

WATER

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THE DUTCH WATER BOARD MODEL



Water governance: the Dutch water board model

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Preface

In today's world the economic and social developments are taking place at an increasingly high pace. The sheer scale of these developments is also increasing. We are more and more forced to think global, also when it comes to the management of our natural resources. The second and third World Water Forum have acted as a catalyst in the development of strategies and the exchange of knowledge and expertise in the field of water control. The contribution made by *Success factors in self financing local water management* is certainly worth mentioned in this respect.

The government's care for water is expressed in the concept of 'governance'. The pivot of good water governance lies at the regional and local level. It is not surprising that in many countries regional organisations are set up which specifically aim at water control. Regardless whether they are basin organisations, drinking water companies, regional water authorities, water agencies or water boards, the principles can be clearly distinguished: they are tailored for local problems, public involvement, self financing and the development of capacity.

With this kind of institutional problems it is a matter of good practice to make use of one another's experiences. The Dutch experiences with water boards contribute to this, which became evident by the requests from abroad that are regularly filed with the Dutch Association of Water Boards. The authors of this publication have based their contributions on the questions frequently asked during visits. It deals with a number of organisational themes, such as the legal foundation, the democratic legitimacy and the tax system.

This publication may well be a source of inspiration for those working in decentralised water management in the many basins and deltas of this world. To the Dutch reader it offers a look behind the scenes of those organisations concerned with the protection against floods and water management in the Netherlands.

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I Introduction

I.1 Decentralized water management, a global issue

Organisation and financing water management are key issues in addressing the water problems of the 21st century. Global strategies were elaborated by the World Water Council and the Global Water Partnership, for the second and third World Water Forum. The third World Water Forum (Japan, 2003) addressed a wide number of institutional issues.

Focus was directed to institutional aspects, within the themes of *governance* and *financing*. Within the *financing* theme, the Camdessus panel presented options for financing the necessary water infrastructure. The demands are huge and the panel addressed a wide number of sources.

Both within the themes of *governance* and *financing*, much attention was given to the institutions at regional and local level. It was noted that central governments provide frameworks for action whereas the fulcrum of action and institutional reform is at the local level. At the local level, policies meet the geographical, cultural and financial opportunities and restrictions. This observation meets the reality in for instance South Africa, where river basin management is given shape by Catchment Management Agencies. In countries such as Egypt, Indonesia and Pakistan, water users organisations are formally or informally involved as stakeholders in local water management. New legislation in Central and Eastern Europe after the transition at the end of last century, led to a more prominent role of decentralized authorities and involvement of stakeholders. And these are only a few examples.

In the rapid institutional changes, it is logical that experiences elsewhere are being reviewed. Learning from each other's successes and failures helps to avoid pitfalls in shaping the local institutional framework. The booklet *Success factors in self-financing local water management* (2003), prepared by the Dutch Association of Water Boards and UNESCO-IHE for WWF3, contributed to the exchange of experiences. A model for creating sustainable institutions, based on five building blocks was presented:

- *Legislation*, which gives local water authorities the authority to carry out their duties, to raise money and to enforce their rights.
- *Taxation* of the people in the jurisdiction area of the water authority for generating income to carry out its duties.
- *Representation* of stakeholders in the water authorities, to create stakeholder commitment and to ensure democratic decision-making.
- *Funding of large capital* for major investments, which is mainly found within the private sector.

- *Institutional development*, addressing trained staff and tools such as accurate cadastral and financial administrations, needed to allow for effective and efficient operation.

All building blocks are necessary for a successful institutional framework; one out, all out.

This booklet can be seen as the successor of *Success factors*. Where *Success factors* highlights the conceptual model and practices in the Netherlands, India, Mexico, Hungary, Egypt and South Africa, this booklet focuses on the Netherlands only. It deepens thematic issues and illustrates the dynamics by some actual institutional developments.

In the Netherlands an institutional framework based on these building blocks has existed since the 13th century. It is the story of the Dutch water boards. Globally seen, the Dutch model attracts the attention. This results in intensive exchange of experiences. It has been noted that interest exists for the ‘Dutch model’, by visitors, in projects, in workshops and at conferences. As stressed in the booklet *Success factors*, it is not meant to present a blueprint for other (developing) countries. Both booklets should rather be seen as contributions in a process of awareness and inspiration.

1.2 Decentralized water management in the Netherlands

Central government, the provincial and the municipal authorities are familiar bodies and most people have some idea about what they do. The water board is less well known, which is only to be regretted, since water boards carry out essential tasks to keep the country habitable.

The Netherlands cover about 34,000 square kilometres where land and water meet. A large proportion of the land is artificial. This originally water and wetland area has been reclaimed, drained and cultivated by people. It became suitable for habitation, building, agriculture and horticulture, industry and recreation. The Dutch seem to take these activities for granted and seldom realize the potential risk of the low location of the country. More than 50% would be inundated if there were no dunes and dams to protect property and goods against storms at sea and high water in the rivers. The Dutch feel safe. The care for flood protection and water management is business-as-usual. However, without continuous operating and maintenance of the many dykes, locks, pumping-stations, flood barriers, canals and ditches, the safety of more than nine million Dutch would be in danger.

The 37 water boards are largely responsible for the essential aspects of regional water management. Nowadays this goes a lot further than laying dykes and operating pumping stations.

The activities of the water boards are now also related to licensing discharges, treatment of urban wastewater, conservation and restoration of water systems, guiding water uses etc. Water boards are responsible for balancing the different interests in water management. This is done in co-operation with central government, provincial and municipal authorities and stakeholders.

Water boards are public authorities. Unlike provinces and municipalities, water boards have limited legally defined tasks:

- Flood protection: maintenance of infrastructure (dunes, dykes);
- Water management:
 - water quantity: drainage and irrigation, ensuring that it is kept at the appropriate levels;
 - water quality: combating water pollution and improving the quality of the surface water;
- Treatment of urban wastewater;
- (Sometimes) management of inland waterways and rural roads.

Key figures Dutch water boards 2004

Number of water boards	37
Number of employees	about 11,000
Main dikes	3,000 km
Main waterways	55,000 km
Roads	7,000 km
Number of waste water treatment plants	390
Treated wastewater	22,911,000 pollution equivalents
Tax revenues	€ 2 billion

The tasks and responsibilities of water boards are described in chapter 2. This chapter also addresses the embedding of water boards in water legislation. The legal position and instruments of water boards, which enable them to carry out our tasks, are outlined. This is the Dutch elaboration of the *Legislation* building block.

The building block of *Representation* is addressed in chapter 3, entitled ‘Democratic legitimacy’. Stakeholders elect their own representatives in the water board assembly. Unlike general democracies where political representatives are elected, water boards can be characterized as ‘stakeholder democracies’. Categories of stakeholders (residents, landowners, owners of property) choose their representatives in the assembly.

Dutch water boards have their own financing structure. They raise taxes to carry out their tasks. Two basic taxes are distinguished in chapter 4:

- the water system tax (for flood protection and dry feet) and
- the water pollution levy (for wastewater treatment and water quality management).

Both taxes recover the costs of water boards. In this respect they are self supporting.

A remarkable solution for making use of external funds is the Netherlands Water Board Bank (Nederlandse Waterschapsbank N.V.). This financial institution was raised by water boards in a time frame when individual water boards were not eligible for loans at the private banks. In 50 years of existence the Bank has evolved to a reputable bank. This process and these characteristics are described in chapter 5. This is an option to shape the building block of *Funding of large capital*.

The Dutch water boards united at provincial level and at national level. In this way, they are able to communicate with their main counterparts. Chapter 6 highlights the organisation at national level: the Association of Water Boards. The Association is the counterpart of ministries, the parliament and international institutions. Further activities of the Association are described in chapter 6. It can be seen as one of the many elements of the building block of *Institutional development*.

2 Water boards and their legal basis

2.1 Water governance

This chapter will further explore the constitutional position of water boards and their responsibilities on the basis of the respective legal regulations. This is the first building block of the water board model.

In chapter 1 it was already noted that water boards are the oldest form of democratic government. The first water boards date back to the 13th century, which is all to do with the geographic situation of the Netherlands. More than half the country would be flooded but for the dunes and dams that protect human beings, wildlife and properties against storm floods coming from sea and high tide of rivers. Extreme rain, too, can cause great inconvenience, as shown in the autumn of 1998. The many dikes, locks, pumping stations, weirs, canals and ditches keep the Netherlands inhabitable. Without these works of water control more than half the Netherlands, more particularly an area in which over nine million people live and work, would simply not exist! On a regional and local level water boards are responsible for the ever so much important water management.

‘Water management’ refers in this context to the wide spectrum of managerial activities regarding water quality, water quantity and flood protection. In this context, the concept of ‘water governance’ is applied to address the specific part of public care for water management tasks, and which is focused as such on the habitability and the usability of the ground and the protection and improvement of the environment. From this description it also appears that in their execution of tasks the water boards live up to article 21 of the Dutch Constitution: ‘Government care is aimed at the habitability of the country and the protection and improvement of the environment.’

Water management is executed by means of infrastructural works. The content of this notion contains certain dynamics. In addition to the traditional infrastructural works, such as canals, city canals, ditches, pumping stations, locks, weirs, culverts, bridges and roads, we can now also call sewage treatment plants and the mobile quays along the river Meuse in the Dutch province of Limburg water infrastructural works. These works are crucial for keeping the Netherlands habitable. By means of regulations – the so-called ‘keur’ – the water boards safeguard their mint condition and functioning. For example, it is generally prohibited to carry out activities on, in, over or under infrastructural works without permission of the water board. These activities include e.g. building, digging and planting. The crucial importance of these water infrastructural works is also shown in the Dutch Criminal Code, which makes deliberately damaging such works punishable.

As will be described below, many laws, orders in council and regulations of local governments are applicable to water management. Together they form the major source of

water management legislation, which could be referred to as the total of legal rules relating to water management. Brussels ('the European Union'), too, is playing an increasing part in this. A good example of this is the European Water framework directive, which came into effect late 2000. Another example are the European directives concerning drinking water, bathing water, fishing water, shellfish water, groundwater and urban waste water. Since these directives have to be transposed by the national legislator, they highly affect the administration of justice within water management.

Although water management is a separate field of responsibility of the national government, it has much in common with other fields of governmental policy such as spatial planning, environmental protection and nature conservation. It is therefore vital to gear the decisions in these policy fields to one another. In this respect the concept of 'integrated water management' is often used, which not only incorporates the relations within water management itself (surface water, groundwater, quantitatively and qualitatively) but also the relations with the other policy fields mentioned. This is exemplified by the water assessment, which was recently laid down by law. Under this act, provincial and municipal plans in the field of environmental planning should indicate the consequences for water management entailed in them. For example, this water assessment is expected to prevent the (careless) building of new urban or industrial areas on locations that are less fortunate, seen from a water management perspective.

2.2 The position of water boards

Although water boards have existed for a long time, this does not mean that their position has always been undisputed. Particularly in the second half of the last century intensive discussions took place about the water boards' right to exist.

This discussion started late 1968 with the institution of the former Minister of Transport, Public Works and Water Management of the Dutch 'Studiecommissie Waterschappen' (Study Committee Water Boards). The brief of this committee was 'to examine the function and structure of the water boards, taking into account the relationship of these institutes with other public bodies, and to make recommendations as to that'. In 1974 the committee concluded in its report called 'The water board and its future' that in the future, too, local and regional water control care should be executed by governmental bodies specialised in that kind of care, i.e. water boards. The committee attached great importance to the characteristic which was linked with the functional form of administration, and which meant that those who had an interest in the performance of duties by the water board in principle should bear the costs and be represented in the general assembly. This principle is better known as the triplet of interest-pay-say, and implies an assembly and tax area of its own. According to the committee the main responsibility of the water board

was the care for flood protection and water control. The committee also advocated the institution of a water board law outlining the administrative and financial structure of water boards and the way in which their tasks should be executed.

By publishing the memorandum called 'Naar een nieuw waterschapsbestel?' (which freely translates into 'On the road to a new water board constellation?') in 1977, the Dutch national government reacted to the recommendations made by the Study committee on water boards. This memorandum mentioned three conditions which a good organisation of water governance should meet:

- water governance should be executed effectively;
- it should be executed locally wherever possible;
- the execution of water governance should take place after weighing and looking after all interests involved.

According to the government, these conditions, with their mutual connection, justify the choice of the water board as a public body of functional government, which should be put in charge of water control care. At the same time, the importance of the triplet referred to above was noted. In the government's opinion, too, the main responsibility of water boards was the care for flood protection and water control. The government was also in agreement with the plea for the institution of a Water boards act.

In 1978 the Dutch Parliament approved the Government's Memorandum. Its members appeared to be highly unanimous about the necessity of the (continued) existence of the water board and its own position in the Dutch form of government. They also agreed with the government's intention to set up a Water boards act.

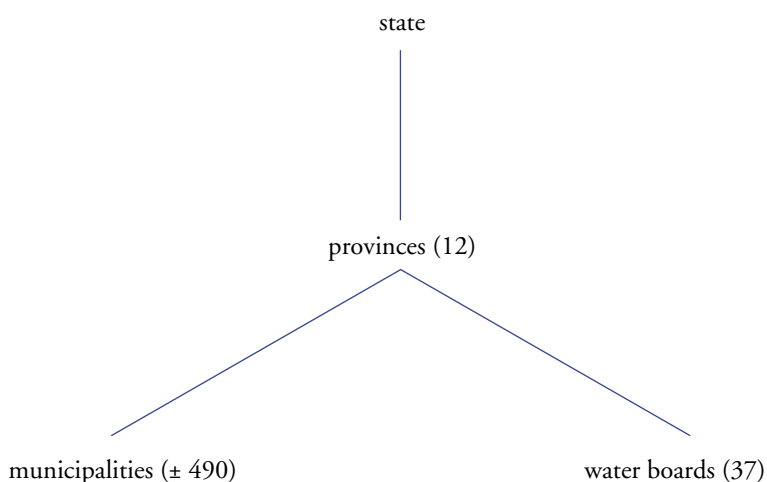
Partly as a result of the 1983 change of the Dutch Constitution, which clearly bears the marks of the report of the Study committee and the government's memorandum, this Water boards act had already become a necessity. Since then Article 133 of the Dutch Constitution has read as follows:

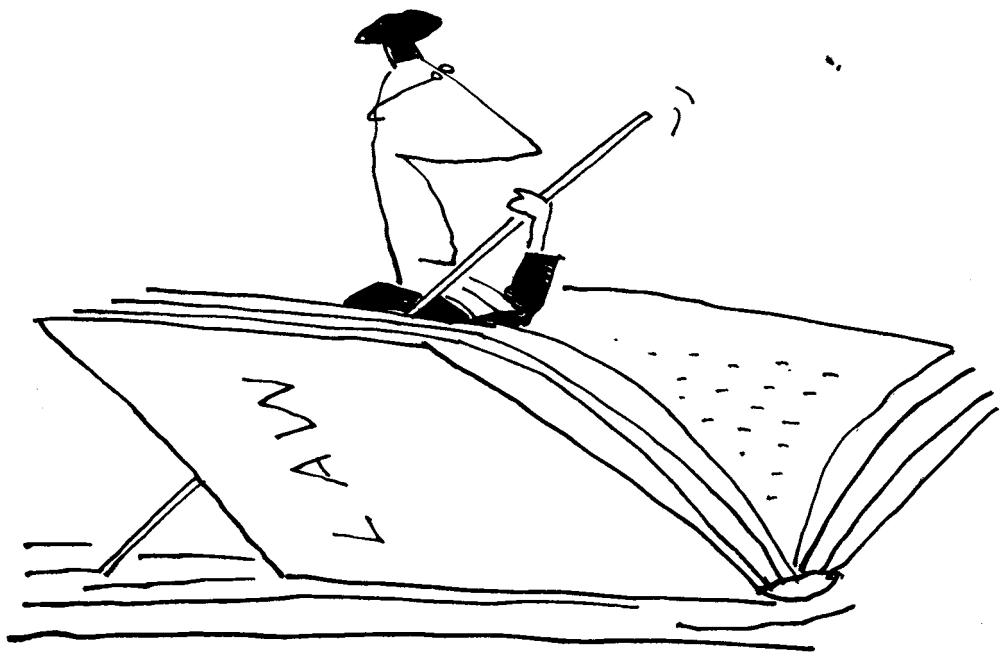
- '1 The discontinuance and institution of water boards, the regulation of their responsibilities and organisation, as well as the composition of their governing bodies, are laid down in rules to be defined by state law by provincial ordinance, unless otherwise defined by state law.
- 2 The responsibilities regarding e.g. the issuing of decrees on the part of the governing bodies of water boards are laid down by law, including the public nature of their meetings.
- 3 The provincial and other supervision of these governing bodies are laid down in state law. Annulment of decisions made by these governing bodies can only happen due to defiance to law or general interest.'

Eventually, the Water boards act took effect on 1 January 1992.

During the past few years, too, the position of water boards has been discussed as part of an investigation into the question of how to bear the costs of regional water management. As a matter of fact, quite recently the Dutch government and parliament explicitly reconfirmed its choice for the water board as regional water manager. It still considers this choice to be 'sensible'. By classing water management under a functional government, the weighing process in the general democracies (state, provinces and municipalities) is turned into a more conscious process. In the government's words: 'In order to be able to carry out regional water tasks efficiently and decisively, the best option is to have an individual structure in which all costs are borne under the responsibility of one's own administration.' In the margin it is expressed that the European Water framework directive renders support to the so-called 'water board formula' in certain ways. After all, many elements in this directive (the organisation on the basis of basins, public participation and costs recovery for water services), are actually made for these water boards.

From what has been mentioned above we can clearly distil the (constitutional) position of the water board. The water board is a government body of functional decentral administration with its own governing body and financing structure, and is solely concerned with the execution of tasks in the field of water control care. As may appear from the article in the Dutch Constitution which was mentioned earlier, provinces play an important role with regard to water board organisation. After all, it is their responsibility to set up, discontinue, set up rules and control the water boards. The position of the water board, therefore, is shown as follows:





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Finally, we should make mention of the enormous merging of water boards in the past 50 years. The number of water boards has gone down from circa 2,500 in 1950 to a mere 37 at the moment. This process of merging has three main reasons. Firstly, the flood of 1 February 1953, during which 1,836 people lost their lives and enormous financial damage was brought about. This disaster marked the end of many small water boards. Secondly, the handing over of water quality control, including waste water treatment, to the water boards from 1970. After all, the responsibility of building and managing costly sewage treatment plants calls for a firm administrative and financial support. Thirdly, the government's policy of setting up integrated water management, which means that the various responsibilities, i.e. surface water and groundwater in both quantitative and qualitative terms, should be looked at in their mutual connection and, therefore, preferably brought together in one organisation (the so-called 'all in-water boards'). This will have been materialised in 2005. By then there will be 26 all in-water boards taking care of flood protection and water control at a regional and local level.

2.3 The Water boards act

A little more could be said about the Water boards act, which highly determines the structure and set of responsibilities of the water boards. In chronological order, this Act comprises the following provisions:

- the nature and responsibilities of the water boards;
- the discontinuance, institution and setting up of regulations of water boards;
- the composition, election and organisation of the assembly of water boards;
- the powers of the assembly of water boards;
- the finances of the water board;
- the supervision of water boards.

It would go too far to discuss these provisions in detail. However, in order to properly understand the concept of water boards, a little more attention should be paid to some core provisions. One of these core provisions is article 1 of the Water boards act, which characterises the water boards as public bodies aiming at water governance in a particular area.

This definition contains three elements. First, it becomes apparent that water boards are a body of public administration, and as such are part of the Dutch governmental organisation. As a result, water boards can make decisions that are binding for civilians, and, for example, draw up regulations (so-called 'keuren') including provisions on orders and prohibitions, granting or refusing permission and levy taxes. If necessary, water boards can enforce the living up to these regulations by applying administrative force, imposing an administrative penalty or taking down an official criminal record.

The second element entails the territorial boundaries of water boards. In other words, water boards have a particular area within which they execute their tasks. Consequently, water boards are part of the so-called territorial decentralised administration, similarly to provinces and municipalities. As a matter of fact, the boundaries of the water board district were not drawn arbitrarily, but were set up for reasons related to water management (basins, drainage areas, dike rings). As a result, they deviate from the provincial and municipal boundaries almost by definition.

Thirdly, the definition mentioned above implies that the responsibilities of water boards lie solely in the field of water governance. They are fixed from the start, which is in contrast with, for example, a municipality, whose responsibilities are only restricted because a higher authority has taken up certain tasks or powers, and is consequently involved with many responsibilities (education, culture, health care, civil order etc.).

Article 1 also deals with the responsibilities that have been set to water boards. These entail the care for flood protection and water control and – possibly – the care for other matters of water control, such as the care for waterways. In their rules and regulations water boards are put in charge of these responsibilities by the respective provinces. It is worth

mentioning that this brief is not free of obligations. Article 2, paragraph 2, of the Water boards act stipulates that water boards should be put in charge of the responsibility of flood protection and water control, unless this is not compatible with the interest of a good water governance. This firmly phrased principle of decentralisation, therefore, prevents provinces from, for example, taking the care of flood protection into their own hands, or from passing it on to municipalities. Indubitably the Minister of Transport, Public Works and Water Management would never give the necessary approval (see article 5 of the Water boards act) to such regulations of water boards. Other important provisions of the Water boards act concern the composition and election of the governing bodies of water boards, and the powers of water boards to levy taxes in order to be able to finance their execution of tasks. The next few chapters will be dealing with this in greater detail.

What will suffice to say here is the remark that these very provisions express the triplet interest-pay-say which was mentioned before, which means that those who have an interest in the work of water boards are liable to pay tax and have to have representatives in the governing bodies of water boards. At the same time, this marks another major difference between water boards on the one hand and provinces and municipalities on the other. Unlike provinces and municipalities, whose income is largely dependent on (usually scarce) government revenues, water boards are virtually fully self-supporting in their execution of tasks. The tax revenues of water boards in 2004 amount to nearly two billion euro.

2.4 The administrative organisation of water management

What has been said in the above should not lead us to (falsely) believe that water boards are the only water managers in the Netherlands. By contrast, water governance takes place at all levels of authority. In other words, water governance is the care of the national government, provinces, municipalities and water boards. When focussing on the various elements of the concept of water control care, the administrative organisation and the corresponding regulations look as follows:

- **care for flood protection:** this responsibility consists of the protection of the Netherlands from being flooded. Quite rightly – witness the experiences over the past few years – this task is considered to be a ‘core task’ in the Dutch lowlands, which are endangered by both sea and the big rivers. This task is both literally and figuratively a matter of life and death. Besides, there are also big economic interests involved. For example, the replacement value of investments protected by dams is currently estimated at over 2,000 billion euro. The care for flood protection is the responsibility of the government and water boards. The government’s task is the care for the Dutch coast (maintenance of the coastline) and the control of dams which close the big sea arms in the west of the country. The other infrastructural works (dikes, dunes and quays of polder outlets) are controlled by water boards. The care for flood protection is laid down in various laws

(the 1900 Water administration act, the Delta act, the Delta act on major rivers and the Flood protection act), which have been expanded on in provincial and water board regulations;

- **water quantity care:** this responsibility deals with the control over the amount of surface water in a particular area. Water quantity management is aimed at reaching one or more water levels and maintaining them as well as possible. These water levels are adjusted to the function(s) of the respective waters (dry feet, agriculture, shipping traffic, the environment, and so on). Proper supply and removal of surface water should prevent surpluses and shortages. The government controls the so-called ‘main water systems’ (the big rivers, the IJsselmeer, the Amsterdam-Rijnkanaal, the Noordzeekanaal, the Wadden Sea, the Eems–Dollard estuary, the Delta waters and the territorial part of the North Sea). The quantity management of the waters of regional and local interest usually lies with water boards; however, a number of urban waters still rest with municipalities. The management of water quantity has been regulated by the Water management act, in which - besides the planning system in the field of water management - some legal instruments have been mentioned (system of registration and permission for draining, withdrawing, supplying and draining away water, level agreement and water agreement). Here, too, further elaboration tends to be done in provincial and water board regulations;
- **water quality care:** this responsibility could be described as the protection of surface water from pollution. Water quality management aims at reaching certain water quality targets finetuned to the various functions of the respective waters (nature, the extraction of drinking water, agriculture and so on). A major part of this responsibility is played by setting up and exploiting treatment plants at which the wastewater of households and companies is purified. The government’s task is to manage the main system of water control, which was mentioned above, whereas the water boards manage the regional and local waters. To that end the water boards exploit almost 400 urban waste water treatment plants. This responsibility was recently given to water boards by state law. The management of water quality has been laid down in the Pollution of surface waters act, which has several instruments, such as a system of permission and levying, in addition to general rules for certain kinds of discharge of waste water;
- **groundwater care:** in contrast to surface water, groundwater has no particular governmental body which is responsible for the maintenance of a particular groundwater level. Of course, the provinces deal with the execution of the Groundwater act. However, this is rather a ‘distribution act’ aimed at distributing the limited amount of groundwater among the various user types (the extraction of drinking water, industrial and agricultural use) by means of a system of permissions and general rules. Groundwater quality is closely linked with the many activities that take place in or on the ground. For this very reason this aspect is part of the soil protection policy and is therefore

provided for by the Soil protection act, the execution of which lies with provinces and municipalities;

- **waterways care:** this responsibility consists of maintaining the depth of waterways, maintaining the sheetpiling and operation of locks and bridges. The management of waterways lies with the government and the provinces, which, in turn, sometimes delegate this task to water boards. The nautical aspects of waterways management (setting ‘traffic rules’) are laid down in the Shipping act;
- **road care:** this responsibility deals with the care for the maintenance and utility of roads, including the promotion of road safety. Road care lies with the government, provinces, municipalities and some five water boards in the western part of the country. Road care is laid down in the Roads act;
- **sewerage care:** strictly speaking, this responsibility does not fall under water governance, but it is closely connected with water (quality) management and sanitation. Sewerage care lies with municipalities and is laid down in the Environmental protection act, by which the municipalities are put in charge of the construction, management and maintenance of sewerage systems. It also obliges the municipalities to determine sewerage plans;
- **the supply of drinking water:** this responsibility, too, does not belong to water governance, but it is also connected because ground and surface water are the resource for our drinking water. The supply of drinking water lies in the hands of drinking water companies and is laid down in the Drinking water supply act.

2.5 The integration of water legislation

This overview also shows that there are quite a number of different laws on water control. Dutch water legislation has been greatly dispersed. Over the years for every part of water management a separate law has been drafted. Thus, there is a the Pollution of surface water act (1970) for water quality management; the Pollution of sea water act (1975) for sea water quality; the Groundwater act (1982) for quantitative ground water management (the qualitative aspects are laid down in the Soil protection act); the Water management act (1990) for water quantity management; the Flood protection act (1994) for flood protection management, as well as the Water infrastructural works act (1996), and some reminiscences of days gone by, such as the 1900 Water administration act.

All these laws have their own weighing framework, procedures and system of appeal. This dispersion can be explained from a historic point of view: as a result of a ‘disaster’ (e.g. prolonged drought, imminent flooding), a new law used to be drafted. However, it impedes the practical manageability and feasibility, and, moreover, ignores the intrinsic

connection within water management. As a matter of fact, the Dutch government is aware of this, and has committed itself, at the instigation of the Dutch parliament, to taking up the integration of the various laws on water control in the near future. The European Water framework directive, which provides for integration of the many water directives at a European level, is also in line with this.

Next, this overview makes clear that in contrast to many other countries, the Dutch water chain (the supply of drinking water, the sewerage system and the treatment of waste water) is not looked after by one (governmental) institution, but by three parties, viz. drinking water companies, municipalities and water boards. This organisational structure is the result of a historical process; by mutual co-operation the parties mentioned connect the various elements of the water chain.

Finally, this overview again shows, as was mentioned above, that water boards have a number of concrete legal powers for the execution of their responsibilities. More particularly, the permit system included in the regulation and those powers mentioned in the Pollution of surface water act and the Water management act regarding the discharge, withdrawal, drainage and supply of water. And also determining a so-called 'register', in which those parties are mentioned that committed themselves to the maintenance of the waterways. In combination these instruments provide the water boards with ample opportunity to prevent undesired developments and activities.

2.6 Finetuning and co-ordination

It has become apparent that all national and local authorities are involved in water management. In view of the necessary finetuning there are a number of instruments for co-ordination. They could largely be divided into two categories: the 'normal' ways of supervision in the government column and the specific regulations contained in a number of management laws in this field.

The first category primarily deals with the repressive supervision of higher authorities over lower authorities. And it is also about the regulations concerning the preventive and repressive supervision from the Water boards act. The provincial water board regulations, for example, require the official approval of the Minister. Another example is article 148 of the Water boards act, which shows that decisions made by water boards concerning the arrangement of water control (level agreements) and the construction and improvement of water care works, such as dikes, are subject to the approval of the Provincial Executive, as far as this is specified in regulations.

The second category particularly deals with the hierarchical structure of the planning system of the Water management act. This means, for example, when determining the

plan for provincial water control, the Dutch government's National policy document on water should be taken into account. Also, ministers can advise the provincial council concerning this plan. Similarly, the management plans of the water boards should take into account the provincial water policy plan and they have to be approved by the provinces. The background of these regulations is formed by the desired promotion of coherent and effective policy and management. The obligation of municipalities to involve water boards in the preparation of the municipal sewer system plan could also be seen as belonging to this category. Since a very short time ago, the same obligation has applied to municipal zoning plans. Even without these legal regulations, there should be good mutual consultation between the various levels of decision making. At a national level this takes place in the National Platform on Water (the Dutch 'LBO-W'), representing the national government, governors of provinces, municipalities and water boards. The State Secretary of Transport, Public Works and Water Management chairs this LBO-W.

2.7 Participation and legal protection

A final remark deals with the legal protection against decisions of the water boards. This chapter has shown that water boards are authorities, and can therefore make decisions that are binding for citizens (e.g. granting permissions, levying taxes). Generally speaking, these decisions are not made without active participation. The water boards have laid this down in a regulation on participation (see article 79 of the Water boards act). It is also possible to appeal against these decisions of the water board with the Administrative Court. Complaints may also be lodged with the Dutch National Ombudsman concerning the behaviour of committees of the water boards. This form of additional legal protection was set up some ten years ago at the instigation of the Dutch Association of Water Boards, which resulted in the water boards being the first decentral authority falling under the competence of the National Ombudsman. On an annual basis the ombudsman receives approximately one hundred complaints about water boards, which are mainly concerned with exemptions from paying water board taxes.

Finally, as part of the supervision, it is the responsibility of provinces to approve a number of water board decisions. They can also annul water board decisions on account of their conflicting with the law or general interest (article 156 of the Water boards act).

3 Democratic legitimacy

3.1 The Dutch polder model

The Netherlands have been fighting water for centuries. The quantitative water problems could not be solved individually. As a result, draining and the building of dykes were a joint effort. To a very high degree the Dutch polder model – characterized by consultation, consensus and compromise – has its origins in this. Water boards can be regarded as one of the first forms of public decisionmaking, with which decisionmaking is based on consensus. Nowadays the functional water board organisation still holds an independent position within the general democracy in the Netherlands. Since water-related tasks are allotted to water boards, they are not subject to a general political weighing of interests. The interest of dry feet and sufficient (clean) water resources is of vital importance for the Netherlands and is thus kept from the political context.

The role and position of water boards has been changing considerably over the last few years. The functional setting of tasks of water boards, as shown in chapter 2, is secured in the Dutch Constitution. Quite recently the Dutch Council for Public Administration (ROB) confirmed this position again in their report called ‘Andere openbare lichamen in de Grondwet’ (‘Other public administrations in the Dutch Constitution’). Nevertheless, water boards are sometimes confronted with the problem of having to prove the use and necessity of their independent management again and again. This is related with the functional character of the water boards and calls for a thorough democratic legitimacy.

This chapter further discusses another building block: the democratic legitimacy of water boards. Democratic legitimacy is found in the representation of various categories of stakeholders in the governing bodies of water boards. Representatives of the various categories are appointed via elections.

3.2 The composition of governing bodies

The governing bodies of water boards are a water board assembly, an executive assembly and a chairperson. These governing bodies are comparable to those of municipalities and provinces.

The water board assembly

The water board assembly consists of representatives of categories of stakeholders who have an interest in the execution of tasks of water boards. The idea behind this is that those who are considered to have an interest in the execution of tasks of water boards bear the costs for this proportionally and have a say in the assemblies of water boards. For the execution of

tasks of water boards a distinction can be made between general task interests and specific task interests. General task interests reflect the looking after the interests of everyone living or residing (living, working and recreating) in the water board district. Specific task interests indicate the specific interests of certain stakeholder categories in the execution of tasks of water boards.

The stakeholder categories that can be distinguished are listed limitatively in article 11 of the Dutch Water boards act. They are:

- the owners of real estate consisting of open land (open land category);
- the owners of real estate consisting of buildings (buildings category);
- the users of business buildings, as representatives of those discharging industrial waste water (business buildings category);
- the representatives of the general task interests and the specific task interests of those discharging waste water from households (residents category);
- tenants.

The various interests have to be secured in the assembly. In the regulations for each water board, provinces lay down the number of seats by which the various categories are represented in the water board assembly. Here the nature and size of the interest of a particular category in the execution of tasks of the water board are taken into account, as well as the contribution to the costs to be paid by this category. If a water board is located in a densely populated urban area with a lot of industrial activity, the residents and business buildings categories have a larger share in the water board assembly than in a water board in a thinly populated area with a lot of agricultural activity. The average water board assembly consists of thirty members.

In addition to the limitative listing of stakeholder categories mentioned in the Water boards act, this Act stipulates that, under the regulations, the provincial council can assign to certain stakeholders the authority of bringing in one or more representatives of their categories into the water board assembly – without the need for by-elections, which is referred to as quality seats. A number of provinces have made use of this possibility, albeit sporadically.

In 2003 the various bodies of the Dutch water boards were as follows (cumulatively, reference date 1 September 2003):

Number of seats	Water board assembly	% of total	Executive assembly	% of total
Open land	402	27.8	71	29.5
Buildings	371	25.7	59	24.5
Business buildings	143	9.9	31	12.9
Residents	517	35.8	77	32.0
Tenants	2	0.1	1	0.4
Subordinated water boards	10	0.7	2	0.9
Total	1,445	100.0	241	100.0
Male	1,226	84.8	209	86.7
Female	219	15.2	32	13.3

Responsibilities of the water board assembly

The governing bodies of water boards have the authority of regulation and management in the promotion of the tasks assigned to the water boards in the Water Board regulations. This responsibility primarily rests with the water board assembly, who can delegate it to the executive assembly if and when desired. In article 83 the Water boards act mentions a number of subjects which have to be taken care of by the water board assembly at any rate, such as the determination of the budget, the annual account, the acts on head tax and levies, the tariffs of head tax and levies, registers and regulations.

The executive assembly

The executive assemblies of a water board consists of, firstly, the chairperson and secondly, other members, to be determined by the water board assembly. The executive assembly is responsible for managing the daily matters of the water board. The number of members of the executive assembly varies per water board. On average executive assemblies consist of five members. As far as their composition is concerned, executive assemblies should reflect the water board assembly as much as possible. Which means that all categories represented in the water board assembly also have one or more seats in the executive assembly (article 40 of the Water boards act). In principle the members of the executive assembly come from the water board assembly, although the regulations may sometimes allow somebody from outside the water board assembly to be appointed as executive.

The water board assembly appoints the members of the executive assembly, with the exception of the chairman. The executive assembly members are appointed by all members of the water board assembly, and not solely by the board members of the category they represent. Each member of the executive assembly should have the support of the full water board assembly.

Responsibilities of the executive assembly

A major responsibility of the executive assembly lies in policy preparation. All that is put forward for decision making by the water board assembly has been prepared by the executive assembly. As a result, an important part in setting policies is played by the executive assembly. Next, the executive assembly is responsible for the execution of the policy determined by the water board assembly, such as the execution and maintenance of laws and ordinances. A major part in this is granting permission and/or exemptions and the application of administrative force. The executive assembly has collegial decision making, which means that the executive assembly as a whole is responsible for the decisions made.

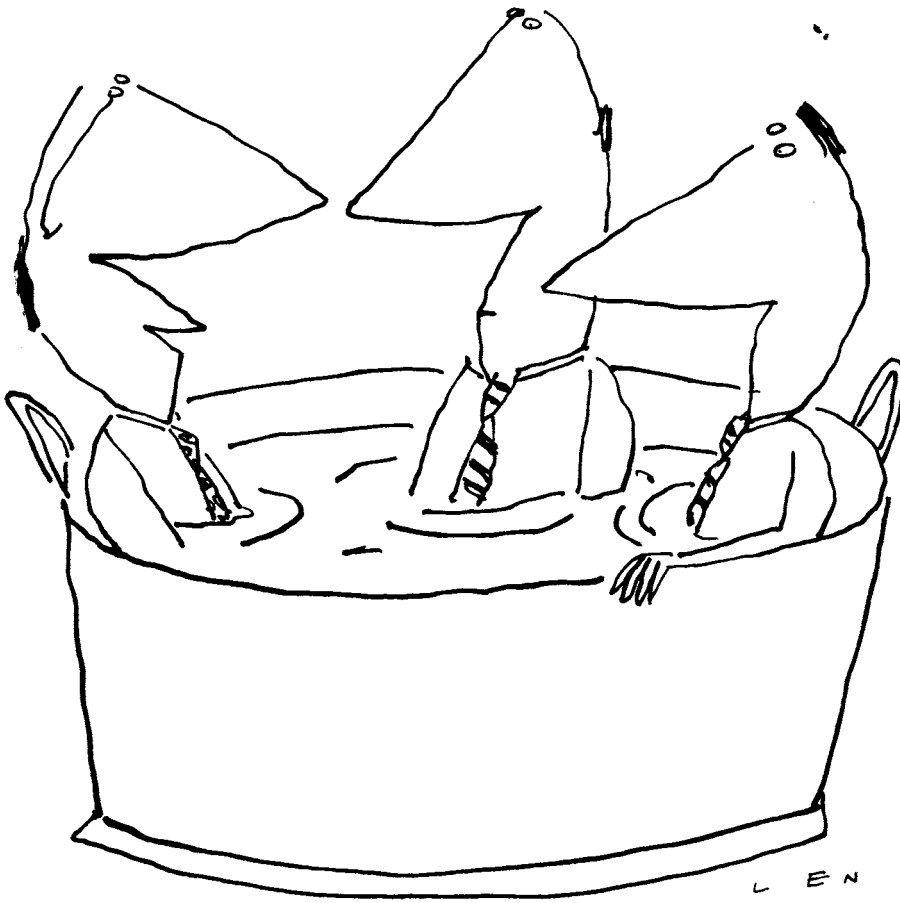
The chairman

The chair of a water board, who is comparable to the mayor of a municipality, is not a member of the water board assembly, and, consequently, has no vote. By contrast, the chair is member of the executive assembly, in which (s)he does have the right to vote.

The chair is appointed by the Crown for a period of six years. The water board assembly makes a recommendation, which is sent to the Minister of Transport, Public Works and Water Management via the provincial council.

The responsibilities of the chairman

The chair is responsible for the proper promotion of the responsibilities of the water board and chairs the meetings of the water board assembly and the executive assembly. The chair also represents the water board. Besides, the chair, as well as the highest official of the water board, signs the documents sent by the water board assembly or executive assembly. When in the case of urgent or imminent risk, circumstances prevent the water board assembly or executive assembly from being convened, the chair has the authority to take all the measures which the water board assembly and executive assembly are authorized to take. The chair is accountable to the water board assembly.



3.3 Elections

Just like municipalities and provinces, water boards have elections for the water board assembly. On a number of points water board elections considerably differ from the elections held for Parliament or town councils, for example. This is largely to do with the functional setting of tasks of water boards and the adage of interest-pay-say resulting from it.

The major difference between water board elections and, for example, town council elections lies in the meaning of the elections. With the election of a town council a fixed number of seats is divided among the various political parties, on the basis of the number of votes for the candidates. So, the balance of political power within the town council changes after every election. The question of which people representing a particular party will eventually be elected into the town council is of minor importance. Town council elections are held via the so-called 'list voting system'.

With the election of governing bodies of water boards the balance of power between the various stakeholder categories within the bodies has already been predetermined. After all, the division of seats is laid down in the regulations by the provincial council. Therefore, the election of the members of the governing body of a water board is not a question of how many seats in the water board assembly will be assigned to a particular category of stakeholders, but of which people are going to have the predetermined number of seats for the various categories. Water board elections are held via the so-called ‘person voting system’, the turnout of which amounts to an average between 25 and 30%.

The election of the members of the water board assembly

Water board assembly members are elected for a period of four years. Water boards have two types of elections: direct and indirect. The representatives of the open land and tenants categories are always chosen via direct elections, in contrast to the business buildings category, which has indirect elections. The members of the Chamber(s) of Commerce in the water board district are entitled to vote. For the buildings and residents categories the province can choose for direct or indirect elections. This option was included in the legislation to anticipate to the (expected) low turnout during water board elections. As a matter of fact, for these categories there is a tendency to hold direct elections, usually by letter, sometimes by phone.

Who can stand as a candidate for running a water board?

The election of water board assembly members is preceded by a nomination of candidates. This selection is done per stakeholder category. The only people eligible for nomination (and hence for joining the water board assembly as a member) are those who belong to the stakeholder category in question and as such pay taxes to the water board. For the residents category candidates may be nominated that live in the water board district and are at least 18 years of age. If the vacancies outnumber the candidates, the water board assembly adds extra nominees. Should the number of candidates for a particular stakeholder category equal the number of vacancies, all candidates are considered to have been elected. If there are more candidates for a particular category than vacancies, elections will be held.

Who are allowed to vote at water board elections?

With direct elections the right to vote is linked to the membership of the stakeholder category in question. The right to vote for the open land and buildings property and as a tenant can be defined by regulations as being dependent on a required minimum amount of tax to be paid to the water board. For open land real estate provinces may stipulate in the election rules to be determined that a particular surface area is required. Thus provinces can create an electoral threshold. For the residents category, however, there is absolutely no requirement of a liability to pay tax or surface area. All residents of a water board district – who are at least 18 years of age and not excluded from the right to vote – are entitled to vote for the residents category.

Someone who is entitled to vote has only one vote per category, in principle. In actual fact it regularly happens that somebody receives two or three ballot papers for water board elections: one because he is an inhabitant of the water board area, one because he has a house of his own (buildings category), and one because he possesses an agricultural piece of land (open land category).

3.4 Recent developments

The administrative structure of water boards, as described above, does not really excel in terms of simplicity and is therefore hard to explain to citizens in general. On account of this complexity, in 2001 the Dutch Association of Water Boards put forward concrete proposals to the national government to modernize the structure, in order to simplify the system and increase transparency. These proposals could be summarized as follows.

The composition of boards

For citizens at large the distinction between the buildings category and residents category is not always very clear. Also, within one category very different interests may be represented.

For example, the open land category has an agricultural and environmental interest. However, for the positioning of water boards as independent functional authorities, the essence of the interest-pay-say triplet is still important for the composition of boards. Direct involvement of the stakeholder categories reinforces the effectiveness of the execution. The proposals put forward by the Association make a distinction between two kinds of interests for the execution of responsibilities: general task interests (being able to live, work and recreate in the water board district) and specific task interests (interests with a higher than average and manifest interest in the task execution). The residents represent the general task interests. The categories of stakeholders representing the specific task interests are farmers, companies and managers in the field of forestry and nature. The buildings category and tenant category, therefore, disappear from the governing bodies of water boards. Provinces determine the distribution of seats between the residents and the specific stakeholders. In addition, provinces also determine the division of seats among the specific stakeholder categories distinguished.

Elections

The elections for water boards are now held on the basis of the 'person voting system'. This voting system, which used to work fine in the small water boards, does not suffice anymore for the water boards of the current scale level. The main objections to it are the lack of recognizability and candidates' profiling. With regard to the voting system, in the proposals of the Association the 'person voting system' for the residents category is replaced by the 'list voting system', which largely takes away the objections mentioned above. For the

representation of residents there is the possibility for certain groups with an interest in and vision on water management to submit a list.

Concerning the representation of the specific task interests there is still some discussion about the way of holding elections; indirect elections, though, are generally preferred. In principle, water board elections are held by letter. In the past electing by phone was tested. In addition, in 2004 two water boards have planned to try voting by the internet. Currently, water board elections are not held simultaneously, which is going to change from 2008. In that year all water boards will be organising elections simultaneously, after which the announcement will be taking place on one national date. Common elections offer the opportunity for common publicity campaigns, which may bring about more call for attention for the water board elections.

Early 2004 the Dutch national government largely adopted the proposals put forward by the Association of Water Boards in an official document sent to Parliament. The Parliament agreed in headlines, by mid 2004. However, in order to put these proposals into effect, rather drastic adjustments need to be made in the Water boards act.

4 Financial independence by their own tax system

4.1 Financing Dutch water management

Water governance in the Netherlands is almost entirely in the hands of the government. All kinds of water-related responsibilities come under public law and are executed by the state, provinces, municipalities and water boards (see chapter 2). They are partly financed – however limited the amount – from the state's general fund and for the major part from the resources from various decentralised taxes. The only exception to this is the supply of drinking water, which is taken care of by the drinking water companies. The costs for this are recovered from the citizens by means of invoices. In actual practice, however, this responsibility is largely controlled by the national government and is expected to be legally secured.

Unlike provinces and municipalities, who financially largely depend on state support (via grants from the Provincial fund and the Municipal fund), water boards are highly independent from a financial point of view as a result of the resources from their own water board taxes. In actual fact, the state only makes a substantial financial contribution on behalf of flood protection.

This financially independent position via their own tax system is, in addition to the institutional/legal securing (chapter 2) and the democratic legitimacy (chapter 3), the third major building block of the Dutch water board model.

To a certain extent the organisational and financial structure of Dutch water management has been determined historically, but it has also been based on the notion that water has traits of a semi-collective commodity. In the Netherlands water management is generally considered to be part of the public domain. This is also due to the geographic position of this country and the special interest of its inhabitants in a good and sustainable organisation of water management. In principle certain kinds of commercial services are thought to be less possible in this respect. It is worth mentioning, though, that outsourcing of certain activities under the supervision and responsibility of water boards is quite common.

The independent administrative and financial position of water boards was recently discussed, after which the Dutch government state quite clearly (see also chapter 2) that this position should be maintained, also in view of the enormous challenges the water boards are facing in the near future. This statement clearly hinted at the necessary investments to be made in the regional water system connected with the climate changes, the rising sea level, the subsidence of the Dutch soil, and the increase of the urban area.

In Dutch water management a large number of responsibilities, organisations and financial instruments can be distinguished, which are outlined schematically in the overview below.

Table Organisations responsible and financing of various water management responsibilities

Responsibility	Organisation	Financing
Water quantity (main system)	State	General means
Ground water	Province	Regional tax, provincial fund
Water quantity (regional)	Water board (public)	Regional tax
Water quality and waste water treatment	Water board (public)	Regional tax
The supply of drinking water	Drinking water companies (semi-public)	Price
Sewage system	Municipalities (public)	Local tax, municipal fund

4.2 Financing regional water management by the water boards

Revenues and expenditures of the water boards

Water boards finance their activities on an individual basis entirely with the revenues of their own taxes. These are the water board charges and the water pollution levy. Water board charges cover the costs of the flood protection and water quantity management, whereas the costs of quality management and waste water treatment are financed by the water pollution levy. The revenues from these taxes provide a budget of € 1.9 billion in 2004. The total costs in the same year are estimated at around € 2.3 billion. On average around 95% of all annual investment costs and management and maintenance costs are covered by own tax revenues.

Table Revenues of water boards 2004

<i>Revenues from water board charges in 2004 (in million euro)</i>	
Households	227
Buildings	343
Open land	163
The revenues mentioned are related to the following responsibilities/cost centres	
Flood protection	123
Water quantity	559
Roads	49
Inland waterways	3
<i>Revenues from water pollution levy in 2004 (in million euro)</i>	
Water quality (around 80% of which is waste water treatment)	1,146

Source: CBS (the Dutch Central Statistical Office)

Self-financing

Because of the system of regional water board taxes, water boards are hardly affected by national politics and economic fluctuations. This financial basis may well be the best possible guarantee of sustainable water management. In addition, this independence provides an excellent starting position for attracting long-term loans for the financing of big investments (see also chapter 4 on the Dutch Water Board Bank).

Tax principles

The functioning of water boards is based on 'stakeholder participation' and the benefit principle. Those who benefit pay taxes, but also have a say in governing bodies of water boards (the interest-pay-say triplet). Form and contents of water board taxes are determined by a number of tax principles, including

- a the benefit principle
- b 'the polluter pays' principle
- c the cost-recovery principle
- d the solidarity principle
- e the legality principle

re a. The water board charges are based on the Dutch Water boards act. These charges are based on the concept that those who benefit from water board activities also contribute financially to them. The interest is related to the extent to which the existing facilities for water management are used from an objective point of view and the costs connected with this. No link is made with the harvest revenues or other forms of agricultural produce, because this would make the tax revenues highly unreliable (and, simultaneously, the maintenance of water management infrastructure).

re b. Also, under the Pollution of surface water act everybody that discharges waste water pays a water pollution levy. This applies to every household and every industrial polluter. The height of the levy depends on the pollution value of the waste water which is discharged directly or indirectly via the sewer system into the surface water. Households have a fixed rate; with industrial companies the pollution is determined individually and more exactly, depending on the amount of pollution. The polluter is thus made financially responsible for the costs of water management. In this way 'the polluter pays' principle is put into practice.

re c. The tax system of both the water pollution levy and the water board charges is in agreement with the cost-recovery principle, which was laid down in the European Water framework directive (EC 2000/64). This principle represents the obligation to regain those costs related to 'water services' from the river (and sub) basin districts in which these costs were made. Generally speaking, it could be said that most water board responsibilities fall under the notion of water services and the borders of the Dutch water boards largely correspond with the borders of the Dutch river (and sub) basin districts.

re d. Both water board charges and water pollution levy are taxes, which implies that water boards do not do anything individually in return for this payment. The existing facilities for water management accomplished within a particular area by water boards are based on a democratic decision-making process, in which all interests involved have been carefully balanced (interest groups democracy). By definition, these facilities will never exactly correspond with the subjective wishes of individual tax payers, which is expressed in the tax system structure and could be seen as a manifestation of the solidarity principle.

re e. Within the fiscal law system, water board charges and the water pollution levy are taxes, formally speaking, since they have their legal basis in the Water boards act and the Pollution of surface water act (legality principle). These laws prescribe in what manner water boards are supposed to draw up their tax ordinances. These tax ordinances accurately stipulate, besides other essential tax elements, who are required to pay tax and how high the tax assessment should be. Besides, the formal laws established on behalf of the levying and collection of state taxes have also been declared applicable to water board taxes (regulations of levying and collection, procedures of objections and appeals, legal protection, and so on).

The character of water board taxes

Water board charges have a special position within the Dutch tax system. Largely speaking, governmental levies can be distinguished as taxes and charges. Both levies are imposed by (virtue of) law (legality principle) and both can be enforced. The distinction between them is the presence of a specific individual service rendered by the government as something done in return of the levy. This is often the case with charges; with taxes there is no such thing done in return of something.

Within the fiscal law system, water board charges and the water pollution levy should be regarded as real taxes, materially speaking. As explained above, water boards do not do anything individually in return of the payment of water board tax. To some extent, water board taxes also have retributive traits, since, in addition to the solidarity principle, the benefit principle plays a major role. There is a certain relation between the individual ordinance and the interest which individual tax payers have in the activities by water boards. This relation is particularly visible in the open land water board charge.

Purpose oriented levies

In contrast to most general state taxes and provincial and municipal taxes, water board taxes are related to the costs of the water boards' execution of tasks. Hence the use of the concept of 'purpose oriented levies', which means that the revenues of this tax are completely earmarked for covering the costs involved with the water board responsibilities (flood protection and water quantity management). Per responsibility, the costs are divided separately as much as possible among the separate categories in relation to the interest that they have in these responsibilities.

4.3 Water board charges

History

The original form of self-organisation was financed with local means. Initially these means consisted of payments in kind by maintenance of dykes, quays and waterways. Later on this system was replaced by financial contributions. Originally the costs were divided on the basis of private law among land owners with an interest in this care, and it was possible to derive certain rights from this. The drawback of payment in kind was the fact that it was no real guarantee of timely and adequate maintenance. Since the interest of the entire community was at stake here, the need of a management organisation arose which was also secured by public law. The land owners exchanged their duty of operation and maintenance for a duty of payment of the costs concerned. These costs were divided according to the amount of land they possessed and were then divided among the land owners.

By assigning administrative and legal powers (and for a long time even judiciary power), the financial aspects of the water board organisation were more integrated in public law. In spite of this integration, through the ages the functional and decentralised character of water boards remained intact, which has determined the character of water board charges ever since. These charges are based on one's interest in the water board's execution of tasks, and are expressed by the above mentioned triplet of interest-pay-say.

From the 1920s on, increasing numbers of home owners in urban areas had an increasingly large interest in reliable flood protection and good draining. From that time, the activities of water boards aimed at the protection of these real estate buildings as well. The buildings charge was introduced, as a result of which these buildings fell under the water board charges.

Recently more importance was given especially to the general task interests (interest of living, working and recreation) within the water board district. In view of this, residents (i.e. the inhabitants within the water board district) were made liable to pay water board charges. Since 1995, a separate residents charge has been levied, and this category has been represented in the water board assembly.

The objective of water board charges

Water board charges are mainly levied for expenses connected with the responsibility of flood protection and water quantity management. Water boards have a limited number of tax categories, which are laid down in article 116 of the Water boards act:

- land owners (open land);
- owners of buildings (buildings);
- residents (per household).

Every household is taxed to a fixed amount; land owners pay according to the surface area of the land, and owners of buildings pay a charge on the basis of the economic value.

Basis for justification and standard for levying

The justification of the levying of water board charges lies in the interest that people have in the execution of responsibilities by the water boards. Regarding the owners this can be seen from the specific interest of the protection of the real estate from flooding and inconvenience caused by water. This protection can both be looked upon from the point of view of maintenance of (the value of) these properties and the use made of them. Residents (households, in fact) have a more general interest in terms of living, working and recreating within the water board district. With the allocation of costs, this general interest is partly determined by the density of the population and varies within margins of 15 and 35% of the total costs. The other costs are divided among the specific stakeholders, the owners of buildings and land.

The interest of the various stakeholder categories is measured according to the adopted standards for levying:

- Open land charge: surface area of land;
- Buildings charge: the economic value of the building;
- Residents charge: fixed amount per living space (household).

The extent of the interest in water quantity management, which depends on the nature and state of the real estate, may be rather different among the various land owners (and sometimes among owners of buildings, too). In view of these differences it is possible to set up categories of charges within a water board on the basis of differences in type of soil, the use of soil, height level, and so on (also called ‘classification’). This results in a differentiation in the amount charged per hectare. Examples of this are polders (high charge per hectare) and nature reserves (low charge per hectare).

In 2004 the average charges amounted to:

Open land charge	€ 60 per hectare
Buildings charge	€ 39 per household
Residents charge	€ 33 per household

Source: COELO

The charges may vary highly with the elevation (high- or lowland).

4.4 Water pollution levy

History

In the 1950s the increasing pollution of surface water rose to alarming levels. Since then provinces have gradually assigned the care of surface water and treatment of urban waste water to the water boards (which used to be solely responsible for flood protection and water quantity management). With the necessity of large investments in waste water treatment plants came the water boards’ need for a solid financial basis. Against this background the water boards introduced environmental taxes, which later in 1970 were legally founded in the Surface water pollution act.

With the revenues of the water pollution levy all expenditure of measures against the pollution of regional surface waters is covered. These measures partly refer the treatment of urban waste water, monitoring, planning and the granting of discharge permits. The treatment of urban waste water is currently an exclusive responsibility of water boards, which has been legally secured.

The objective of the levy

Water pollution levy is a real purpose oriented levy, all revenues of which fully benefit water quality management. The levy has a solid basis in the Surface water pollution act and in the tax ordinances of the individual water boards. It meets all the aspects of the tax notion (see above, under 4.2), but it also has certain characteristics that remind us of a charge. Although there is no such thing as an individual service provided (waste water treatment), it goes without saying that there is a close relation between the individual charge and the individual pollution caused by the tax payer.

The leading principle of the water pollution levy is 'the polluter pays'. The height of the individual charge is determined annually on an individual basis and depends on the amount and composition of the discharge. The triplet of interest-pay-say equally applies to water quality management. Both households and companies are represented in the water board assembly.

Calculation of pollution units

The pollution value of a corporate discharge is determined according to the oxygen demand and – for industries – on the content of heavy metals and compounds, if any. The levying standard in the water pollution levy is the so-called 'pollution unit'. For the consumption of oxygen it equals the average amount of household waste water discharged per year per resident.

Small businesses are taxed on the basis of the business accommodation charge of 1 or 3 pollution units. Mid-side companies with an annual discharge of up to 1,000 pollution units are taxed on the basis of the consumption of water (and average concentrations of pollutants), whereas big industries of more than 1,000 pollution units are taxed on the basis of measurements, samples and analysis. The ratio of tax revenues between companies and households averages to around 70%:30%.

In 2004 the rate of the water pollution levy averaged to € 50 per pollution unit. (The rate per pollution unit varies between the various water boards from nearly € 40 to € 65.) On average a household pays the living space charge of 3 pollution units, which amounts to € 150 per year.

Effects

From the 1970s discharges on surface water have steadily decreased as a result of large-scale investments in waste water treatment plants. In the Netherlands, treatment of urban waste water is a responsibility which is currently executed solely by water boards. It should be emphasised, however, that the existing municipal waste water treatment plants were set up without any government grants whatsoever. The guaranteed revenues from the water pollution levy have made it possible to finance waste water treatment plants.

In addition, water pollution levy has clearly had a regulating effect on the corporate discharges of waste water. The largest effect became evident in the first fifteen years since the introduction of the levy. After that a further decrease of the discharges was only achieved at much higher cost (and, logically, higher tax rates). The following table illustrates the success of water boards in combating the pollution of surface water.

Table

The total discharge of pollution units (million) by companies and households at the sewage system and on surface water in the Netherlands.

Year	1970	1980	1990	1995	2000
Companies	33.3	13.7	9.6	7.4	7.3
Households	12.5	14.3	14.9	15.5	15.9
Waste water treatment in urban waste water treatment plants	5.5	12.6	15.8	18.2	19.2
Discharge on surface water	40.0	15.4	8.7	4.7	4.0

Source: CBS

The above mentioned figures show that most point sources in the Netherlands were almost entirely reorganised within a period of around 25 years. This is largely the result of the levying and granting conditions by water boards. Today their policy is primarily aimed at the so-called diffuse sources jeopardising the water quality. These sources are particularly the pollution caused by agriculture, traffic and pollution from urban areas (building materials).

4.5 Recent developments

The tax system of water boards could be called comparatively complex. For that reason, in 2001 the Dutch Association of Water Boards made a proposal to the national government to simplify the tax system, without losing the triplet of interest-pay-say. Under this proposal, the future tax system consists of two water board taxes: the *water system tax and the waste water treatment levy*. The water system tax unites the costs of flood protection and water quantity and quality management. Also, it will be paid by owners of land, buildings and by residents (households). The costs of waste water treatment will be recovered from households and companies. This is expected to increase the efficiency and transparency and perfectly matches the ideas outlined in the European Water framework directive.

Quite recently the Dutch national government made clear their point of view on how the costs of regional water management should be borne. This point of view largely corresponds with the proposals made by the Dutch Association of Water Boards concerning the water system tax.

As far as the water treatment tax is concerned, the government is of the opinion that for households it can be determined on the basis of the consumption of water and can be combined with the municipal sewage tax and the invoices of drinking water companies (the so-called 'water bill'). According to the Dutch national government, the organisational and financial structure of these organisations could be integrated in the future in one water rate and one semi-public water chain company.

It should be noted that the Dutch Parliament and partners in the water chain (drinking water companies, municipalities, water boards) rather believe in forms of voluntary co-operation, examples of which are already to be found in everyday's practice. Within a shared view aiming at efficiency and cost-effectiveness, the discussions tend to focus on a bottom-up or top-down approach. The social and political discussion about the direction indicated by the national government has not been rounded off by any means.

5 A dedicated financial institution: The case of the Nederlandse Waterschapsbank N.V. (NWB)

5.1 Combining strengths

A recurring issue that arises when carrying out local water management projects is their financing. Often, the best way to resolve a recurring problem that affects more than one party is to join forces in finding a solution under the motto 'Strength in numbers'. Joining forces can also be applied in seeking a solution to financing problems. Depending on the particular circumstances, the solution may be found at a local, regional or national level.

The example given below illustrates how forces can be combined to achieve a joint goal and fulfil an important role, and how it can be used in successful local water management.

5.2 Brief account of the Dutch situation

The Dutch Water Boards are 'government' bodies, some of which date back as far as the twelfth century. As the water management system became more extensive, more and more water boards were established. Some of these boards were extremely small, as shown by the fact that there were still some 2,500 water boards in a country as small as the Netherlands in the 1950s. After the end of World War II, these sometimes tiny organisations were faced with the enormous task of repairing dykes and pumping stations that had been destroyed and poorly maintained during that period.

An important obstacle that had to be overcome for that purpose was attracting the required funds since the major investments could not be financed from tax revenue at the time. A substantial amount of capital was required, while money was a very scarce commodity in that post-war reconstruction period. The water boards appealed to the general banks in vain all too often. The main reason for this was that these banks were also experiencing a post-war capital shortage. But another important factor was that the loans granted by the general banks were generally short-term, while long-term loans of as much as 20 years or more were needed in this case. On top of that, many of the small water boards in particular lacked the financial expertise to properly approach the problem or find an alternative solution.

At the time, most water boards were organised in regional unions that were represented at a national level by the Association of Water Boards (*Unie van Waterschappen*). One of the purposes of this Association was to discuss common problems. The alarming financial situation the water boards found themselves in was just such a problem. There was no point in appealing to central government. Unlike the provinces and municipalities Funds

there was and still is no water board Fund. Throughout the centuries, the water boards had provided their own funds through the levy of taxes.

The Association assumed the role of intermediary between the water boards and investors to obtain the funds required and save the high costs connected with taking out many small loans.

Under guarantee of the water boards, the Association issued two debenture loans and several private loans. Soon, it became apparent that the Association could not guarantee the continuity of these actions. This was not part of the Union's operations. The Association did not have the knowledge or experience to establish a more systematic set-up for the longer term. The water boards' capital requirements were expected to rise.

On top of that came the disastrous floods of February 1953 that took the lives of many and caused terrible damage. Yet again, more capital was needed to repair this damage. In short, the situation was critical. In consultation with the Ministries of Finance and Transport, Public Works and Water Management and the boards of a number of commercial banks, the Association decided to transfer the financial interests of the water boards to a separate legal entity.



5.3 The concept of a bank

Meetings with the regional unions and individual water boards were organised throughout the country to convince them of the importance and major advantages of having their own financial institution.

Not all the water boards were enthusiastic from the start. Several believed that they would be taking on risks they did not want if they participated. Others saw participation purely as an investment, which they did not consider to be their duty. And many were cautious and preferred to wait and see which way the wind would blow and maybe participate at a later stage. If such an organisation is to be launched successfully, it must have strong and widespread backing. This is essential not only for attracting enough initial capital, but also to ensure sufficient business in the future to warrant its existence. Accordingly, a certain degree of consensus is required. And despite the national characteristic of the Dutch being their drive for consensus, this is more difficult to achieve in practice. Finally, there was sufficient support to start.

Collaboration can take many shapes, e.g. a 'mutual fund', a partnership, a cooperative or public limited liability company. In this case, the latter possibility was opted for.

The water boards, which are public sector organisations, decided to incorporate a company under private law: Nederlandse Waterschapsbank N.V. (NWB) (Netherlands Water Board Bank).

Great effort was put into obtaining the support of individual water boards by persuading them to become shareholders. The response was not uniform. Some large water boards merely took a small share, while several small water boards provided their support by buying a considerable number of shares. Various provinces also wished to participate.

The problem of a possible deficit in venture capital was resolved by creating two types of shares:

A shares: these are fully paid-up and carry one vote in the Annual General Meeting;

B shares: only 25% is paid up on these, subject to the obligation (and therefore the risk) to pay the remaining 75% at the company's request. Thus, security was created with little capital.

The Bank pending incorporation was afforded so much trust from the beginning that major transactions could be conducted on behalf of the water boards. Short-term financing was provided by the commercial banks. As a result of their legal framework and sound payment system, the water boards were and are still regarded as risk-free as far as credit risk is concerned. The same applies to the other local authorities and the State of the Netherlands.

The Bank therefore did not need to set up an organisation to assess the credit risks of local authorities and was able to devote its full attention to providing financial services. At a later stage, the State of the Netherlands participated in the share capital, thus clearly accepting its responsibility for an orderly financing of the local authorities.

Eventually, the Bank was successfully launched. However, it could have turned out differently. Consider, for example, the situation in Hungary in the period 1992 to 1996, following the reopening of its borders. The need for and shortage of capital was reminiscent of the situation in the Netherlands around 1950. NWB was asked to advise the Hungarian Water Board Union during that period on how it could set up its own financial institution, using the Dutch model as a basis. In the end, this project never got started, primarily because the Union's member organisations were too dissimilar in nature. As a result, no consensus could be reached on the form and substance of the collaboration. Another key reason for the failure of the project was that the tax regime of the water boards was not yet properly structured.

Result I: Security

The intended and realised result is to guarantee the provision of the following essential services to the participants, partners and shareholders:

- long-term loans;
- up-to-date financial services;
- a central treasury function;
- financial expertise centralised in one place.

Result II: Cost savings

Combining forces in this way leads to major cost savings:

- it is no longer necessary for each individual water board to build up its own specialised financial expertise;
- economies of scale also mean lower financing costs;
- any profit remaining at the end of the year belongs to the collaborating parties and can be distributed or reinvested in new activities.

Result III: Learning factor

The Bank's financial expertise and resulting advisory services contribute to financial management of the water boards that is capable of continual renewal.

5.4 Form

NWB opted at that time for shareholders in a *naamloze vennootschap* (public limited liability company). The collaborative organisation can take any kind of legal form. The key criterion for selecting a particular form should be that it is the one best suited to the local situation. Costs must be kept as low as possible. To this end, the organisation must be small, flexible and transparent. If necessary, therefore, external advisers can be engaged or the organisation can work together with other parties. The Bank's Articles of Association explicitly state that the Bank may only grant loans to the public sector. In the Dutch situation this means that the credit risk is minimal.

Start-up problems

- 1 Finding a sufficiently large group of like-minded parties.
- 2 Complying with the requirements as prescribed by national laws.
- 3 Seeking and finding support from existing banks in the initial stage.
- 4 After getting underway, increasing the number of participants.
- 5 Building up financial resources.
- 6 Finding qualified people.
- 7 Becoming a trusted bank.

Up and running

Once the organisation starts to operate properly, it may have a self-perpetuating effect. This could mean that it takes on the role of financier of the other sectors of local government, which in turn can lead to additional advantages for the original participants.

- From the outset, the financial institution must project an image of respectability and reliability which at least matches that of its founders and clients and, if possible, is even better.
- There must be a point in the development of the financial institution when its involvement with its shareholders/participants and vice versa is marked by a healthy distance, meaning in this case that the institution may and must have in-depth knowledge of its shareholders' industry, but that it should otherwise focus entirely on developing and offering financial expertise. That is its core task.
- It is generally thought that there are now more than enough banks in the world. However, there is still room for more specialised banks and financial institutions, as long as their objective does not encroach, or at least does not encroach too much, on the field of the general banks. Their activities should be limited to just a few products, for example, in the case of NWB the long-term financing of infrastructure work.
- If in due course the organisation succeeds in meeting international standards, this would further increase the opportunities to work together with the supranational development banks and to attract funds on the international capital market.

5.5 The Nederlandse Waterschapsbank N.V. (NWB) in a nutshell

The Dutch government sector is regarded internationally as extremely creditworthy, with a credit risk weighting of 0% and AAA credit rating. It is therefore essential that NWB has the same status, otherwise it would not be able to act as financier to its clients (shareholders, etc.). NWB has been awarded AAA ratings by the credit rating agencies Standard & Poor's and Moody's.

That NWB is considered a highly reliable bank is confirmed by the fact that for three consecutive years it has been commended by Global Finance 'for being one of the top ten safest banks in the world'.

Key figures of NWB

Additional proof of how successful the concept of a highly specialised bank can be is furnished by the following selection of key figures of NWB at 31 December 2003:

Total assets	€ 25.7 billion
Shareholders' equity	€ 1.0 billion
BIS ratio	88% (Ranked no. 2 worldwide)
Shareholders' equity/total assets	3.9%
Net profit	€ 78.3 million
Operating expenses/income ratio	11.3 % (Ranked no. 1 worldwide)
Credit ratings	AAA/Aaa
New loans granted annually	€ 3-5 billion
Number of staff	37

The success of NWB is largely attributable to its low cost base, made possible by the small size of the organisation. And this in turn is possible because, given their legal structure, their own tax regime and the requirement to maintain a balanced budget, the water boards have a credit risk rating of 0. As a result, there is no need for NWB to employ credit analysts or project assessors.

Apart from being important to the public at large, this low cost base also benefits the competitive position of the Bank. Local authorities are free to choose the source of their borrowed funds. Accordingly, when taking out a loan, they always ask for several quotes from lending institutions (including private parties), with the purpose of selecting the cheapest offer.

The Bank's success has ultimately meant that it is now able to and does provide financing to all other sectors of local government.

5.6 Final comment

The solid status and special characteristics are considered necessary for NWB in order to be able to operate effectively within the Dutch setting. The figures provided are not intended in any way whatsoever as a blueprint for situations in other countries. What is important is that the form of collaboration opted for and the status of the financial institution fits in well with the setting in which it operates.

NWB was not this solid a bank from the start. The government sector, too, was not as expert and well-developed then as it is today. For example, there are now only some 40 water boards with large professional organisations including financial departments with expert staff. In this respect, NWB's development has really kept pace with that of the government over the years. Or, put differently, starting up an own financial institution is highly suited to a situation in which the problems are very substantial and the required structures must still be developed.

6 The Association of Water Boards

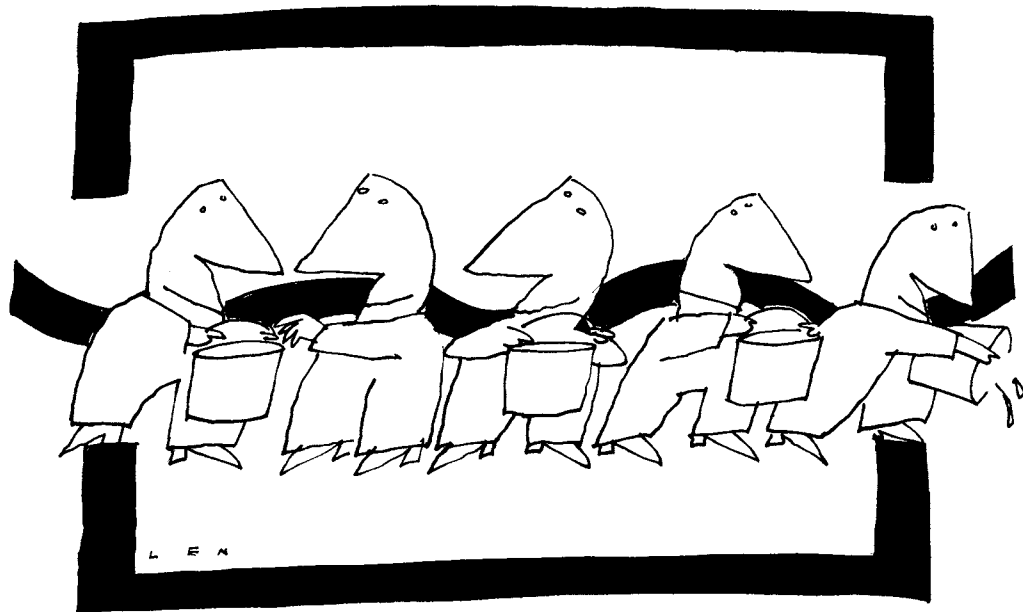
Already in the 1920s, per province federations were set up, which the water boards in those provinces were members of: the so-called provincial water board federations. These federations' main goal was to promote the interests of the water boards at a provincial level. To that end they acted as counterparts of the provincial authorities concerning issues that water boards in each province were involved with and had in common. By the increasing number of mergers within the water board system and the wider approach to river basin districts, as a result of which many interprovincial water boards have arisen, many provinces do not have a water board federation anymore.

The more the central government's involvement with regional water governance increased, the more the need arose for an organisation which set out to promote the water boards' interests at a national level.

Hence the foundation of the Dutch Association of Provincial Water Boards Associations in 1927, which all provincial water board federations were a member of. In 1968 the water board federations stopped being a member of this Association, but the individual water boards have been members since then. Simultaneously the name of the Association was changed into the Association of Water Boards. Currently all 37 water boards are a member of this association.

The Association aims to promote the interests of water boards at a national and international level. It is especially about the safeguarding of interests with regard to third parties, more particularly the national government and parliament. This function becomes apparent, for example, in consultations with the ministries and Members of Parliament, in comments on policy documents and memorandums, in the participation of advisory and consultative bodies, and so on. The more the influence of European regulation increases, the more international the character of this promotion of interests becomes. In addition to external promotion of interests, the Association also advises the member water boards for instance in legal affairs.

The Association draws up guidelines, model ordinances (for example in the fiscal field) and model plans, and supports water boards with the implementation of European regulations. The Association also participates in studies and research within the framework of special committees and platforms on issues that are important for the water boards at large. Finally, the Association is an employers' organisation. It negotiates with the central organisations of government officials, and makes agreements about the terms of employment of water board personnel, which are binding for the water boards.



At the highest level of the Association there is the general meeting (water board assembly), which convenes four times a year, and in which all member-water boards have a seat. The direct leadership is in the hands of the (executive) assembly, which comprises six members, and is appointed by and from the general meeting. As a rule, the assembly meets once a month. In addition, the Association has a number of fixed, predominantly administrative committees, in which the member-water boards are represented. Below these committees are a number of official working parties. As a result of this organisation structure, the Association generally knows very well the feelings and motivations of its member-water boards, so that it is in a position to adequately promote its members' interests in The Hague and Brussels. The costs of this Association – which are primarily costs for personnel – are borne by the member-water boards via financial contributions.

The Association of Water Boards employs around sixty workers, including a representative in Brussels, who is shared with the Netherlands Waterworks Association (VEWIN) for drinking water interests. The general manager of the Association is also secretary of the general meeting and the assembly. The staff acts as secretariat and is also the executive body of the association. Next, the Association publishes a bi-weekly relations magazine, entitled 'Het Waterschap' (The Water Board). An organisation chart of the Association bureau can be found on the Association's website (<http://www.uvw.nl>).

7 Conclusion

In the previous chapters the main elements - the building blocks - of the Dutch water board system were described in the following order: the constitutional position of water boards, including their legal embedding, the democratic legitimacy via their own assembly and the financial independence via their own tax district. Next, it was briefly discussed what role is played by the Nederlandse Waterschapsbank N.V. (Dutch Water Board Bank) in attracting outside capital, as well as what role the Association of Water Boards plays as national promoter of the water boards.

In this final chapter the building blocks that were referred to are listed again below.

First of all, it was determined that regional and local water management in the Netherlands is largely decentralised. Water boards play a key-role in this as functional co-authority. 'Functional' because, legally speaking, the responsibilities of water boards are limited to the care of flood protection and water management (including water treatment). 'Co-authority' because water boards, formally speaking, are 'clad with authoritative power', and have their own assembly, tax district and legal powers, which are derived from the Water boards act and the various laws regarding water management.

As a functional co-authority water boards can fully focus on water governance, which is thereby made immune to political whims. This functional character, by the way, has a certain risk in it. Since water management is closely linked with other fields of government care, more particularly spatial planning, water boards will have to be open to these links and fill them with actual content. Water boards, therefore, should never carry out their responsibilities in isolation, but should be doing integrated water management and be looking specifically for contact and co-operation with other authorities (provinces and municipalities) and non-governmental organisations (farmers, companies, managers of nature reserves, drinking water companies and so on).

The planning systems in the policy fields mentioned, in particular, offer the required starting points for this. Also, every practice shows that this potential risk is not really an imminent threat. Water boards will also have to open their eyes to the society's ever-changing wishes concerning water management. This, too, is something water boards seem to understand, as is shown by the following concrete example. After WWII the government's policy was primarily focused on increasing the food production. In order to fully exploit the agricultural fields, a number of stream systems were canalised by the water boards in order to improve the drainage of water. Nowadays also the ecological importance of such stream systems is highly valued. In view of this the water boards are executing and have executed various projects in order to return to these streams their former, meandering course, as a result of which the kingfisher will get its proper habitat back.

It goes without saying that an adequate system of legal instruments is of paramount importance in order to carry out the desired integrated water management in a modern

way. For example, water quality can not be improved and protected until detrimental discharges are prevented or regulated via a permit system. In chapter 2 it was made clear that water boards do have the required powers and are indeed able to demand that the various rules and regulations are respected.

This concludes the first building block in the form of a clear-cut constitutional position as a functional co-authority, with an adequate set of legal instruments at their disposal.

The second building block, which was elaborated in chapter 3, deals with the democratic legitimacy via their own assembly, which consists of water management stakeholder categories. In that sense, water boards are quite rightly characterised as a 'stakeholder democracy'. This representation is crucial for the democratic legitimacy of water boards. And ultimately, it results in the fact that democratically elected stakeholders in water boards decide how and at what cost the actual water management is run, thus also creating support for the measures that will have to be taken.

From this angle it is of equally vital importance that water board assemblies do not exclusively consist of representatives of the so-called *general task interests* – in this case the residents –, but also of representatives of the so-called *specific task interests* – in this case farmers, companies and managers of forests and nature reserves. After all, they bear a substantial part of the costs made by water boards and they will have to be able to have a say in the assembly in accordance with the interest-pay-say triplet.

The third and final building block concerns the financial independence of water boards via their own tax district, which was discussed in chapter 4. The core message is that water boards are largely self-supporting and are in a position to bear the costs of their responsibilities by levying their own taxes – the so-called water board charges and the water pollution levy. This financial independence is valued highly and is the best guarantee that sufficient financial means are collected for today's modern water management. It is not a very tempting thought to (fully) depend on the state's ever so scarce financial means, which, moreover, are earmarked for a wide range of policy fields (education, health care, defence, and so on). In this respect, everyday's practice shows that water boards are aware that they should work at the lowest possible social cost, thus enabling the tax rates to remain within reasonable proportions. This is illustrated by the fact that a family in – the lowlands of – the Netherlands owes the water board an annual average of €220 for water board taxes. It is not surprising to know that the stakeholder categories, which have to pay these taxes, are represented in water board assemblies and thus determine the height of the tax rates. This, too, may serve as an illustration of the interest-pay-say triplet.

With these three building blocks, namely the clear constitutional position as functional co-authority with adequate legal powers, the democratic legitimacy via their own assembly

and the financial independence via their own tax district, today's Dutch water boards are sufficiently positioned. It is at least as important to see that this 'formula' works. For example, the water quality in the Netherlands has considerably improved over the last few decades, and a further improvement is currently inhibited mainly by the so-called diffuse sources of water pollution (building materials, traffic, agriculture, and the like), which lie beyond the water boards' span of control. Also, the dykes are relatively safe – in this respect the Netherlands' defence system is never really 'completed' – and the water boards reacted adequately to the near-flood in 1995. Within two years roughly 100 km of river dykes were reinforced and about 150 km of quays were laid along the river Meuse. Currently the water boards are working hard to materialise the search for space for water in order to prevent flooding as a result of (extreme) rainfall. In addition, they are also taking the measures that are necessary for nature recovery. In doing so, the water boards use a 'broad outlook' and constantly seek the co-operation with other authorities and social organisations. Therefore, they do not work in isolation whatsoever.

Since the water management situation in the Netherlands is virtually identical to other countries – even though all areas have their own, special circumstances – it is very conceivable that the 'building blocks' focused on in this publication could be exploited outside the Dutch borders. The developments that are taking place in countries like Egypt, Indonesia, Pakistan and South-Africa, show that these building blocks could also be important outside the Netherlands. They will, of course, not act as blueprints, but they might well be seen as empirical facts, from which others may also wish to benefit. All that this current publication aims to do is to disclose this information, so that it may well find its way in the many 'foreign fields' abroad. Finally, the authors wish to express their hopes that they will have succeeded in this in a clear, accessible way.

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