future some 70%, lives in delta areas.

These amounts emphasize the importance of sound funding for water management. The OECD places this in the light of four challenges which they recognize in water management (page 14):

1. Increased competition between water users (farmers, energy suppliers, industries, households, ecosystems) intensifies to access the resource.
2. Untreated waste water from cities (primarily in non-OECD countries) and effluents from agriculture deteriorate water quality in several regions.
3. The number of city dwellers and the value of economic assets at risks of floods increase.
4. The number of city dwellers without access to water supply has increased over the last two decades. The situation is even direr as regards sanitation.

According to the OECD, public funding is an essential element of the financing of water management, and itself is subject to four key principles (pages 14-15):

- the polluter pays principle;
- the beneficiary pays principle;
- the equity principle;
- the coherence principle between policies that affect water resources like agriculture, land use or energy.

The first two of these principles are a clear reference to article 9 of the WFD, as described above. One problem identified in that connection by the OECD is that the explanation of the term 'water service' is unclear, and varies widely in the different

[6] OECD (2012), *A Framework for Financing Water Resources Management*, OECD Studies on Water, OECD Publishing.

countries of the EU. Germany, for example considers only drinking water supply and waste water disposal as water services. The EC has brought Germany before the European Court of Justice in this matter. In 2015 the Court of Justice of the European Union was for the first time challenged to specify the scope of the principle of cost recovery for water services in the context of the WFD.[7] The most relevant aspect of the court ruling was that recovery of costs for water services is just 'one of the tools' available to the Member States to reach the goals of the WFD. In other words other ways are not excluded. This implies that the impact of cost recovery for water services as the one and only instrument has lost some of its weight. Scholars have thoroughly criticized this judgement.[8]

Furthermore, effectuation of the polluter pays principle still leaves a great deal to be desired in many countries. The OECD identifies four reasons for this failure. Firstly, diffuse sources of pollution are difficult to deal with, a reference above all to the agricultural sector. Certain countries such as Denmark, France, Norway, Sweden and the US, however, have introduced a product levy on artificial fertilizers and pesticides. Secondly, regulations governing water discharge are poorly enforced, in many countries. Thirdly, ownership rights and institutional obstacles form a considerable problem, and finally, sometimes historical contamination and contamination caused by rain and air form a stumbling block. In some situations, taxing of water consumption is not a suitable solution, because the water consumer can hardly be held responsible for the pollution in question.

Water management serves a wide variety of interests, from which many sectors such as businesses, agriculture, energy supply and households all profit. In other words, it is possible to set a price for the consumption of water (both surface water and groundwater), and this is indeed done in many countries. This ties in well with the 'adequate incentives' in the water pricing policy called for in article 9 of the WFD.[9] There are however also indirect advantages that are difficult to measure, for example for ecosystems and transport facilities. It is more difficult to set a price for these advantages; nonetheless, in the study, a number of specific examples of ecosystem and shipping levies are presented. Israel, for example, operates a well-balanced system of levies for river recovery.

The equity principle (according to which water must also be affordable for the less well-off) and the necessity for policy harmonization are discussed fairly briefly, with reference to the fact that in a number of countries such as Spain, government subsidies to agriculture in fact promote the inefficient use of water.

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[7] Case C-525/12, on the European Commission against the Federal Republic of Germany.

[8] See P.E. Lindhout, *Cost recovery as a policy instrument to achieve sustainable and equitable water use in Europe and the Netherlands,* PhD Utrecht University 2015, Chapter 5.

[9] Contrary to these adequate incentives, groundwater tax based on the Environmental Taxes Act, of approx. € 0.18 per $m^3$ in the Netherlands, was scrapped as of 2012. This tax generated approx. 180 million euros per year, which was in fact not spent on water management, but simply flowed into the government treasury.

The OECD study also contains a detailed overview of the various water levies applicable in the countries covered by the study. If in this overview any common element can be identified, then it is the very low rates charged for the abstraction of surface water and groundwater. On some occasions, additional exceptions apply to the agricultural sector. In its study, the OECD calls for the following step-by-step approach (pages 17-18):

1. Ensure that sectoral policies and initiatives that have implications for water use are coherent and considered in conjunction with water management policies.

2. Define and inventory the public good components of water management and seek to value them where possible.

3. Inventory and value the private benefits of water management. A variety of valuation methods is available and can usefully be used in combination.

4. Identify beneficiaries, and allocate the financial burden across beneficiaries. The four principles above provide a framework on which to build. Previous work has established that social objectives are better attained through well designed, targeted social measures.

5. Consider a range of instruments to harness beneficiaries. Economic instruments can play a prominent role, in combination with other instruments, when carefully designed under appropriate institutional and governance structures.

6. Seek to raise commercial finance. The capacity to attract commercial finance for particular aspects of water management (such as infrastructure development and the delivery of water services) will depend on the robustness of the institutional and regulatory framework, including business models in place (who pays for what).

In the light of the final recommendation, it is interesting to point out the fact that sixty years ago, the Dutch regional water authorities established their own bank, the Nederlandse Waterschapsbank N.V. (NWB Bank) to meet their own capital requirements. The financial situation of the regional water authorities around the 1950s was far from healthy. This meant it was difficult – or expensive - to attract capital to finance investments in water management. So at that time the idea arose for the regional water authorities to set up a bank of their own. This initiative was speeded up following the North Sea Flood of 1953, and in 1954 NWB Bank came into being. This bank provides for the capital needs of the regional water authorities and is able to do so at a competitive rate of interest. As the bank only lends to the public sector, it runs hardly any risk; consequently its credit rating is triple A. NWB Bank's current balance-sheet totals over 88 billion euros and each year around 5 billion euros in new loans are granted. The bank's shares are held by the regional water authorities, the State and a number of provinces. NWB Bank takes corporate social responsibility very seriously. In late 2006, together with the Dutch Association of Regional Water Authorities, it set up the

Stichting NWB Fonds, a fund that among other things finances international projects set up by Dutch regional water authorities.

In 2015 the OECD defined 12 principles for good water governance (see chapter 1). One of these principles is the 'financing' of water management. Financing is together with 'data and information', 'regulatory frameworks' and 'innovative governance' one of the elements that define the 'efficiency' of water governance. This principle is to ensure that institutions collect and allocate financial resources in an efficient, transparent and timely manner, through:

a. 'Promoting governance arrangements that help water institutions across levels of government raise the necessary revenues to meet their mandates, building through for example principles such as the polluter-pays and user-pays principles, as well as payment for environmental services;

b. Carrying out sector reviews and strategic financial planning to assess short, medium and long term investment and operational needs and take measures to help ensure availability and sustainability of such finance;

c. Adopting sound and transparent practices for budgeting and accounting that provide a clear picture of water activities and any associated contingent liabilities including infrastructure investment, and aligning multi-annual strategic plans to annual budgets and medium-term priorities of governments;

d. Adopting mechanisms that foster the efficient and transparent allocation of water-related public funds (e.g. through social contracts, scorecards, and audits); and

e. Minimising unnecessary administrative burdens related to public expenditure while preserving fiduciary and fiscal safeguards.'[10]

If the WFD, the EC Blueprint, the OECD study and the new OECD principles are considered in conjunction with one another, the inevitable conclusion is that the introduction of systems of water pricing must continue to be propagated. On the one hand, such systems offer the best guarantee of sufficient funding for water management, while on the other hand they also do justice to the fact that interest groups profit from good water management. This fact has been standard practice within the Dutch regional water authorities for some 500 years, via the well-known adage interest-pay-say. It is, however, essential that all relevant sectors are called to account; at present, some sectors including agriculture, energy supply and shipping, are still able to mostly avoid their responsibilities. Secondly, the rates charged should preferably be realistic, thereby doing justice to the huge amount required for good water management. The current rates charged in many countries for the abstraction of surface water and groundwater are far too low, in that light. Furthermore, the levying and collection of water charges must be carried out

[10] *OECD Principles on Water Governance,* June 2015, p. 10.

efficiently, in other words at acceptable perception costs of not more than 10%. Finally, it is essential that any funding charged to interest groups are 'earmarked', in other words, the funding thus generated must be spent by the public organization in question exclusively for water management.

## 5.4 FINANCING SYSTEM ASSESSMENT TOOL (FAT)

In the light of the above, it is useful to refer to the recently established Financing System Assessment Tool (FAT). Sterk Consulting and the Water Governance Centre jointly developed this instrument and tested it (in two countries). FAT can be useful in assessing financing systems in water management.

Unfortunately, there are plenty of examples of how poorly-functioning financing systems can lead to inefficiency and even disasters in water management. Take for example the consequences for hurricane Katrina in New Orleans. The hurricane caused 1,836 deaths and 125 billion USD in economic damage. This disaster could have been avoided if the financing system had operated correctly. It turned out that the money intended for flood defences was insufficiently labelled and was not spent on dykes and other waterworks, but on apparently more urgent issues such as the war in Iraq and the construction of casinos.

The FAT tool is a low-threshold, hands-on instrument. It consists of 4 successive stages. In each of these stages, a number of questions are answered. The first two stages are preparatory, and determine the scope, as well as preparing an outline picture of the current situation. Actual assessment takes place in stage 3. Following assessment, recommendations are formulated in stage 4.

Stage 3 of FAT represents the actual assessment of the financing system, according to a clear list of criteria. These criteria are based on national and international reports on the functioning of economic instruments, price mechanisms and financing systems. The FAT criteria can be broken down into two groups:

- the criteria Stability and Sufficiency are two key indicators that provide a picture of how solid and mature a financing system is;
- the other three criteria Cost Recovery Principle (CRP), efficiency and effectiveness provide greater insight into how a financing system operates.

In 2015 a FAT application based research was conducted on the relation between flooding and the financing system.[11] The financing of drinking water and sanitation (generally known as WASH) has occupied experts and practitioners for more than a decade, resulting in well-developed financing systems in most of the countries. However, the financing of water resources, which is tightly connected to flood risk

[11] *Assessing the Financing of Water Management, How poor financing systems can lead to flooding disasters,* Efthymia Fachouridou and Robert van Cleef, 2015.

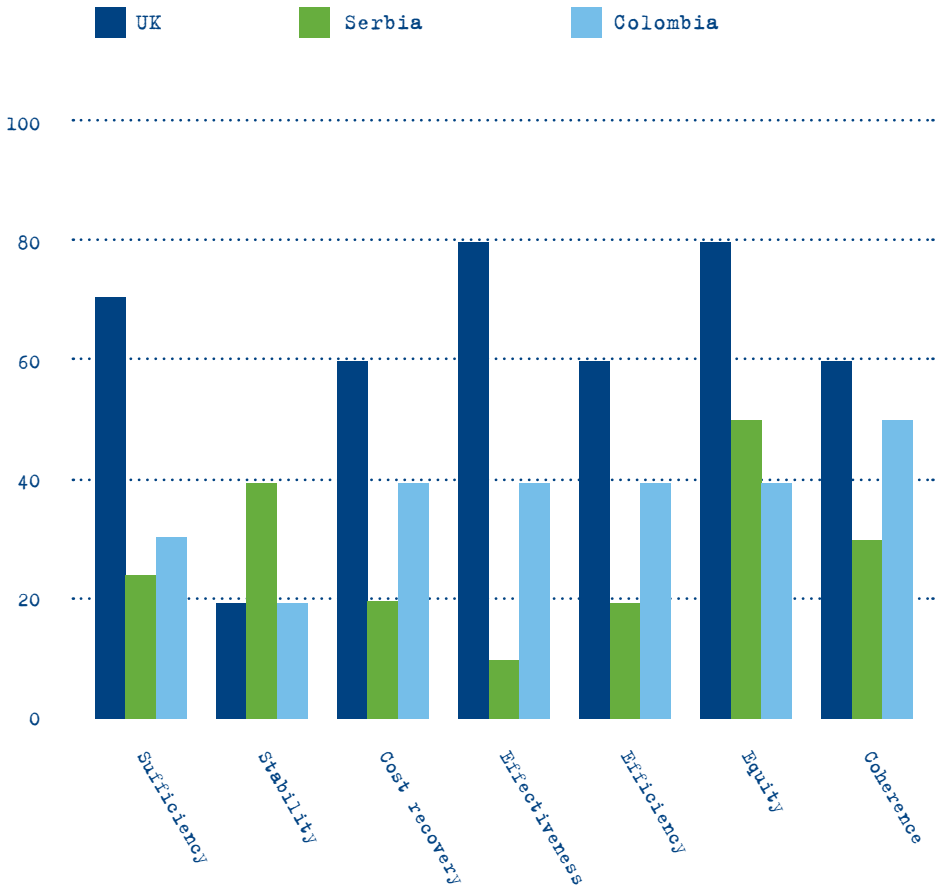
management, appears to be an underdeveloped policy area (OECD, 2010). Floods constitute a significant threat for human health, economic activities, cultural heritage and the environment. What is more, flood risk is expected to increase in the future due to the effects of climate change, but also as a direct result of human activities such as expanding assets in flood risk areas and increasing soil compaction or deforestation. The research was focused on flooding issues in three participating countries namely the United Kingdom (UK), Serbia and Colombia. These countries demonstrate a wide variety of political, administrative and economic backgrounds. In the context of this research several in-depth interviews with water management experts and practitioners were conducted and questionnaires were filled in.

The respondents recognized a clear connection between the destructive impact of the flooding incidents and the financing system at place. It is notable that the focus is mainly on two important variables within a financing system: sufficiency and stability. In Serbia, the available financial resources are not sufficient neither for covering the maintenance costs nor for new investments, something that has caused damages in infrastructure and severe disruption in project planning. In the UK, the financial sources currently spent are considered sufficient by the government for the time being. However, stability is not ensured as demands are expected to increase in the future due to the adverse consequences of climate change and potential increase of the protection levels demanded by citizens. Similarly, the strong dependence of the Colombian implementing agencies on the government budget, exacerbates competition with other sectors. Also the economic situation is insufficient and discontinuous.

A financing system holding a more decentral way of collecting revenues lacks in most countries and is seen as a strong step forwards. The last main issues arising are the cost recovery and beneficiary pays principles. The necessity to apply these principles was widely and strongly recognized by the respondents of all three countries. However, the full implementation of even the current economic instruments is restricted, not only because of the social reaction expected and users' limited ability to pay, but also because decentralised authorities lack the capability to further develop the respective fund raising instruments.

To further develop and apply the FAT application can result in multiple advantages. It is a way to initiate discussion and put the financing system in the spot light, leading government and society to become aware of problems and in turn, overcome local opposition and government's inertia to resolve legislative constraints. In addition, this is a tool that, despite its limitations in quantitative accuracy, is able to provide an initial picture about the condition of the financing system and its weaknesses. Then, researchers can continue with in-depth assessments regarding those variables that are considered the poorest or most crucial for the system's improvement.

## SCORE FINANCING ASSESSMENT TOOL




Finally FAT has also been successfully tested for the situation in South Africa and Ethiopia. The test reveals that in South Africa, serious steps need to be considered in adapting the financing system. Firstly, financing needs to be deregulated to subnational layers of government. In addition, the basic human rights principle needs to be reconsidered. This principle results in free drinking water for the poor, but also leads to waste, abuse and the neglect of water facilities. An honest price, even for the poor, would help to emphasize the value of water.

## 5.5 ECONOMIC ANALYSES WITHIN WATER MANAGEMENT

Both the WFD and the OECD report underline the importance of thorough economic analyses within water management. They are justified in doing so. It is after all often difficult enough to raise the necessary financial resources for the intended measures. The stakeholders must then be able to be confident that those resources will be deployed efficiently, and not spent on measures that on balance prove to be less cost effective. To offer one concrete example from Dutch water practice: the sewerage system is not dimensioned for downpours that experience have taught us occur only once every 200 years. Such an approach would be far too costly. It is far wiser and cheaper to accept occasional flooding in the streets, and as necessary to compensate residents for the damage. In fact, the policy of regional water authorities and municipalities at present is aimed specifically at 'disconnecting' rainwater from the sewerage system, as a result of which substantial cost savings can be achieved in both sewerage management and in the waste water treatment plants, due to the fact that relatively clean rainwater is no longer discharged, or needs to be purified.

A number of regional water authorities are for this reason granting so-called disconnection subsidies to municipalities. An example from other countries is the desalination of seawater for agricultural purposes (irrigation). For certain crops, such an operation can easily turn out to be disproportionately expensive.[12]

Seen in that light, an economic approach to water management is both valuable and in essence vital, even though it cannot be expected to be a cure-all. A so-called cost-benefit analysis should be a standard element in all major, costly interventions. In such an analysis, it is important to consider all items on both the cost and benefit side. Costs should not only include the direct investment costs and the annually-recurring costs for management and maintenance but also the accompanying negative effects on the environment. Practice has shown that much improvement can be achieved in this area.[13] The benefits of intended interventions will also have to be accurately inventoried. This may well reveal that good water management will offer a number of initially unexpected advantages, ranging from avoiding victims and economic damage, improved health and recreational facilities and even rising house values. In that sense, investments in water management are also often economically viable. The OECD report (page 24) calculates that every pound spent on flood protection in England in the long term generates an 8 pound benefit. Nonetheless, some caution must be maintained. The same report (page 77) refers to a costly desalination installation

[12] See P.J.G.J. Hellegers, *Water: the world's most valuable asset,* inaugural speech Wageningen University, 6 October 2011.

[13] Hellegers (p. 7) shows that the price of irrigation water is generally lower than the costs for management and maintenance, therefore not resulting in full cost recovery.

built in Sydney, Australia, due to fears of future water shortages. By the time the installation was ready, predictions about the drought problem had been considerably readjusted. By establishing a levy on water consumption, the construction of the installation could have been avoided, leading to far less costs at the end of the day.

## 5.6 AN INTERNATIONAL STANDARD OF 1% OF GDP

Water management requires an immense amount of money. For sanitation and drinking water alone an investment of some 8 trillion US Dollar is required until 2050. This excludes maintenance let alone investments in the water system such as dikes, dams, irrigation systems et cetera. The FAT assessments in various countries showed that in most countries the variables of 'sufficiency' and 'stability' have proven to be the biggest concern. Also the representatives of countries consider the financing system of water management as a more or less fixed system and a system that is very hard to change. The question therefore is what can be done to initiate change and to improve the sufficiency and stability of these financing systems? A recently published article states that an international driver can function as an inspiration and reference for individual countries to move forward. Often individual countries require a reference in order to get a process on the way. For the member states of the European Union one of these drivers is the WFD. However, since the court ruling of the Court of Justice of the European Union the impact of cost recovery for water services, has weakened. In countries outside of Europe e.g. the continent of Africa there are no international drivers known.

So both for European and other countries around the world options for an international standard that could function as an international driver should be examined. One of the most promising options is to introduce an international standard in terms of a '% of Gross Domestic Product (GDP) spend on water management'. In other policy fields such as the military and health care, international data on the spending in terms of this parameter is already in place. The World Bank e.g. publishes 'military expenditures data' for many countries. The advantage of such an arrangement is that all countries are obliged to identify precisely (and publish) how much they spend on water management. It will require international consultation resulting in clear international definitions for e.g. activities and the different types of costs that have to be taken into account. Furthermore, such an agreement stimulates countries to think carefully about the financing of water management and consider changes. Finally an international parameter can function as an international standard that allows for countries to compare national facts and figures with those of other countries. Countries can learn from this information and at the same time it can stimulate countries to learn from each other.

An international discussion should be started on what percentage is the lower limit for a solid and ambitious level of water management. Based on known information the percentages seem to vary between 0 and 1,5%. In the Netherlands some 1.26 % of GDP is spend on water management. In Kenya this percentage is 0,7% but the government wants to enhance this percentage to 1%. In Ghana it is 0.5%. Most countries do not have this figure. A first standard could be a 1% of GDP target. In the countries that spend less then this percentage, water management is often poor or more or less disabled. In fact it is simple: a minimum amount of money is required. With a minimum of 1% of GDP a mature water management seems achievable. We strongly recommend to set an international '1% of GDP water financing standard'.

## 5.6 CONCLUSIONS

It has become clear in this chapter that adequate funding is at present perhaps the most important bottleneck worldwide, in terms of water management. Sufficient funds will have to be available for the necessary investments, annual management and maintenance, and governance costs. This money can only be obtained if we are reasonably successful in introducing the principle of cost recovery for water services, including the polluter pays and the beneficiary pays principles. The application of these principles is of inestimable value for good governance of water management. By having households, agriculture and industry pay for water management, they will all be made more aware of the costs of water management, and of the contributions they can make to reducing those costs. In this chapter, the various principles have been analyzed and further elaborated. We have also considered a specific Financing System Assessment Tool and have shared the results of these assessment in different countries. We have concluded that emphasizing that economic cost benefit analyses within water management are essential, in order to avoid misspending of the already scarce financial resources. We have concluded by pleading for the introduction of an international water financing standard, the 1% GDP standard.

6

# Participatory approach

Author: Andrea van der Kerk

## 6.1 INTRODUCTION

As stated in Chapter 1, participation is one of the main building blocks of water governance. If we look at the three-layer model, participation is strongly connected to the relational layer, as well as to the institutional layer, since it needs to be laid down in laws and regulations. In this chapter, I introduce the concept of participation (section 6.2) and indicate its relevance to water governance processes (section 6.3). Section 6.4 provides an overview of the international (legal) framework on participation and section 6.5 pays specific attention to examples of participatory processes in the Netherlands. Furthermore, I draw lessons from experiences around the world, and identify challenges and success factors (section 6.6). The chapter ends with some concluding remarks (section 6.7). Throughout the chapter, three concrete cases of participation are highlighted: one at the city level (box 1), one in a rural area (box 2) and one at the national level (box 3).

## 6.2 PARTICIPATION: A CONCEPT WITH MANY MEANINGS

The importance of participation has long been recognized by a wide variety of national and international organizations, institutions and governments. Like 'water governance', however, it is a term that is frequently used, but often not clearly defined. It has different meanings to different people. On its website, the World Bank defines participation as 'a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them'. One of these resources is, of course, water: a resource on which every human being on the planet depends. When we talk about participation in water management processes, we are referring to the involvement of stakeholders in deciding how water is used, protected, managed or allocated. Stakeholders can be defined as all non-governmental groups, organizations and companies that have a stake or interest, because they are affected by or have influence on a decision.[1] As indicated by the World Bank, this involvement is a process rather than an ad-hoc activity. Participation can take place at local, regional, national and international levels in all water subsectors.

Stakeholders can be involved to varying degrees in planning, project identification, design, development, implementation, monitoring and evaluation processes and activities. The participatory approach is often presented as a three-step process, with each successive step giving stakeholders more involvement:[2]

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[1] Ridder, D, E. Mostert and H.A. Wolters (eds.) (HarmoniCOP Team) (2005). *Learning together to manage together - Improving participation in water management,* University of Osnabruck, p. 2.

[2] See e.g. OECD (2001) *Engaging Citizens in Policy-making: information, consultation and public participation;* European Communities (2003). Guidance Document No 8 Public Participation in Relation to the Water Framework Directive, and Ridder, D. E. Mostert and H.A. Wolters (eds). (HarmoniCOP Team) (2005). *Learning together to manage together - Improving participation in water management,* University of Osnabruck.

1 **Information:** a one-way relationship in which the government provides citizens with access to information. This is the most basic form of participation. The government can play a relatively passive role (i.e. only providing access) or a more active role (i.e. producing and disseminating information).

2 **Consultation:** a two-way relationship in which the public can react and provide feedback to government proposals. It requires the provision of information and a government authority that seeks the ideas of the public.

3 **Active involvement:** a relationship based on partnership in which stakeholders are actively involved in the planning process by discussing issues and contributing to their solutions. Stakeholders can influence the process through, for example, discussions with authorities, involvement in determining policy agendas, representation in in the boards of regional water authorities, and participation in implementation and evaluation processes.

In addition to these three stages, the possibility for stakeholders to legally challenge the decisions of authorities is often also mentioned as an important element of participation.

## 6.3 WHY A PARTICIPATORY APPROACH?

As mentioned, the importance of participation in water management is emphasized by many international organizations and institutes. Participation is recognized as one of the building blocks of integrated water resources management and has been identified by the Organization for Economic Co-operation and Development (OECD) as a core element of integrated public governance of water policy.[3] The participatory approach is also strongly rooted in the OECD Principles on Water Governance[4], which are introduced in section 6.4. But what makes participation so relevant? How can a participatory approach contribute to good water management?

### Balancing interests: a core task of the government

First of all, participatory processes enable citizens to make their voice heard and to help central, regional and local governments to balance interests. Governments, particularly democratic governments, are mandated to serve society. Therefore, governmental policy should be aimed at fulfilling society's wishes, whenever such is possible and achievable. This holds for government tasks in general and for water management in particular. Water, after all, is central to all aspects of life. It has many functions for many actors, and intervening in the water

[3] OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach,* OECD Studies on Water, OECD Publishing, p. 23.
[4] OECD (2015). OECD Principles on Water Governance.

system always affects a wide range of users and interests.
Water is essential not only for economic growth, but also for the environment, public health, culture and national safety.

Since water has so many uses and users, a wide range of stakeholders are involved in water management: households, farmers, fishermen, companies, conservationists, environmentalists, skippers, tourists, etc. They all have specific wishes with respect to water management, and their wishes often conflict. Agriculture, for instance, benefits from groundwater levels that are not too high, while nature interests generally ask for higher water levels. Entrepreneurs seek convenient locations for their companies, and tourists want to enjoy water without being disturbed. Therefore, choices have to be made. Also, stakeholders often have to pay for the measures through pricing and taxes, which increases their concern with the design and implementation of measures. Balancing the interests of different stakeholders and taking their wishes into consideration is a core task of democratic governments.

### Ownership and effectiveness

Water governance is strengthened if the different interests of stakeholders are served as much as possible, and if interventions that cannot be avoided are discussed and explained. Governments usually cannot implement policies or solve problems by working alone. This holds especially for numerous measures where the collaboration of certain stakeholders is essential; for instance, farmers often own the land on which measures have to be implemented. Well-organized participation with the right stakeholders on board helps to enhance the effectiveness of the implementation of measures.

Involving stakeholders in decision-making processes can foster ownership: people feel that they have been listened to and that the decision is partly theirs. This sometimes means that difficult decisions are more easily accepted and implemented by the involved actors. Public participation at the outset of the decision-making process helps to build broad-based consensus on projects and programmes. Allowing members of the public to express their views regarding social and environmental conditions in their communities and taking those views into consideration in the governmental decision-making process expands the knowledge base for decisions, resulting in improved implementation. Stakeholders can identify and address problems at an early stage, saving time, energy and financial resources in the long run.[5]

[5] Earle, Anton and Malzbender, Daniel (eds.) (2006) *Stakeholder Participation in Transboundary Water Management – selected case studies,* African Centre for Water Research, Cape Town South Africa, p. 6.

## BOX 1: CITY LEVEL

### BRINGING STAKEHOLDERS TOGETHER TO ADDRESS POLLUTION PROBLEMS – BOGOTÁ, COLOMBIA

Participation can take many forms. The central idea of the SWITCH (Sustainable Water Management Improves Tomorrows Cities Health) project was that winning the engagement of key stakeholders in cities is central to making the shift towards more sustainable and coordinated urban water management. Learning alliances – a specific type of multi-stakeholder platform – were created in each city to bring stakeholders together to develop creative solutions for complex problems. SWITCH was a five-year experiment (2006-11) in 12 cities across four continents. The project set out to establish what was needed for a transition to more sustainable urban water management through a combination of demand-led research, demonstration activities, multi-stakeholder learning and training, and capacity building.

The SWITCH project in Bogotá addressed the highly polluted Río Bogota, which flows through the city. The focus was on preventing pollution by unofficial, small-scale tanneries upstream of the city. Bringing together the key players– a tanners' association, the environmental regulator, local government, an NGO, a university and the chamber of commerce – resulted in a number of positive outcomes. Almost half of the polluting, informal small enterprises have now implemented cleaner production principles thereby removing much of their pollution. This has also led to an increase in their productivity. Water use in the tanning process was reduced by 68%. SWITCH supported local action and a process of conflict resolution, capacity building and long-term dialogue; the regulator is now pursuing and supporting such approaches. Efforts are being undertaken to upscale the project.[6]

### Local level and sustainability

In its report on multilevel water governance,[7] the OECD emphasizes that especially the engagement of local actors is key for managing water in a sustainable way. In addition, IRC, which carried out a study in 88 communities in 15 countries, identified the involvement of community members in local planning decisions as one of the most important factors for the sustainable performance of water systems. Involving local stakeholders in the design and execution of projects disseminates regional and local knowledge and ideas, which can improve

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[6] SWITCH Bogotá website: www.switchurbanwater.eu/cities/14.php
Butterworth, John, Marieke Adank and Carmen Da Silva Wells (IRC International Water and Sanitation Centre), 2012. *Water cooperation in cities* for the UN-Water Conference on Water Cooperation, Zaragoza, Spain, 8–10 January 2013.

[7] OECD (2011), *Water Governance in OECD Countries: A Multi-level Approach*, OECD Studies on Water, OECD Publishing.

the quality of water management.[8] Public consultation can help to identify the main local activities that affect surface water and groundwater and raise awareness of key problems.[9] Local knowledge of local conditions can be utilized in solving local problems more efficiently. What is more, not engaging local communities in decisions that affect the local water situation can lead to social unrest and conflicts.

### BOX 2: RURAL AREAS

#### COMMUNITY INVOLVEMENT IN WATER MANAGEMENT IN GUATEMALA

Getting access to safe drinking water is a challenge in many rural areas in Guatemala. Municipalites are responsible for drinking water supply, but rural areas are often neglected. Communities living in these remote rural areas created Community Water and Sanitation Commissions (CAS) to build, organize and operate their own water and sanitation facilities. The Commission members are democratically elected and work voluntarily. They draft regulations defining responsibilities, rules and budgets, which are then discussed and adopted in meetings with the whole community. Access to information also plays an important role in this case. Many community members were not aware of the bad quality of their drinking water, which led to deadly diseases and children dying of diarrhoea. Health inspectors are now encouraged to explain the results of water quality tests to the community members in an understandable manner, illustrated by drawings. They also teach the communities about the consequences of drinking contaminated water and how the water systems can be disinfected.[10]

### Transparency, compliance and accountability

Some organizations and experts stress that encouraging participation in the water sector contributes to transparency and accountability. For example, the Water Integrity Network (WIN) regards participation as one of the basic pillars of water integrity and argues that participation is key to promoting transparency and accountability in the water sector.[11] Also the OECD states that increasing public participation is a means to increase both the transparency of environmental policies and citizens' compliance with them.[12] Transparency is fostered by making information on water-related issues public, which is one of the basic

[8] IRC and WSP (2004) *Methodology for Participatory Assessment*, www.irc.nl

[9] European Commission (2008). *Water Note 12: A Common Task: Public Participation in River Basin Management Planning.*

[10] Van der Kerk (2014). *Construyendo integridad en el sector agua: relatos desde Guatemala.* Water Integrity Network and HELVETAS Guatemala.

[11] Water Integrity Network (WIN), UNDP Water Governance Facility at SIWI, Cap-Net, Waternet (2011). *Training Manual on Water Integrity,* p.16, 30. www.waterintegritynetwork.net

[12] OECD (2011). *Water Governance in OECD Countries: A Multi-level Approach,* OECD Studies on Water, OECD Publishing, p. 99.

elements of participation (see section 6.2). This information can be used by citizens to hold their governments accountable if they do not perform well.

## 6.4 INTERNATIONAL FRAMEWORK

To promote the institutionalization of stakeholder participation, international laws, agreements and principles have been drafted that incorporate provisions encouraging governments to involve stakeholders in water management. This section highlights some of the most influential documents.

### Dublin principles (1992)

The Dublin Statement on Water and Sustainable Development (the 'Dublin Principles') was adopted at the International Conference on Water and the Environment (ICWE) in Dublin, Ireland, in January 1992. The declaration sets out recommendations for action at local, national and international levels to reduce water scarcity and the misuse of fresh water. Principle 2 states that 'water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels.'[13] The four Dublin Principles form the basis for the integrated water resources management (IWRM) approach.[14] (See Chapter 3 on the legal system.)

### Rio Declaration on Environment and Development (1992)

At the UN Conference on Environment and Development in 1992, participation was highlighted by the international community as one of the most important principles to promote sustainable development. Principle 10 of the adopted Rio Declaration on Environment and Development stipulates that ´environmental issues´ such as water ´are best handled with the participation of all concerned citizens, at the relevant level´. This entails that citizens have 'appropriate access to information concerning the environment' and 'the opportunity to participate in decision-making processes'. States are urged to make 'information widely available' to facilitate public awareness and participation. Furthermore, citizens should have 'effective access to judicial and administrative proceedings, including redress and remedy'. The importance of participation of women and indigenous people is especially emphasized in Principles 20 and 22.[15]

### UNECE Aarhus Convention (1998)

An important treaty that stresses the importance of participation is the UN Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. It was signed in June 1998 in the Danish city of Aarhus at the Fourth Ministerial Conference in the 'Environment for Europe' process, and is commonly known

[13] Dublin Statement on Water and Sustainable Development (1992).
[14] Global Water Partnership (1992). *Dublin – Rio Principles.*
[15] UN Conference on Environment and Development (1992). *Rio Declaration on Environment and Development.*

as the Aarhus Convention. It entered into force in October 2001.

The first article states the convention's objective, namely that the parties 'shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters'. The convention grants the public the right to:

- have access to information on the environment held by government authorities;
- participate in the decisions taken by these authorities that affect the environment;
- review and legally challenge such decisions.[16]

The convention was signed by the European Union, which has integrated the Aarhus principles in specific water-related legislation, namely the Water Framework Directive.

### EU Water Framework Directive (2000)

The EU Water Framework Directive (WFD) was adopted by the European Parliament and Council in October 2000 to improve the quality of European water bodies. It entered into force in December 2000 and establishes a legal framework to protect and restore clean water across Europe and ensure its long-term, sustainable use. Public participation is central to the WFD. The WFD established the broad involvement of stakeholders as a general principle and prerequisite for successful implementation. Article 14 calls on Member States to 'encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans'. It states that the success of the WFD relies on close cooperation between relevant authorities and the public, including water users. According to the European Commission, public input will help Member States balance environmental, economic and social priorities in their river basin management plans.[17]

The directive calls for information to be provided to the public on river basin management plans. This should happen before final decisions on the measures are adopted. Participation occurs via consultation mechanisms (written or oral) that government bodies use to consult stakeholders and jointly develop solutions to problems. When consultation works well, the public and stakeholders participate actively in the development and implementation of river basin plans. This leads to shared decision-making, whereby they become jointly responsible for the outcome of the developed plan. Information provision and consultation are obliged by the directive; active involvement is encouraged.[18]

[16] UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) (1998).

[17] European Commission (2008). *Water Note 12: A Common Task: Public Participation in River Basin Management Planning.*

[18] EU Water Framework Directive (2000); European Commission (2008). *Water Note 12: A Common Task: Public Participation in River Basin Management Planning.*

### Sustainable Development Goals (2015)

In September 2015, all 193 countries of the United Nations (UN) agreed on a new set of development goals that will follow up on the Millennium Development Goals (MDGs) which end in 2015. The Sustainable Development Goals (SDGs) form a framework for development in all countries and are outlined in the ´Transforming our World: The 2030 Agenda for Sustainable Development´. The framework comprises 17 goals and 169 targets, covering a wide range of topics promoting sustainable development. There is one specific goal focusing on water, including several targets linked to water issues. One of these targets (6b) calls to `Support and strengthen the participation of local communities in improving water and sanitation management´.[19] Countries will have to report on the progress they make to achieve the targets, based on indicators which will be finalised in March 2016.

### OECD Principles on Water Governance (2015)

Participation is also highlighted in the Principles on Water Governance developed by the Water Governance Initiative (WGI) of the Organisation for Economic Co-operation and Development (OECD). The WGI started in March 2013 as a multi-stakeholder platform of more than 100 delegates from public, private and non-profit sectors. The principles were endorsed by a large number of public, private and non-profit organisations at the 7th World Water Forum in April 2015. They were also welcomed by the OECD Council at Ministerial level in June 2015 and will be included in a Recommendation of the Council on Water. Principle 10 focuses specifically on how ´stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation´ should be brought about. Principle 11 encourages ´water governance frameworks that help manage trade-offs across water users (…)´ through for instance ´non-discriminatory participation in decision-making´ and ´public debate´.[20]

[19] UN (2015). ´Transforming our World: The 2030 Agenda for Sustainable Development´ and www.un.org/sustainabledevelopment/sustainable-development-goals/

[20] OECD (2015). OECD Principles on Water Governance.

## 6.5 PARTICIPATORY APPROACH IN THE NETHERLANDS

The geographical location of the Netherlands with its long coastline and a large part of the country being below sea level makes good water management essential for its survival. Two thirds of the population lives in areas that are exposed to flood risk, either from rivers or from the sea. Also two thirds of the gross domestic product is earned in these areas. The history of the Netherlands is marked by the struggle for 'dry feet', and extreme events such as the flood disaster in 1953 have made the Dutch aware of their vulnerable location.

### General framework

The participation of stakeholders in such issues as water management is anchored in various laws and regulations, such as the General Administrative Law Act. International agreements such as the Aarhus Convention and the WFD have also shaped participation processes in the Netherlands. Access to information on Dutch water management is provided through various channels (e.g. the online national Water Help Desk and the local Water Desks) where the public can find information on various subjects and can ask questions. Also the Water Management Centre in the Netherlands at Rijkswaterstaat (the executive arm of the Ministry of Infrastructure and the Environment) provides information to users of the Dutch water system. Users can turn to the Water Management Centre for information regarding water levels, flood risks and (bathing) water quality.

Dutch citizens also have the right to hold the government accountable in the case of shortcomings in discharging its public responsibilities.[21]

Stakeholders are regularly consulted on water issues, for example in the development of river basin plans to achieve good water quality before 2015, as prescribed by the WFD. In 2008 - 2009, Dutch citizens were invited to react to the draft plans and submit their visions. These visions were considered by the Ministry of Infrastructure and the Environment before it finalized the plans in 2009. Policymakers and decision-makers also consult representatives from various sectors and civil society via platforms at national and regional levels (e.g. Overlegorgaan Water en Noordzeeaangelegenheden, and klankbordgroepen).
Finally, specific participation by-laws (inspraakverordeningen) oblige Dutch municipalities, provinces and regional water authorities to involve the public in plans and projects. The third level of participation – active involvement – in Dutch water management can be exemplified by the functioning of the regional water authorities and the Room for the River programme, as described below.

### Regional water authorities

Whereas Rijkswaterstaat manages the four large river basins, the 22 regional water authorities (RWAs) are mandated to manage the water systems and monitor the safety of the inhabitants against flooding in smaller water bodies

[21] H.F.M.W. van Rijswick and H.J.M. Havekes (2012). *European and Dutch Water Law,* p. 448.

(see Chapter 2 on the organization of water management). They act in close cooperation with municipalities, provinces, the national government, knowledge institutes and civil society organizations. The Regional Water Authorities Act 1992 stipulates that participation should be provided for in all regulations introduced by the RWAs.

RWA boards consist of representatives of residents, landowners (farmers), nature reserve authorities and businesses. The residents' representatives comprise the majority of a RWA board.[22] These representatives are directly elected every four years by the residents of the territory managed by the water authority and are actively involved at an early stage of a planning process. The other representatives on the board are not chosen, but nominated by their umbrella organizations. Citizens, farmers and companies in the water authority´s territory pay specific taxes directly to the water authorities to pay for their activities. Water authorities can also request citizens and farmers to carry out certain tasks, such as cleaning the stream next to their house or land.

### Room for the River

Extreme river water levels in 1993 and 1995, which led to the evacuation of citizens and livestock, urged the Dutch government to re-evaluate its flood risk management strategy. It set up a € 2.3 billion water safety programme titled 'Room for the River' (2006 - 2019), which instead of raising the flood defences, adopted a new approach that allows more space for rivers to flow. This is being achieved through various types of river widening measures in the rivers Rhine, IJssel and Waal. The programme also aims to contribute to the quality of the river area in terms of nature, recreation, the local economy and liveability. The Room for the River programme also adopted an innovative (multilevel) governance approach in which government agencies in different disciplines (e.g. water safety, planning, agriculture, nature) and at national, regional and local levels are actively collaborating. Core elements of this multilevel approach are now being implemented in the Dutch Delta programme (see box 3).

Participation plays a central role in the Room for the River programme. One of the reasons for giving the lead to regional governments was that these governments would more easily gain community support and provoke less resistance, because they usually know the local community better than the national authorities. Participation processes have been given a lot of attention and stakeholder participation was achieved with such instruments as expert days, stakeholder workshops and informal brainstorming sessions (keukentafelgesprekken).

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[22] H.F.M.W. van Rijswick and H.J.M. Havekes (2012). *European and Dutch Water Law*, p. 171-172.

### BOX 3: NATIONAL LEVEL

JOINTLY DEVELOPING A DELTA PROGRAMME

Participation also plays a key role in the Dutch Delta Programme, which is aimed at keeping the Netherlands safe from flooding and supplied with sufficient fresh water now and in the future. It is a national programme to acquire knowledge and expertise to prepare for important water management decisions, strategies and measures. Provinces, municipalities and regional water authorities work closely together in the programme with civil society organizations, companies and knowledge institutes. A specific Delta commissioner was appointed by the Dutch government to lead the programme. Consultation rounds were organized and representatives from different sectors and civil society were invited to contribute to the process. Citizens could also participate in components of a sub-programme that are open to public input at municipal or provincial offices and could express their opinions on the Delta commissioner's website.[23] The consultation processes resulted in five "delta decisions" which guide a new way of working in flood risk management, freshwater supply and spatial planning. The programme is now entering its implementation phase.

[23] Delta commissioner website www.deltacommissaris.nl/english/

## 6.6 LESSONS LEARNED: CHALLENGES AND SUCCESS FACTORS

Participatory approaches are by no means a recipe for successful water governance. Participation can be a complicated process that needs to be tailored to the national, regional and local circumstances and conditions. If this does not happen, participation can even be counterproductive and, for example, undermine the trust between authorities and stakeholders. But is participation always required and where do the boundaries lie? How can one balance the interests between different stakeholders? What if the visions and expectations of the stakeholders conflict or are unrealistic? There is no blueprint for meaningful stakeholder participation. Still, some generalized lessons regarding the implementation of participatory methods in water management processes can be drawn from experiences around the world. Here, I outline a number of these identified key challenges and possible success factors.

## CHALLENGES

### Insufficient or delayed participation

The Dutch Room for the River programme (see section 6.5) encountered some difficulties in the participation process when participation was implemented late or too late in the process, or was not applied in a proper way. In some cases, the local citizens were not engaged in the design process and the plans came as an unpleasant surprise to them. Meaningful participation is more than presenting draft designs to citizens and companies. It is about strategic interaction, starting early in the process with opportunities for participants to influence decision-making, but without raising false expectations.[24]

### Time- and money-consuming

Participatory decision-making processes usually take more time than is the case when a water manager takes unilateral decisions. Negotiating with different stakeholders and societal groups is not a one-day exercise. All aspects of the participation process (i.e. information provision, consultation and active involvement) take time and often cost money. It is a long-term process that needs to be developed carefully. And if local stakeholders are not well informed or engaged, their protests or resistance can delay the process. When stakeholders are involved in the planning and decision-making process, the implementation process probably takes less time and resources than is the case with unilateral decision-making.[25]

### Dominance of a small group and conflicts

One of the challenges in participation processes is to overcome the dominance of a small group of stakeholders at the expense of the needs and interests of a larger group. There is a chance that the interests of the small group will be better heard than those of the larger group, especially if the former is well organized and has access to the right people and funds. In this regard, it is important to also try to engage the people who initially might not be keen to attend meetings and discussion platforms.

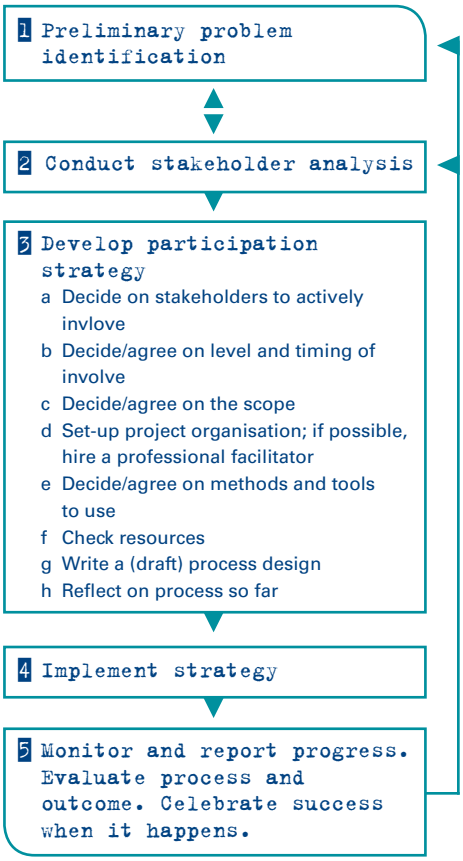
Conflicts in participation processes can occur between different stakeholders or groups thereof, as a result of different problem perceptions, a lack of acknowledgement of these differences, a lack of trust, etc. Conflicts are not necessarily counterproductive, however, since they make agreement and disagreement between stakeholders explicit. Conflicts can also provide an opportunity to really address persistent problems and build a basis for cooperation between different actors.

[24] Hulsker, Walter, Manfred Wienhoven, Marlies van Diest and Steef Buijs (2011). *Evaluatie ontwerpprocessen Ruimte voor de Rivier,* ECORYS Nederland, p. 47.

[25] Ridder, D, E. Mostert and H.A. Wolters (eds.) (HarmoniCOP Team) (2005). *Learning together to manage together - Improving participation in water management,* University of Osnabruck. p. 7.

## SUCCESS FACTORS

### EXAMPLE OF A PARTICIPATION PROCESS[26]




### Participation strategy and stakeholder analysis

Implementing participation in a strategic and well-thought-out way leading to a specific goal can be a critical factor for its success. One of the lessons learned from the Room for the River programme (section 6.5) is that a solid participation strategy tailored to the specific situation and the stakeholders involved needs to be formulated before the start of the process. The strategy should define the scope, rationale, methods, tools, target group, facilitation, timeline, required resources and outputs of the process. Even before developing the strategy, a stakeholder analysis can help to identify the stakeholders and their roles and interests.[27] The selection of stakeholders can make or break a process. Selecting stakeholders for a specific reason and inviting those who are representing and able to take decisions on behalf of a larger group contributes to a constructive process.

### Early involvement

As mentioned on the previous page, insufficient or delayed participation can cause problems. Engaging stakeholders at an early stage of a project (i.e. in the planning process) gives them a greater opportunity to have a real say in the development of plans, a greater sense of ownership, and strengthens their acceptance of interventions. Stakeholders who are engaged at an early stage are more convinced that their views are actually being taken into account and are probably more willing to participate

[26] An example of a participation process, Ridder, D, E. Mostert and H.A. Wolters (eds.) (HarmoniCOP Team) (2005). *Learning together to manage together - Improving participation in water management,* University of Osnabruck. p. 7.

[27] Idem, pp. 12-13.

in a constructive way.[28] The WFD also encourages authorities to ensure that 'stakeholders are invited to contribute actively to the planning process by discussing issues and contributing to their solution'.[29]

But what is 'early'? Should local stakeholders participate in national spatial planning decision-making that can affect their city or village? This would not contribute to effective national governance and decision-making processes.
This question is related to the tension between direct and representative democracy: in a democracy, stakeholders have elected their authorities, which gives the latter legitimacy to develop and adopt policies and measures. It is practically impossible to directly engage stakeholders in every stage of the planning process, and doing so would be ineffective.

### Expectation management, transparency and trust

Expectation management is essential throughout the participatory process.
If the role of the stakeholders is not clear from the beginning, this can lead to disappointment and frustration and can hamper progress. "Clarity" was identified as key for achieving effective participation processes by the European Environmental Agency in a study on public participation in water management. It should be clear how the process is planned and conducted, and how the information gathered will be used.[30] Expectation management can help to ensure that stakeholders appreciate their involvement, but accept that they might not be able to determine the design or outcomes of the project.[31]

Transparency is important in this respect: the rules of the game should be clear. This also entails giving the stakeholders access to reliable and accurate information so that they can form a balanced view on the situation. Not informing all stakeholders to the same extent can lead to power asymmetries. However, communication should be tailored to the specific target groups; not all stakeholders might be familiar with specific technical language for instance. Communication channels such as online platforms can be put in place to keep stakeholders informed throughout the process. Expectation management and transparency also contribute to fostering trust between the different parties, which is a key element in successful stakeholder participation processes.

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[28] Hulsker, Walter, Manfred Wienhoven, Marlies van Diest and Steef Buijs (2011). *Evaluatie ontwerpprocessen Ruimte voor de Rivier,* p. 47.
[29] EU Water Framework Directive (2000).
[30] European Environmental Agency (2014). Public participation: contributing to better water management Experiences from eight case studies across Europe
[31] Hulsker, Walter, Manfred Wienhoven, Marlies van Diest and Steef Buijs (2011). *Evaluatie ontwerpprocessen Ruimte voor de Rivier,* ECORYS Nederland, p. 113.

### Facilitation

A facilitator can contribute to the success of a participatory process by adopting an open attitude and listening to the ideas put forth by the stakeholders, while ensuring that he/she manages the process so that it serves the set goals. The facilitator could be a government official or an external professional facilitator. In contentious cases, it might be a problem if the facilitator is not considered a neutral player, as this might undermine the legitimacy of the process and cause conflicts.[32]

A facilitator in a participatory water management process can apply numerous tools, such as questionnaires, consultation workshops, group discussions, role playing games, online platforms and serious gaming. Integrating a variety of tools and methods in the process can help to address the issue in different ways. Using too many tools, however, can overwhelm the stakeholders and complicate the process.

### Equal opportunities

Finally, organizing focused training sessions can promote constructive stakeholder participation. Learning more about water management and the rights and obligations that the stakeholders have, contributes to a constructive participation process. Capacity building can also help to give the different stakeholders a similar basis to start from and similar opportunities to develop arguments and solutions.

In some cases, gender issues might require special attention. The equal participation of women in planning decisions, service management and control is considered an important requisite for a successful participatory process.[33] While this key role of women is emphasized in, for example, the Dublin Principles, it is often not reflected in decision-making processes, in which women still often participate less than men.

[32] Ridder, D, E. Mostert and H.A. Wolters (eds.) (HarmoniCOP Team) (2005). *Learning together to manage together - Improving participation in water management,* University of Osnabruck, p. 30.

[33] IRC and WSP (2004) *Methodology for Participatory Assessment,* www.irc.nl

## 6.7 CONCLUSIONS

In this chapter I briefly explored the fifth building block of water governance: the participatory approach, which refers to the involvement of stakeholders in deciding how water is used, protected, managed or allocated. I presented it as a process that can be composed by three main elements: information, consultation and active involvement. If planned and implemented well, participation can give voice and power to stakeholders who can contribute to effective water management with their knowledge, expertise and experiences. It helps governments to balance interests and can contribute to the sustainability of water management. Giving stakeholders access to information and an active role in water management also promotes transparency and accountability.
The international legal framework forms a comprehensive basis for countries and international organizations to organize participation in a smart and constructive way. The framework has also shaped participatory processes in the Netherlands, as highlighted by the examples in this chapter. It is not always easy to achieve meaningful participation: it can be a frustrating, time- and money-consuming process in which conflicts can arise. Useful lessons can be drawn from previous experiences, in which for example a participation strategy, the early involvement of stakeholders and expectation management helped to build constructive participatory processes.

# 7 Cooperation; indispensable for good water governance

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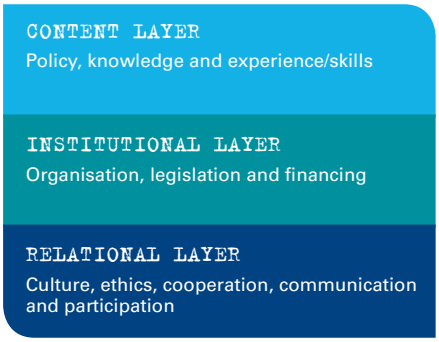
* In cooperation with Pui Mee Chan, Joris Escher, Andrea van der Kerk and Aline te Linde.

## 7.1 INTRODUCTION

In this chapter the focus will be on cooperation. Cooperation within the broader context of good water governance as essential element of Integrated Water Resources Management.

To be able to communicate clearly about the important aspects of water governance the Water Governance Centre makes use of a three layer framework, the "Three layer model of water governance". Chapter 1 describes this model.
Core element of this framework is that good water management comprises of three layers:

a content layer, an institutional layer and a relational layer.

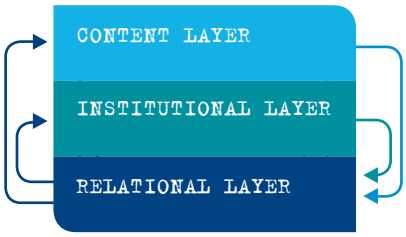



A content layer while knowledge of the water systems and of the nature of the problems is essential as well as experience and skills to be able to solve the problems. Also it is important to dispose of the necessary basic data and information.

However, in most cases this is not enough to reach a good water status. An adequate organizational framework together with the necessary (legal) instruments and a good financing structure are fundamental requirements for successful Integrated Water Resources Management (the institutional layer).

Besides that, for successfully solving persistent water problems attention to what is called the relational layer is required. Important elements of this layer are communication and cooperation between different actors and with the public, stakeholder participation, transparency and trust.

Paragraph 7.2 first outlines the importance of cooperation as support of the institutional aspects and the content aspects. In that way cooperation is an essential element to reach the desired and planned goals.




Secondly it is emphasized that cooperation can only be achieved when it is supported by elements of the content layer and the institutional layer. Therefore there is a two-way relationship where on the one hand cooperation is essential for the content and institutional aspects and on the other hand is dependent of them. The double arrows in the figure above should make this clear. In paragraph 7.3 attention is given to shared ambition, knowledge and skills, roles and responsibilities, trust and control and finally cultural aspects. The cases in paragraph 7.4 give more insight in this. The chapter ends with some concluding remarks in paragraph 7.5.

## 7.2 THE NEED FOR GOOD COOPERATION

The reality we live in is undivided. In other words, almost everything has to do with everything. That was true in the past, but even more so in the present in which we are dealing with a world where complexity – in the sense of growing interdependence – is constantly increasing.
There would be much to plead for, that in everything we are aware of these relationships and always opt for an integrated approach, which always takes into account all relevant aspects. In its most extreme form this would mean working with one coherent policy and a coherent implementation practice for the dealing with and working in this world. One overall vision and one overall philosophy. Such a comprehensive approach and method is obviously impossible. When working in and dealing with this world we will have to create boundaries to keep it manageable. The undivided reality therefore is cut up into parts and the parts are then usually treated separately. How this works we see among others in science where abstracting one aspect of reality - the physical, biological, legal, economic, etc. - is common practice. This abstraction has been widely accepted as an effective way to deepen knowledge. Other boundaries and demarcations that we recognize and encounter everywhere are policy fields (water, spatial planning, nature conservation, economic policy, ..) geographical boundaries (watersheds, regions, ...), administrative boundaries (from international, through national and regional to local) and separation between public and private.

At the same time, there is broad awareness that there needs to be worked beyond these limits and demarcations. To achieve this cooperation is required. Cooperation between organizations (multi-actor) and cooperation at various levels (multi-level)

Also in water management the complexity has gradually increased significantly. Not only nowadays many social interests are involved in water management, both on the demand side and on the side of influencing the water system, but also there is - since the introduction of Integrated Water Resources Management (IWRM) - a widespread awareness of both the need for coherence in water management (water safety, water quantity and quality of ground and surface water with a balanced dealing with all interests) and the need for external coherence through coordination with the aforementioned policy areas (spatial planning, nature conservation, agriculture, etc.). Cooperation is therefore an issue that determines to a large extent the successful development and implementation of sustainable water management.

### Common goal or common direction or both

In philosophy often a distinction is made between a teleological approach and a deontological approach. In a teleological approach the realization of a final goal is the central purpose. The actions are aimed at achieving a goal (telos). Cooperation in such a targeted approach requires agreement to pursue and achieve such a goal. Examples of this are partnerships with the objective of realizing a specific project, such as the construction of an inland waterway (eg. Maxima Canal). In a deontological approach the focus is on the course of action. What matters is that the intention and good will are leading. It is thus more the direction which determines than a detailed description of the object or goal to be realized. The joint pursuit in the 1970's of clean and healthy water systems, based on the principle of combatting pollution at the source, supported by the 'polluter pays' principle, can serve as an example of such a deontological approach.

Both approaches know their advantages and disadvantages. For cooperation, it is important that there is, at an early stage, an agreement on which direction to go. In addition, however, a broadly defined goal (dot on the horizon) can serve as a unifying factor and can, by means of a long-term vision based on this, foster cooperation. The direction and the dot on the horizon together form as **strategic vision** an essential precondition for cooperation and therefore for successful policy and implementation.

**Rhine Action Programme**

After the environmental disaster that occurred during the Sandoz fire in 1986, tackling the pollution of the Rhine internationally gained momentum. At the Sandoz factory in Swiss Schweizerhalle toxic chemicals got into the Rhine through the fire extinguishing water. As far as the Loreley in Germany no live fish could be found any more and during weeks all the countries along the Rhine could not use Rhine water as a source for drinking water. Important factor in tackling the pollution was the decision to develop a joint Rhine Action Programme without detailed and hard legal obligations but with global goals that gave direction to the **strategic vision:** the salmon back into the river Rhine as a symbol of the joint pursuit of a clean and healthy river.

Properly functioning networks, such as the (main) water system, the (main) road network and the (main) waterways are vital for the continuity of society. In the Netherlands, the national water authority (Rijkswaterstaat) and the regional water authorities - in close collaboration with provinces and municipalities – are responsible for a safe living environment through the prevention and mitigation of floods and excess waterlogging, a smooth and safe flow of traffic on the network and sufficient clean water and healthy water systems. Taking care for adequate emergency preparation, response and follow-up care is an important part of this.

### Cooperation in the three layer model: Top down and bottom up

Viewed from the perspective three-layer model of water governance, cooperation and participation are aspects of the relational layer. In brief you could say "dealing with water means interacting with each other". However, it is only useful to speak about it as at least a number of basic conditions of the content layer and the institutional layer (broadly) are clear. Examples which may be mentioned are:

**Shared ambition and vision:** where do we want to go and how do we want to do it in broad outline?

**Organization:** who are involved (with what interests) and in what way: distinction between stakeholders and responsible / executing parties.

**(Legal) instruments:** which instruments are (already) available; what, for example, are the underlying principles regarding the relationships between trust and control (Rhineland's - Anglo Saxon)?

**Financing:** what are the underlying principles and how can these be practically implemented?

That the Dutch legislator also values good cooperation is shown by article 3.8 of the Water Act, which speaks about the cooperation of regional water authorities and municipalities in the management of the waste water chain.

**Article 3.8:**
Regional Water Authorities and municipalities shall ensure the required coordination of responsibilities and competences including the independent intake, collection and treatment of waste water with a view to coordinated and efficient water management.

Without wanting to give an exhaustive list, starting from the three-layer model for water governance, the following questions arise when cooperation is considered:

- Is there a shared ambition and a clear vision and strategy?
- Do the parties possess the necessary skills, knowledge and experience?
- Are the roles and responsibilities clear?
- Is there a sufficient basis of trust to work together?
- To what extent do cultural aspects play a role?

In the following paragraph these questions are further elaborated.

## 7.3 ASPECTS THAT PLAY A DETERMINING ROLE IN COOPERATION

This paragraph will provide deeper insight into the five aspects mentioned here fore that are according to the author most needed for good cooperation.
These aspects are:

- Shared ambition and joint vision/strategy
- Knowledge and skills
- Roles and responsibilities
- Trust (and control)
- Cultural aspects

### SHARED AMBITION AND JOINT VISION/STRATEGY

The joint strategy can be formulated in the form of clear goals being pursued for example with a timetable (teleological), but the joint strategy may also take the form of a joint approach (deontological) for example focused on the optimization of interests.

Important in the first place is a shared ambition for which a mutual plan can be of great help. The benefits of cooperation should be recognized by the partners to provide a solid basis for cooperation. In addition, wherever possible transparency is needed concerning the vision of the cooperating parties in the sense of what goals to be pursued with regard to the interests they stand for. The lack of clarity about everyone's interest is a risk factor.

In the report "Grensverleggend participeren. Handboek voor procesregisseurs"[1] (Groundbreaking participating. Handbook for process directors) the question is raised whether there is a shared problem definition, elaborated in a variety of in-depth questions, some of which are shown below.

Do the stakeholders interpret and experience the problem to address in the same way?

a Is the problem clear and known, or do the different stakeholders give different definitions of the problem?

b Are these differences in definitions related to the facts (e.g.: yes or no subsidence) or values (e.g.: it is important to maintain agriculture in the area) or interests (e.g.: private, political, financial interests), about a difference in experiencing problems (e.g.: how urgent are problems of 2050), or can they be explained by a difference in the mission statement (e.g.: a stakeholder who has an integrated vision or a sectoral look at the process)

Clarity on this point at the earliest possible stage can greatly contribute to achieving the joint pursued goals.

## KNOWLEDGE AND SKILLS

Well educated and skilled personnel is an important boundary condition for success.

In the WHO/UNP report (1997) "Water Pollution Control - A Guide to the Use of Water Quality Management Principles"[2] it is stated that sector organizations can only perform well if they are properly managed, guided and staffed. This implies that:

- Management must offer leadership, to ensure that the organization and its staff have a clear and shared view of their purpose and how this will be achieved.
- Staff must be adequate and with the right combination of levels of expertise.
- Personnel management must be dynamic, stimulating loyalty and minimizing operational costs.

Important precondition for good cooperation between organizations is also that there is a balance in the knowledge and experience of the parties at the table. If it is not, the situation may arise that most of the contributions and initiatives come from one party and the other party may feel uncomfortable. After all, how to assess that what is proposed by the experienced party also is a good strategy and approach for the less experienced party. Within partnerships also the importance of equal payment should not be underestimated.

A successful way to support cooperation and optimize the mutual exchange of knowledge is what has been called

[1] http://publicaties.minienm.nl/documenten/grensverleggend-participeren-handboek-voor-procesregisseurs.

[2] (http://www.who.int/water_sanitation_health/resourcesquality/watpolcontrol.pdf).

the introduction of "Kenniscoaches" – "Knowledge coaches".
It's based on change in culture in which the parties involved in the (waste) water chain take a joint responsibility in solving short- and long-term issues. Knowledge Coaches are independent experts with advanced knowledge and process skills. Cooperating parties (municipalities, regional water authorities and / or water companies) can ask the support of a Knowledge Coach to enable an extra boost in the regional realization of the measures on the water chain as agreed upon in the Administrative Agreement on Water (BAW, 2011).

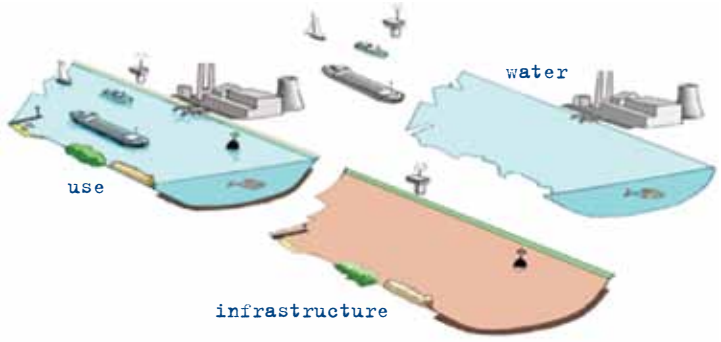
For UNESCO-IHE capacity development is core business.
Since its establishment in 1957 the Institute has played an instrumental role in developing the capacities of water sector organizations in the Global South, not least by strengthening the efforts of other universities and research centers to increase the knowledge and skills of professionals working in the water sector. Important aspect of the recent strategy of UNESCO-IHE is the conviction that it is imperative to strengthen the capacity of the water sector organizations and not just the individuals inside them.

## ROLES AND RESPONSIBILITIES

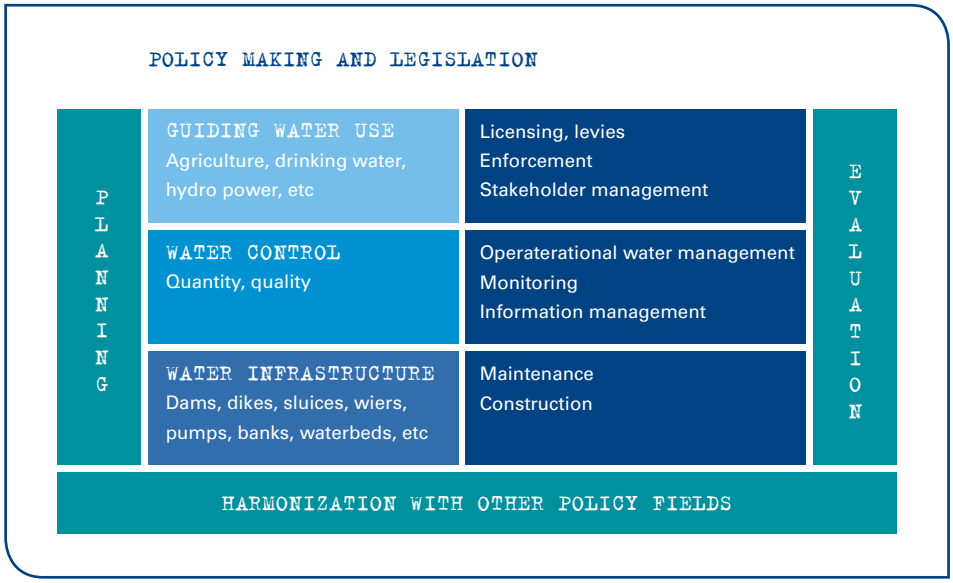
Vagueness about the roles and responsibilities can have a paralyzing effect on cooperation. When the boundaries of the areas of responsibilities are not clear or when they overlap each other, clarity will have to be created therein first. Without that clarity, it is likely that there is insufficient trust and in such circumstances the development of cooperation will be difficult. It may be that gradually through coordination and consultation the desired clarity is created, but it may also be necessary to formulate this more precise and anchor it in legislation.

### Positioning, responsibilities and tasks water manager

The tasks of the water manager can be divided into three interconnected components: construction and maintenance of the infrastructure (1), the operational management of the water (2) and regulating the use of the water system (3). In brief: Infrastructure-Water-Use.



## RESPONSIBILITIES AND TASKS IN WATER MANAGEMENT / RIVER BASIN MANAGEMENT




Adding planning and evaluation, the relationship with policy formulation and instrumentation (incl. financial structure) and the harmonization / coordination with other policy fields (such as spatial planning and environmental policy), provides the above summarizing scheme. It should be stressed that for the implementation of the tasks the water manager always has to focus on the interests put forward by the various stakeholders.

Important for the cooperation is the question of who is responsible for which task and how the coordination is filled in. The more the tasks are distributed across different parties the more effort in coordination and alignment will be necessary and - in order to be successful - the importance of good cooperation will increase.

Of course, even within organizations such a division of tasks may occur and may make a similar coordination and cooperation necessary.

## TRUST (AND CONTROL)[3]

### Trust can be defined as:

"The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party"

Castelfranchi & Falcone citing Mayer et al

Trust is an important relational element in living and working together. Control can be seen as the opposite pole of trust. However, trust and control also need each other. Who enjoys trust, wants to make clear that he / she is worthy of this trust. Without control therefore is not an option. But without trust society would get overregulated which leads to an unworkable bureaucracy. The challenge is to find the optimum on the axis of trust and control, and to put this into practice.

Activities that may contribute to increased trust are education and training, learning to identify and, if possible, share each other's values and concrete cooperation in practice. An increasing degree of intervention (enhanced surveillance) on the other hand can also be an effective tool, as can be learned from the experiences below regarding cooperation in the waste water chain.

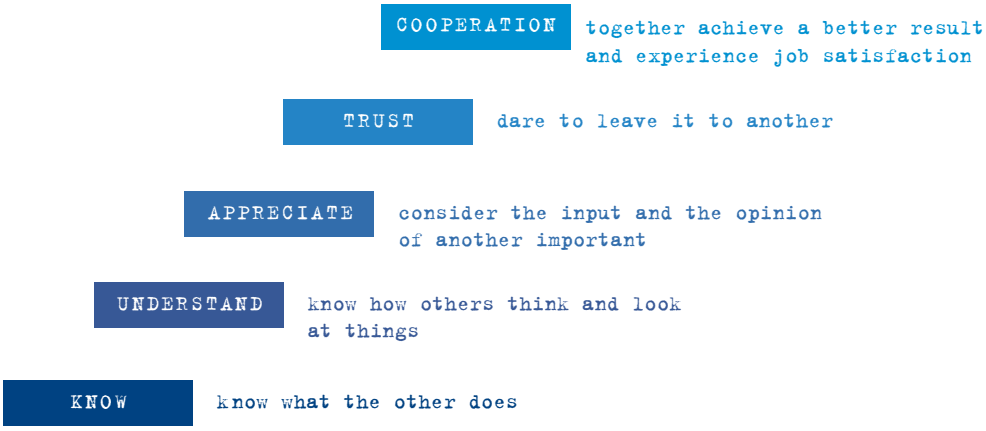
### About Control:

The Dutch Visitation Committee Water Chain was given the task to assess regional agreements on the waste water chain based on the Administrative Agreement on Water (BAW, 2011). These agreements are made by the regional partners (municipalities and regional water authorities) themselves. This 'bottom-up' process is very important because it has a stimulating effect in actually achieving the agreed goals. Strengthening regional cooperation in the (waste) water chain is an important instrument for lower costs, higher quality and vulnerability reduction in 2020. Three steps in the so-called ladder of intervention selected in advance:

- The first step of this ladder of intervention is to encourage, support and address the regions in implementing the agreements. This step is in operation since 2010.
- The second step is the establishment by the Minister of Infrastructure and the Environment of an expert and independent review committee (the Visitation Committee) that is monitoring assessing and stimulating the progress in the different regions.
- The third and most far-reaching step in the ladder of intervention

[3] See M.A. Hofstra (2011), *Trust as core element of good water governance,* master thesis philosophy of management and organization, Free University Amsterdam http://watergovernance.s3.amazonaws.com/files/COM-13-005-Trust_as_core_element_of_good_water_governance-def.pdf.

## THE COLLABORATION LADDER OF LEERTOUWER, VAN DYCK & U




is the exercise enforcement on the water authorities, municipalities or water companies. This step will only be activated if it appears that earlier steps in the assessment process of the Visitation Committee show insufficient progress.

Meanwhile, the Visitation Committee has completed its work and it can be concluded that the first two steps have proved to be sufficiently effective, so the third step can be omitted.

Basic for a shared vision and strategy is to know and understand each other. That takes time. Time to meet, to get to know each other's position and to understand and develop the willingness to cooperate. No hidden agendas but openness. Even if certain tension can arise between each other's interests and approaches.

The collaboration ladder of Leertouwer, Van Dyck & U, shown above, makes clear that for building trust as a basis for fruitful collaboration several steps will have to be made.

In the publication of the European Environment Agency (EEA Report No 3/2014, Public Participation: contributing to better water management, experiences from eight case studies across Europe) experiences from these case studies make clear that building networks to enhance trust can be an important mechanism to be successful in projects.

Based on studies on the Northern Lagoon in Venice (Italy), the Tisza River Basin (Hungary) and the Matarraña River (Spain) it was concluded that "Trust and transparency in the participation process and in those leading it is generally achieved through practical measures,

as when authorities and their technical staff engage directly in face-to-face discussions and provide direct feedback and tangible evidence of how these discussions have influenced the development of the plan, for instance by producing modified maps that reflect proposals put forward by stakeholders and members of the public. It has to be stressed that the build-up of trust needs a long-term engagement and continuous, open and credible communication in the participation process."

## CULTURAL ASPECTS

Cultural aspects play an important role in the success or failure of policy development and implementation of IWRM. There is a widely accepted conviction that solutions for problems that work in one place may not be an adequate approach in other places due to differences in cultures. It means that policies to be developed and measures to be taken will be in many cases context dependent. Also when it comes to the establishment of cooperation these cultural aspects may not be overlooked.

Not only countries differ. There is – in management literature - a widespread conviction that the culture of organizations in their internal as well as their external occurrence is important when it comes to the ability to cooperate. Although different in different societies, openness and willingness to cooperate are vital elements in the attempts to realize successful cooperation.

In their book "Water a way of life"[4], Linda Reijerkerk en Lida Schelwald-van der Kley - based on examples of how water can be a source of life, of inspiration, of power, and also a source of conflict or cooperation- give some suggestions to water professionals working abroad on how to take the cultural context into account as an important element for water governance and bridge cultural gaps.

One should also be aware of the power distance in a society, the interrelation between different groups, the fact that decision-making may be collectivistic by nature, the role of women, etc. In their book they describe several useful tools for understanding differences in cultures across the world.

One of them is Hofstede's world-wide classification of cultures. By bridging cultural gaps projects will be more aligned to cultural values, resulting in more sustainable water use, maintenance and water governance. Some success factors for sustainable intercultural water management projects are given in the shown table on page 132-133.

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[4] L. Schelwald-Van der Kley and L. Reijerkerk, *Water: a way of life. Sustainable water management in a cultural context,* Taylor & Francis Group, 2009 London UK. See also their article *Water Governance in a cultural context,* Water Governance 5/2012, p. 18-27.

## HIRE THE RIGHT PEOPLE!

Professor Lynda Gratton (2009)[5] in questioning "How to foster a cooperative culture" focuses - in an article about leading teams in Harvard Business Review - at the cooperative culture within organizations, pointing at the fact however, that while collaborating within the team is important, collaborating with colleagues outside the team is even more crucial.
Advises given by her are to 'Hire for cooperation' - let it be an important element in the selection procedures- ,' Institute onboarding practices that foster collaboration' - make sure the new team members have ample time to get acquainted, that they create a large network, 'Support mentoring' and 'Ensure that performance management rewards collaboration'.

[5] https://hbr.org/2009/01/four-ways-to-encourage-more-pr

## Dutch experiences in Vietnam[6]

In a project that focused on the strategic level of planning and participation of interest groups, as part of the analysis of the experience with participatory water management in Vietnam, the question was raised whether and how participatory water management can be applied in the Vietnamese context.
Some conclusions:
'The high level of hierarchy in the Vietnamese culture and its emphasis on the importance of the collective over the interests of the individual can be obstacles to participation by individual citizens which needs to be handled with care.'
But also:
'Characteristics of the Vietnamese society, such as conflict resolution through negotiation, being open for new things and the high participation in voluntary organizations in Vietnam form a good basis for participation in decision-making.'
and:
'Methods of participation can and must reflect the culture and context of the people concerned, and should not slavishly follow the paradigms and methods from other cultures.'

[6] Bouke Ottow; Patrick Huntjens en Ralph Lasage. Participatief waterbeheer in Vietnam: *"Dutchman's Burden"* of deel van *"Doimoi"*?, Water Governance 5/2012, p. 32-37.

| ISSUES TO CONSIDER | DO'S |
|---|---|
| What works in one place doesn't necessarily work in another | Take cultural and local differences into account |
| Adopt local traditions and practices into sustainable solutions | Try to build on what has successfully worked in the past |
| Think global, act local | • Involve local people in the planning process<br>• Consider the broader context and consequences of new plans<br>• Ensure the well-being of the local community |
| Ensure a match between people having to work together, and think beyond barriers | • Create a positive and co-operative working atmosphere<br>• Use cultural differences as an inspiration to create new sustainable solutions |
| Recognize cultural differences and local interests and factor them into your project<br>&<br>Create local support for new plans | Find out what cultural factors (power distance, social relationships, knowledge level, etc) determine the success of the project<br>• Involve local stakeholders in the decision making process<br>• Visualise the situation to share conceptual understanding<br>• Value local people's suggestions and use them if feasible |
| Understand and respect local cultural values and beliefs | Appreciate the fact that cultural values and beliefs may differ from your own set of values and beliefs |
| Listen to concerns and respond appropriately | Address the needs and concerns of local people seriously |
| Think ahead | • Before starting a technical project make sure that the legal, financial and personnel responsibilities for long-term operation and maintenance are clear and covered<br>• Be pro-active |
| Use local experts | Involve local people in the work and create jobs for them |
| Regular, open and honest communication prevents delays caused by opposition and legal procedures | • Say what you do and do what you say<br>• Make sure that your communication is in line with the audience, use understandable language |
| Evaluate the project on a regular basis | Learn from your mistakes |

## DON'TS

Use one approach world-wide

Consider traditional knowledge and practices as 'backward'

- Forget that local issues need local input
- View your plan in isolation
- Forget to address the needs of local people

- Create a conflicting atmosphere
- Let cultural differences become a source of conflict that hinder the process

Fail to ignore culturally dependent enabling and counteracting forces

- Believe that public participation is the enemy of efficiency
- Think that you know best what is right for the people concerned
- Disregard suggestions of 'lay people'

- Impose your beliefs and values on others
- Assume you know what people think and want

Ignore or overrule people's needs and concerns

- Trust that once realized, local people will use and maintain the system themselves
- Wait for problems to surface

Try to do everything with your 'own workforce'

- Make promises you can't keep or fail to follow-up
- Fail to take language barriers into account

Forget to evaluate the process, thereby not allowing mid-course corrections

# ANNEX 1
# DO'S AND DON'TS FOR SUCCESSFUL INTERCULTURAL WATER MANAGEMENT

L. Schelwald-Van der Kley and L. Reijerkerk, Water: a way of life. Sustainable water management in a cultural context, Taylor & Francis Group, 2009 London UK.

### Enabling and blocking cultural features

Based on two cases on the implementation of preventative risk management (Water and sanitation programmes, WSP's) Summerill, Pollard and Smith[7] concluded that despite an internal desire to undertake risk management, some aspects of organizational culture prevented these from reaching full potential.

**Enabling cultural features included:**
camaraderie; competition; proactive, involved leaders; community focus; customer service mentality; transparency; accountability; competent workforce; empowerment; appreciation of successes, and a continual improvement culture.

**Blocking features included:**
poor communication; inflexibility; complacency; lack of awareness, interest or reward and coercion.

The topic can be illustrated further by outlining some examples where a positive culture of cooperation plays/has played an important role in the successes achieved in the respective policy fields. In the following cases we look consecutively at local/regional cooperation, cooperation at a national level and international cooperation.

[7] http://www.sciencedirect.com/science/article/pii/S0048969710006480

## 7.4 CASE STUDIES

### LOCAL/REGIONAL COOPERATION IN THE (WASTE) WATER CHAIN

In the Dutch situation - unlike many other countries – the tasks concerning the waste water chain (sewerage system on the one hand and waste water treatment on the other hand) are not in one hand but are divided over the municipalities (sewerage) and regional water authorities (waste water treatment). The wish however to do the jobs effective and efficient asks for cooperation between both authorities. Up to the 1990's it was difficult to realize such a fruitful cooperation. Not only were there differences in scale (> 400 municipalities and approx. 30 regional water authorities in those days) but also there was a lack in mutual trust partly caused by the fact that there was no clearly defined division of jurisdiction. Municipalities feared that the regional water authorities might want to take over the responsibility for the sewerage system and the regional water authorities on the other hand feared the claims of the municipalities on their waste water treatment plants. Another complicating factor in those days was the role of the drinking water companies, who – in the days that the discussion on privatization was going on – might also look for other tasks. The first step towards more trust and better cooperation was set by clear decisions and regulations on the responsibilities of the parties in the national legislation, including the decision about not-privatizing the drinking water companies. The second step was

set by the Administrative Agreement on Water (BAW, 2011), signed by all parties, to improve the cooperation amongst the parties and to strive for the achievement of a saving of several hundreds of million euros per year in the combined task of sewerage and waste water treatment.

## NATIONAL COOPERATION: CASE ROOM FOR THE RIVER

Almost 220 years ago, in 1798, the need for a coherent approach to the management of large rivers did lead to the creation of an organization, the Office of Public Works, today Rijkswaterstaat. At that time, there was a rather fragmented management by regions on the one hand and regional water authorities on the other. Stimulated by Christiaan Brunings, who believed that only radical centralization could lead to the desired 'unity, simplicity and indivisibility' in the water management, as mentioned, in 1798 the Office of the Public Works set up with a staffing level of four persons in the administrative department and 17 people in the technical field, including 3 for the department 'flowing rivers'. This centralist approach was further developed and has determined the image during two centuries. It has certainly paid off. However, with the project Room for the River, a response to the floods of 1993 and 1995, a different course was chosen. A strategy based on trust and seeking collaboration to utilize each other's best qualities. "Just a selection from the extensive package of measures of Room for the River: a municipality commissioned by Rijkswaterstaat, payed by the State, removes a dike of the regional water authority, constructs a new one and moreover digs a side branche for Rijkswaterstaat. Thé recipe for quarrel between administrations? On the contrary. Finding and creating collaboration - at different levels and from the very beginning - creates added value; better solutions emerge. Cooperation between governments as the key word."[8]

Characteristic for the Room for the River approach is that Rijkswaterstaat from the start has worked on extensive cooperation between governments at every stage of the program; at the administrative level, at the level of directors and at the project level. The program is seen as the first major project in which the intention to jointly addressing water issues, takes shape. Important, however, also was that in previous years gradually more coordination and cooperation had been arisen in the realization of a vision for the future of the river area. Among others, the desire to make the step from predominantly agriculture to more nature. It was clear that the effort from several parties was needed for that. At the national level the creation of a water management agreement, was a signal that the parties sought each other in order to cooperate more.

[8] https://www.ruimtevoorderivier.nl/longread/samenwerking-overheden/

What have been important elements that have ensured that this cooperation has functioned effectively?

First, there was a clear consensus on the final goal of the project Room for the River: creating a safe situation, where possible at the same time increasing the quality of the landscape. In other words, in broad there was a clear consensus on the goal to achieve.

A second important element is the choice to create space in the decision-making process to make adjustments. It was not a cast in concrete project in which no changes were possible. However, there was a clear scope with as - more or less hard – key conditions timelines (completed in 2015) and the total budget (not more than 2.3 billion euros). Characteristic for this aspect, was the decision to work with 'conversion decisions'. If within the scope new insights would lead to better or more acceptable measures than these measures may replace previously proposed solutions. So, built-in flexibility in the agreements.

Third and perhaps most important element was that the common belief had grown that when optimum use would be made of each other's knowledge and skills there would be not only arise much more support for the package of measures, but that both the quality and the practicality of decisions would be strongly enhanced. Concrete form was given to this confidence in that the available qualities and capacities were made leading in laying the lead in projects with one of the governmental authorities - national, province, municipality or regional water authority. A great mutual confidence in projects for which they wore joint responsibility.

## INTERNATIONAL COOPERATION: FOUR RIVER BASINS

For the Netherlands as a delta of four international rivers, Rhine, Meuse, Scheldt and Ems, the need to work together in the international river basins is evident. Not in all cases however this was easy. Comparing the cooperation in the Rhine catchment with the cooperation in the basins of the Meuse and Scheldt it can be concluded that in the first situation, the Rhine, all this has been easier than with respect to the Maas and Schelde.

In a recent study[9] of this international cooperation in four transboundary basins by Nil Disco and Alex van Heezik, attempts were made to find out what were the causes of different development patterns on each of the rivers. The conclusion of the writers is that 'natural differences in "negotiating cultures" and in particular indifference to these differences, seriously hindered progress at various junctures.' In other words cultural aspects played an important role.

[9] Nil Disco and Alex van Heezik, *Different Strokes for Different Folks, 50 years of agreements and disagreements in the Rhine, Meuse, Scheldt and Ems river Basins.* Delft (2014).

In structuring their arguments they make use of the 'Three layer model of water governance' as described in Chapter 1 as well as in the introduction of this chapter. In their conclusions they underline the importance of the relational aspects, 'Although "content" and institutions" are logically prior to investments in a robust relational layer it is also the case that, other things being equal, more "content" is produced and shared and a more potent institutional structure emerges when there is clear communication and parties are prepared to assume the risk of mutual trust. The Rhine action plan is certainly a case in point.

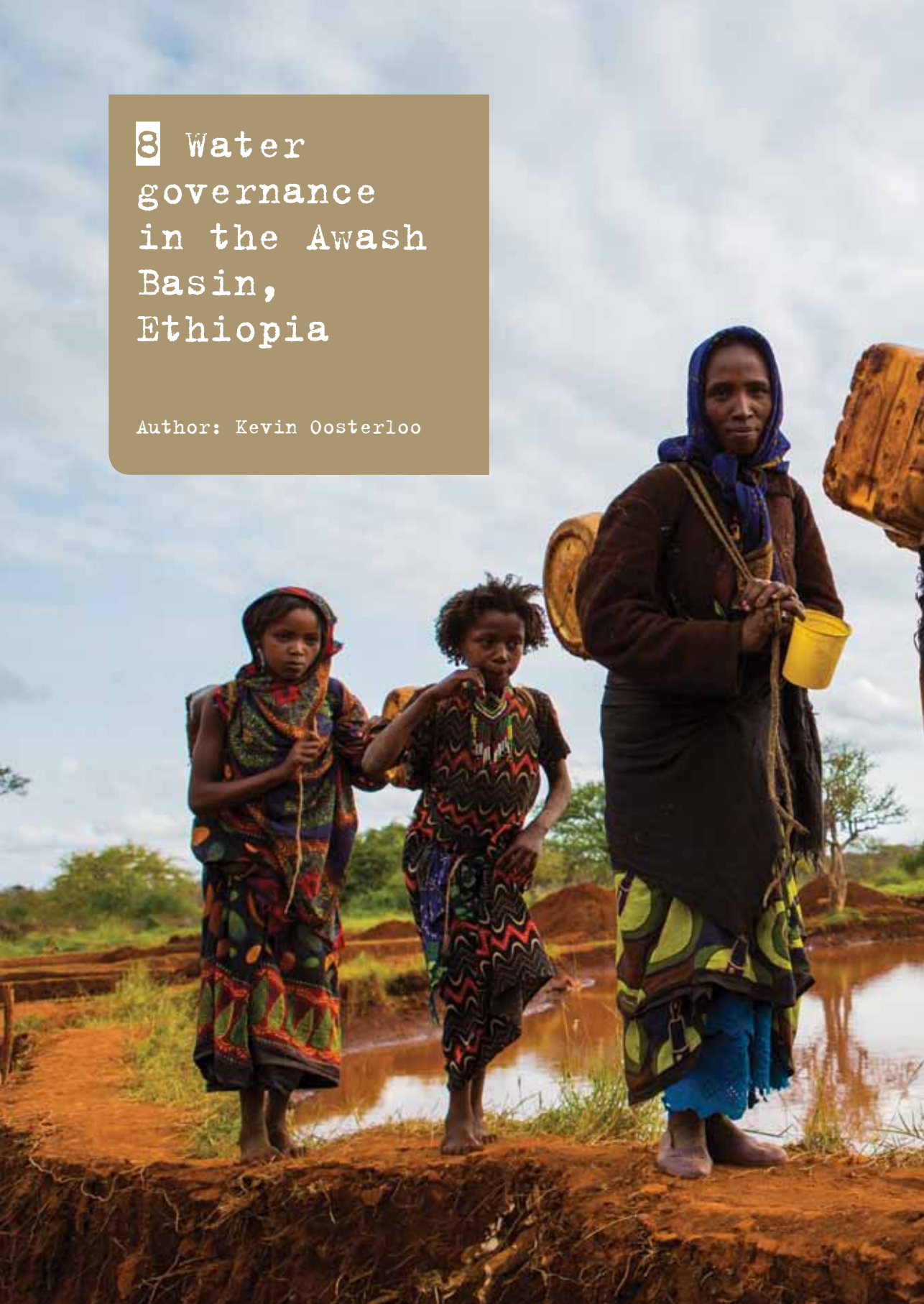
Referring to the three layer model Disco and van Heezik speak about a 'relational deficit'. Governments and delegations should learn to be aware of cultural differences and take the notion of "different strokes" more seriously.

## 7.5 CONCLUDING REMARKS

Cooperation – in our network society - is more than ever a crucial boundary condition for being successful in policy and practice of IWRM. In the field of water management the awareness is growing that relational aspects play an important role in achieving the goals of integrated water resources management with relation to water safety, water supply and water quality and ecology. Good cooperation as one of these relational aspects plays an important role and its importance is increasingly recognized. However, cooperation is not always easy to achieve. Therefore it is relevant to realize that elements like trust and transparency form a indispensable basis. Beside that there are other elements that should be given the necessary attention. In paragraph three attention is paid to shared ambition and joint vision/ strategy, knowledge and skills, roles and responsibilities, trust and control and cultural aspects. Looking only at this last aspect, culture, it may be clear that each situation will have it's own context to be taken into account. The ideas and the cases in this chapter should therefore be seen as a support - knowing that contexts differ – to give the necessary attention to cooperation – and to analyze what can help to establish and maintain cooperation.

# 8 Water governance in the Awash Basin, Ethiopia

Author: Kevin Oosterloo



## 8.1 INTRODUCTION

In the first chapter of this book, we read how the present King of the Netherlands, HM Willem Alexander, described the world water crises as a governance crises, not one of scarcity. True as this is when realizing that there is about 146 million litres of water per person per day in the fresh water system[1], they are empty words for about a billion people on this planet that lack access to fresh water. This chapter explores a country struggling with ensuring access to clean water and developing its water resources, namely Ethiopia. In recent news it has been reported that Ethiopia is heading for a period of severe drought.[2] Rainfall in the past years has been below expected precipitation levels resulting in low levels of recharge of Ethiopia's water resources. In addition, the current drought is exacerbated by the late and erratic summer rain caused by a 'Super El-Niño', some experts say.[3] And climate change is influencing rainfall patterns and increasing the frequency of droughts in the long run. As a result, millions of Ethiopians are facing severe water shortage today. Or, is it possible to find other causes for the current draught? Could it be that Ethiopia's water problems, like suggested by HM Willem Alexander, are rooted in the way water governance is done? Of course the premise of this book already reveals the answer. Therefore, this chapter looks at the building blocks of good water governance through the lens of a case study – that of Ethiopia's Awash basin.

Ethiopia is a country in East Africa (figure 1) of 1,104,300 km$^2$ with a current population of almost 100,000,000 inhabitants. The official language is Amharic, but over 80 languages are spoken. About 0.7 percent of Ethiopia is covered with surface water; important water systems are the Awash river and the Blue Nile. Ethiopia is an ecologically diverse country with desert areas in the Northern and Eastern part of the country and tropical forests in the South. For the major part Ethiopia is a mountainous country with most of its cities located at 2,000 - 2,500 metre altitudes.
The temperature has minor variations throughout the year and seasons are mainly defined by rainfall. Some areas in the lower regions are hotter and drier with a meagre 300 mm of annual precipitation. Most precipitation occurs in the Ethiopian highlands – exceeding 2,000 mm annually.[4] Periods of heavy rainfall are followed by long droughts, making flooding, water shortage, famine and displacement of people common problems relating to water.

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[1] Davie, T. (2008). *Fundamentals of Hydrology,* 2nd edition. Routledge: London and New York.
[2] BBC report: *Can Ethiopia cope with worst drought in decades?* 10 November, 2015.
[3] Magrath, J. (2015). *Entering Uncharted Waters: El Niño and the threat to food security.* Published by Oxfam International.
[4] Viste, E., D. Korecha, A. Sorteberg (2012). *Recent drought and precipitation tendencies in Ethiopia.* Theoretical and applied climatology, 2012:1–17.

## FIGURE 1 LOCATION OF ETHIOPIA


In the next paragraph, the features and challenges of the Awash basin are briefly described. Paragraph 8.3 dives into the case using the building blocks of good water governance. This chapter closes with some conclusions and a brief look into the future of Ethiopia's water governance implementation at the level of River Basin Authorities (RBAs).

## 8.2 CHALLENGES IN THE AWASH BASIN

This case study is a brief exploration of the building blocks of good water governance in relation to the Awash basin in Ethiopia. It is not a deep analysis of the governance in the basin. Rather, it is based on experience with the basin's main water management agent: The Awash Basin Authority[5] (AwBA).

The Awash basin (figure 2) finds itself landlocked, with Djibouti and Somalia on the east separating it from the Gulf of Aden. The basin's main physiographic feature is the 1280 km Awash River, which originates in the high lands of Ginchi, not far from the capital Addis Abeba which is located at an altitude of about 2,600 metres. Most inflow to the main river occurs through the western tributaries during rainy season. The river meanders downstream filling a number of artificial reservoirs. It never mouths into the sea, but instead ends in Lake Abbay. It is therefore a closed basin. It is also Ethiopia's most utilized and industrialized basin with tremendous economic importance. Large state-owned sugarcane irrigation schemes, foreign investment in horticulture, textile, leather and steel and manufacturing industries are found particularly in the upstream and middle parts. Some industries are found downstream in addition to large numbers of small-holder farms. The river system is shared by five regional states (Oromiya, Afar, Amhara, Somali, and Southern Nations, Nationalities and People's region) and two administrative towns (Addis Ababa and Dire Dawa). For the Awash Basin Authority's systematic planning and water administration the Awash basin is hydrologically divided into 6 sub-basins, namely, Awash Upstream Koka, Awash Awash, Awash Halidebi, Awash Adaitu, Awash Terminal and Eastern sub-basin.

The Awash basin has been coping with both structural and acute water problems. And not surprisingly, many acute problems are manifestations of latent structural problems. Too a large extent, this concerns capacity gaps in human and material resources and high investments are needed. However, for this money to be well spend, that is, by ensuring that institutional arrangements will no longer be a structural cause for acute water problems, some crucial measures towards the building blocks of good water governance need to be put in place. Progress on this prospect is more promising on some fronts than on others. Before going into the current state of affairs of these building blocks, some of these acute water problems and their latent causes will be described in more detail using two examples: one relating to water quantity and another to water quality.

[5] The Awash Basin Authority has a partnership with the Dutch Water Authorities. The author is a staff member of the Dutch Water Authorities and seconded to the Awash Basin Authority. This article expresses his opinion and not necessarily the opinion of AwBA itself. See also: Hemel, R. & H. Loijenga (2013) *'Set up of a Water Governance Program in the Awash River Basin, Central Ethiopia. Assessment of Water Governance Capacity in the Awash river basin',* Water Governance Centre.

## FIGURE 2 ETHIOPIA AWASH RIVER BASIN

Topography of Ethiopia and some neighbouring countries.
The Awash River basin is delineated in red.

Shortages of water have all kinds of reasons, which in itself is problematic given that water users who are in part responsible for these shortages may feel absolved from blame, and point at other causes. Better management of the spatial and temporal variation could reduce water shortages, for example. But much can also be gained from implementing more efficient irrigation techniques. Figure 3 shows the Awash River just before and right after the drainage canal (on the right) directs the water to an irrigation scheme for sugarcane. Huge portions of the river flow are redirected to irrigate ten thousand hectares of sugarcane by inundation – a system implemented by the Dutch in the 1950s. At least two irrigation schemes of similar size can be found in Upper and Middle Awash. Such out of proportion water use certainly adds to the water shortage problem. Efficient and innovative irrigation techniques such as drip irrigation could provide a solution, but the incentives to invest in are missing. This comes in two common forms and are not unique to Ethiopia:[6] 1) insecure property rights; 2) the low price of water. On the first, the institutional arrangement at play is that the government ultimately owns the land. A consequence could be that the government is held responsible for making the investment in more sustainable irrigation techniques – add to that the fact that several sugarcane farms are state-owned and one gets a picture of the nature of such negotiations—and may need donor money to do so. In the meanwhile, the price of water is too low to make cutting back on usage economically interesting. The water charge is determined by the Council of Ministers and is currently set at ETB 3 service charge per 1,000 $m^3$ of water – about 12 Eurocents. This amount can be more than a factor 10 less than the costs of operating and maintaining the diversions, primary canals and drains and access roads. For example, in Amibara (Middle Awash) the costs of management, operation and maintenance is estimated to be around ETB 521 per hectare per year, or ETB 35 for 1,000 $m^3$ of water.[7] Financing policies such as these both discourage efficient use of water as well as jeopardize the long-term financial sustainability of water management. These structural causes for water shortage will only cease when tackled on a governance level – through land use right policies and pricing and levy policies.

By the same token, the Awash Basin is facing challenges with water quality. The country is in transition and is growing fast economically. Industrial activity is increasing at a pace which is difficult to keep up with for institutions involved in environmental regulation and protection.

[6] For a discussion on insecure property rights in Africa and their relation to lack of investments in new techniques in agriculture, see Robinson and Acemoglu (2013), *Why Nations Fail. The origins of power, prosperity and poverty,* Crown: NeyYork. More on property rights can be found, for example, in the work of economist Ronald Coase.

[7] Halcrow (2007): *'Proposed restructuring of the Awash Basin Agency',* Vol. 1, main report. Halcrow is a UK-based engineering and consultancy firm which was hired to do a thorough scan of the Awash Basin, including studies on geomorphology, flood protection, and basin management. At the time of the consultancy assignment, the Awash Basin Authority was still named Awash Basin Water Resources Administration Agency (ABWRAA).

One of the consequences of industrial activity is more uncertainty about what substances enter the water system and biosphere. The stream of waste water in figure 4 comes from the outlet of a Chinese industrial zone, where mostly metal industry can be found. Nearby farmers use this stream to water their crops and have their cattle drink from it. Cases of cattle dying after drinking from this stream have been reported, but due to broken lab equipment testing on heavy metals, for example, is either not happening, or, happening rarely with not enough samples to get a good picture of the water quality. And testing samples for pesticides and insecticides is virtually not being done in Ethiopia. Nonetheless, when treated, the reuse of industrial process water by local population is something to encourage. To provide an answer to such water quality challenges, industrial activity needs to be coupled with systematic planning of river basin management. Currently, a permit system is being set up which will help regulate industrial water use and discharge. And, although discharging untreated waste water is

**FIGURE 3** Water quantity: a large irrigation scheme near Metahara, Middle Awash, diverts a huge chunk of the river flow to irrigate thousands of hectares of sugarcane. Photo courtesy of Dutch Water Authorities, taken on a field visit in March, 2015.

essentially illegal, enforcement of these permits, especially on a basin-wide scale, is not yet realistic. For the time being, pollution like this will remain to affect the water quality in the basin virtually unmitigated. Fortunately, there are cases of industries that have installed good treatment set-ups on their own initiative.

FIGURE 4 Water quality: uncontrolled waste water discharge in Upper Awash. Industries use groundwater and farmers subsequently use the waste water from the outlet to irrigate crops. Photo courtesy of Dutch Water Authorities, taken on a field visit in March, 2015.

## 8.3 REVIEWING THE AWASH CASE THROUGH BUILDING BLOCKS OF GOOD WATER GOVERNANCE[8]

Earlier, two examples were given which explain the interplay between structural and acute problems and how these become challenges for AwBA. This paragraph will go into the underlying governance arrangements by structuring this analysis with the building blocks for good water governance. In addition, some references will be made to the new OECD principles on water governance (see chapter 1).

### ADMINISTRATIVE ORGANIZATION

Ethiopia has a federal system where regional states enjoy high autonomous power and have their own constitutions in line with the federal constitution. The national government has set out sector policy lines and decided upon the establishment of River Basin Organizations (RBOs) for decentralized water resource management. In this structure, a Basin High Council (BHC) brings policies to the parliament, being the RBO's political arm, and River Basin Authorities (RBAs) being the RBO's technical arm, has the operational mandate to implement Integrated Water Resources Management (IWRM). The fundamental planning unit is the hydrological boundary of a basin. RBOs are thus federal institutions cutting right through the administrative borders of regional states. Because of path dependency, the RBAs in Ethiopia are neither set up nor operating in an institutional landscape that neatly give way to the powers and duties RBAs should have. Moreover, they exist in diverse socio-economic conditions and hydrological regimes with complex cultural traditions and ethnic tensions. And this trickles down all the way to the level where RBAs need to fulfil their responsibilities.

In the case of AwBA, before its current role as an RBA, it was a project administration office for a state irrigation farm in Middle Awash. Now, it has to make itself familiar with the role of coordinating activities in the entire basin, which is three times the size of the Netherlands, and reconciling wishes of the many stakeholders. In line with the OECD principle of clearly allocating distinguishing roles and responsibilities for water policy-making and implementation, it is instrumental for AwBA to take their environment with them in this growth process. And significant steps are undertaken to this effect. Besides clear roles and responsibilities, this building block harbours another principal element, which is capacity. The OECD speaks about "adapt[ing] the level of capacity of responsible authorities to the complexity of water challenges to be met […]".[9] Chapter 2 of this book simply states that: "the [responsible authority] must have access to sufficient financial resources to execute its tasks". Some more discussion

[8] An older version of this part was published in Water Governance, 2015, edition 5.

[9] OECD principles on water governance, 2015.

on this issue is given in discussion of the building block on finance.

## WATER LEGISLATION

National policy sets the direction for the country's water governance and points at the aim "to put water resources of Ethiopia to the highest social and economic benefit for its people".[10] All rules put in place to realize this need to be in line with the federal constitution, which has primacy over all federal and state laws. When a rule is adopted by the House of Representatives of the central government, it becomes a so-called proclamation. On the onset are three important proclamations through which IWRM is legally embedded:

- Proclamation No. 197/2000 Water Resources Management;
- Proclamation No. 300/2002 Pollution Control;
- Proclamation No. 534/2007 River Basin Councils and Authorities.

Proclamations are formulated at a high political (national and state) level and usually not that detailed. Pursuant the proclamations, various regulations and directives – sometimes used interchangeably with guidelines, AwBA can exert much of its influence on the legal system through proposing directives – expand Ethiopian law further. Directives are developed closer to the scale where the responsible authority, i.e. a River Basin Authority, is supposed to enforce the laws, but have to be approved still by the Council of Ministers, who is mandated by the House of Representatives to then issue them. The proclamations named before provide enough handhold to derive roles and responsibilities for the RBAs. It is, however, the striking comparison with reality that shows how a good legal framework on paper has had little impact on the ground thus far. There is a mismatch between legislation and capacity to enforce it. This creates a reality where water users are officially breaking the law, but in lieu of punishment are given leeway to undertake the necessary actions to comply with law in the future. It will be interesting to see how water users that did not anticipate well enough will behave once AwBA's enforcement capacity is up to the mark. Given the characteristic ambiguity of law, this period is also exciting for AwBA to claim the extent of their operational mandate.

## PLANNING

On planning, two major challenges can be found: 1) planning in scope: i.e. increasing systematic planning with water management tasks which have thus far not been part of AwBA's range of activities; 2) planning in time horizon: i.e. drafting strategic river basin plans over periods of 5 - 10 years. Real incorporation of a systematic planning approach at AwBA would require expansion of human capacity since AwBA is understaffed in relation to their mandate area. Systematic planning, though necessary and useful in the long run, does not yield benefits on the short term for most of

[10] *Ethiopian Water Resources Management Proclamation*, Addis Ababa, 9 March, 2000.

the staff involved in water management operations. Efforts on systematic planning, for example, are undercut by unforeseen drought, even though such efforts should help anticipate on drought events. However, AwBA is on the right path and in a step-by-step manner planning receives a bigger emphasis. It almost goes without saying that this will need to take the form of Ethiopian conditions and planning customs, which is characteristically more ad hoc and context-driven.

## FINANCING

The OECD dedicates a principle to ensuring that governance arrangements help mobilise water finance and allocate financial resources in an efficient, transparent and timely manner. Likewise, chapter 5 emphasized that sound financing must be available. Yet bureaucratic rules such as tedious procurement procedures, locked budgets and heavily controlled cash streams cause AwBA to struggle with this aspect of good water governance. As water needs to be managed at an appropriate scale, and considering that therefore RBAs need some degree of financial autonomy, budget transfers to AwBA is much needed. Some insight into institutional structures in many developing countries should give away why this is a highly challenging operation. Whereas in the Western world we put so much trust in our institutions – election results that are accepted almost without questioning, the assumed independency of the judicial system, etc.
– the developing world is impacted more by tacit institutional arrangements and power and stature attributed to the individual. Position dictates rules more than rules shape position. This can manifest itself in a reluctance to accept transfers of power and budget within governance structures. In the meanwhile, there is a huge decentralization effort to ensure water management at 'the lowest appropriate level'. This is ironically driven, it seems, by literature on water governance and policy design which has its empirical basis in the (Western) developed world. Consequently, when policy-makers fail to negotiate the proper budget transfers, and only tasks and responsibilities are decentralized, such an effort may be counter-productive. As successful decentralization must include some degree of financial autonomy.[11] Sustaining this financial autonomy often depends upon the establishment of some form of water pricing or tariffs, having the users obeying such payments, and having the proceeds remain within or return to the development of the basin. With the strong influence of the Ethiopian ministry of Finance and Economic Development (MoFED), which collects revenues directly, AwBA currently operates without real autonomous budgets.
That is not to say that financial resources are not available. Rather, when budget is needed, a proposal needs to be drafted and forwarded to MoFED to justify the allocation of funds, which will then go ahead. Of course, proposal-writing also requires human capacity.

[11] A more elaborate discussion on financial autonomy as a condition for decentralization can be found in: Blomquist, Dinar, Kemper (2005). *Comparison of institutional arrangements for river basin management in eight basins.* World Bank Policy Research Working Paper 3636.

## PARTICIPATION

On many fronts, there is stakeholder participation. AwBA visits community leaders in faraway areas of the basin personally or goes to large-scale water users such as sugarcane farms, with the Director General himself leading these visits. Stakeholders are also involved in collective settings. In October 2014, AwBA and the Ministry of Water, Irrigation and Electricity (MoWIE) organized a public forum to address recent floods and many audience members spoke up. And there are more examples of stakeholder meetings and public platforms where water issues are discussed. But stakeholder participation is mostly construed as information provision, and to a lesser extent consultation. Active involvement, such as participation in permit application procedures, is not yet present. Neither are stakeholders actively involved in the planning process of AwBA. This makes it very hard to balance the interest of the stakeholders. Recognizing the importance of stakeholder participation, the national Ethiopian government wants to give citizens a voice in water governance issues.[12] Thus AwBA is tasked with ensuring the use of water resources in an "equitable and participatory manner."[13] It seems that practices to involve stakeholders structurally are underway.

## COOPERATION

Finally, some words must be reserved for cooperation in water management, the newly added building block. In light of capacity gaps, cooperation becomes all the more important. On several fronts, AwBA is not yet executing IWRM activities that are normally within a RBA's portfolio. This prompts even more cooperation with allies in the basin to share resources and capacity and making sure the burden of IWRM is shared. There has been cooperation with the regional environmental bureaus, information sharing with meteorological and knowledge institutes. Naturally, there is close cooperation with MoWIE. For example on lab analyses of water samples. Yet there are also areas where cooperation needs to be intensified, such as the industry sector. The current effort to invite industries to apply for a water use permit – under the mentioning that usage without a permit is illegal – has brought AwBA in closer contact with some of the industries. Moreover, there are opportunities for cooperating on best practices with enterprises that have sophisticated treatment systems for their waste water. By setting up a pilot, AwBA could gain some useful feedback on their approach, guidelines or communication policy. Yet this is currently not happening as it would imply unequal action vis-à-vis other similar enterprises, a choice decision-makers may find too difficult to make.

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[12] Fekahmed Negash, Executive Director Nile Basin Initiative, personal communication, Adama, January 2015.

[13] *River Basin Councils and Authorities Proclamation*, Addis Ababa, 23 July, 2007.

## 8.4 CONCLUSIONS

By implementing the building blocks of good water governance, AwBA slowly morphs from a technical unit – habitually executing their operational activities – into a coordinating governance unit safeguarding the sustainable development of the entire basin. A successful and proper progression is all but guaranteed and one of the toughest parts in this long-term effort is contrasting this reality with the goals in mind. Simply pointing at the need for these building blocks is not enough. Adequate financing for water management services or empowering RBOs is recognised as important, yet will only receive the high and essential political support when issues they relate to become highly salient. To a lesser extent, we see this in The Netherlands too. However, in Ethiopia, institutions are much more reactionary, and implementing the building blocks for good water governance becomes side-tracked by short-term interests or acute scenarios like the current drought. Hence it is best to operate on two levels. One, incremental steps that need to be taken, structurally and consciously, should become part of the modus operandi. And second, leap forward by recognising opportunities for real institutional change at critical junctures. The current drought could be a wake-up event for such sudden institutional change.

What this case mostly shows is that the building blocks for good water governance are not a blueprint. They instead point at some necessary ingredients. And just like with a real dinner you may have to add some carrots, use some wine or cut back on the salt. But first you'll make sure you know which ingredients you'll need. Then you'll look at your kitchen to see if you may need some additional pans, or maybe a sieve, or maybe even a chef to help you prepare; then you'll look at your finances to see if this is within your budget. And the analogy continues. All in all, implementing good water governance is an art of the possible, contingent on context; not a coordinated effort to achieve institutional change. This harbours one big danger: successes made so far can be dialled back.

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Herman Havekes graduated in Dutch law from the University of Utrecht. Following five years employment at the Central Department of Public Works and Water Management, he has been employed by the Association of Regional Water Authorities (UvW) in The Hague since 1984. Between the end of October 2008 and 1 January 2011, he was seconded to the Directorate General for Water, as Water Act project manager. In addition to his work for the UvW, Herman is affiliated to the Water Governance Centre in The Hague. He has produced a large number of publications about water law and water board law. In early 2009 he obtained his doctoral degree from the University of Utrecht with a thesis on the institutional changes that have taken place in regional water authorities over the past fifty years. In autumn 2010, together with Marleen van Rijswick, he produced the book 'Waterrecht in Nederland' which has in 2012 also been published in English under the title 'European and Dutch Water Law'. At the end of 2009 he was presented the Schilthuispenning award for his publications.

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For many years, Maarten was employed at the Ministry responsible for Water Management, where he bore responsibility for policy, planning, legislation on and the financing of water management and the implementation of these activities by the relevant government department, Rijkswaterstaat.
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# COLOPHON

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