

The Netherlands Live with Water: Public awareness raising campaign

Climate change impacts addressed	River flooding Sea level rise
Spatial scale	Country
Response type	Educational action
Themes driving the initiative	Adaptation to future climate
Good practice	Public engagement

Summary

The climate change projections for the Netherlands project an increased risk of coastal and river flooding. It was acknowledged in 2000 that the current water management system based on technological solutions is inadequate, and that more space needs to be made for water. It was also recognised that citizens do not sufficiently recognise and acknowledge the potential problems associated with water. Consequently, in 2003 "The Netherlands Live with Water" public awareness campaign was launched (Figure 1). The campaign emphasises the need to store water along both the main national and regional water management systems during times of excessive rainfall or high levels of river discharge. It also promotes the actions that individuals can do themselves to help reduce the threat of flooding. The campaign has used the Netherlands favourite weather presenter as their spokesman. Independent reviewers have assessed the campaign as being an effective awareness raising approach.



Figure 1. "The Netherlands Live with Water" campaign logo

Case study location

The Netherlands covers 41526km² and is home to 16.5 million people. The country is located on the North Sea, and is dominated by mouths of four great rivers: Rhine, Meuses, Wall and Scheldt. The majority of the country is located below sea level (Figure 2) and the history of the Netherlands has been dominated by the fight with water and reclaiming land from the sea, which was first documented in 1533. The Netherlands is protected from coastal and riverine flooding by 3,500km of primary flood defences. These are accompanied by 14,000km of dikes around basins, polders and canals, reducing the risk of flooding from smaller water bodies and watercourses. An extensive and complex system of ditches and waterways serves to manage the groundwater level in these polders. Every drop of rain that falls in the polders must be pumped out. Consequently, every polder is connected to a pumping station that transports the water to a drainage outlet or pool. From there, it is pumped out to the other waterways and, finally, flows to the sea. The flood defences are mainly managed by the water boards ⁽¹⁾.

One of the most spectacular engineering achievements in the Netherlands is the Delta works which involves construction of flood barriers, many kilometres of dike reinforcements and the closure of a number of sea arms. This was done to protect the province of Zeeland from flooding after the

disastrous floods in 1953, which claimed lives of 1,800 people, involved the evacuation of 72,000 and flooded about 2,000km² of land ⁽¹⁾.

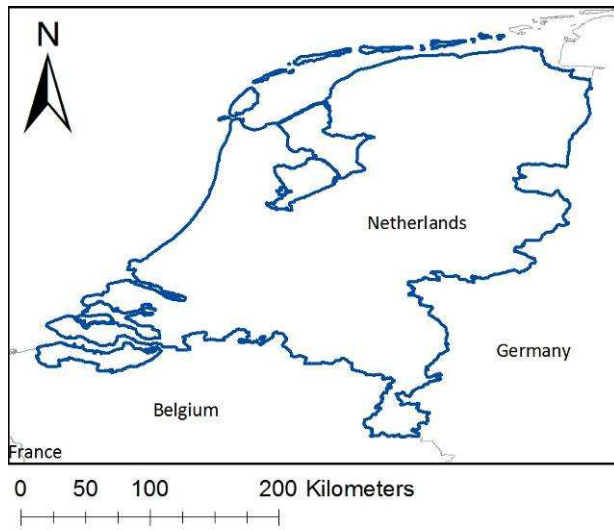
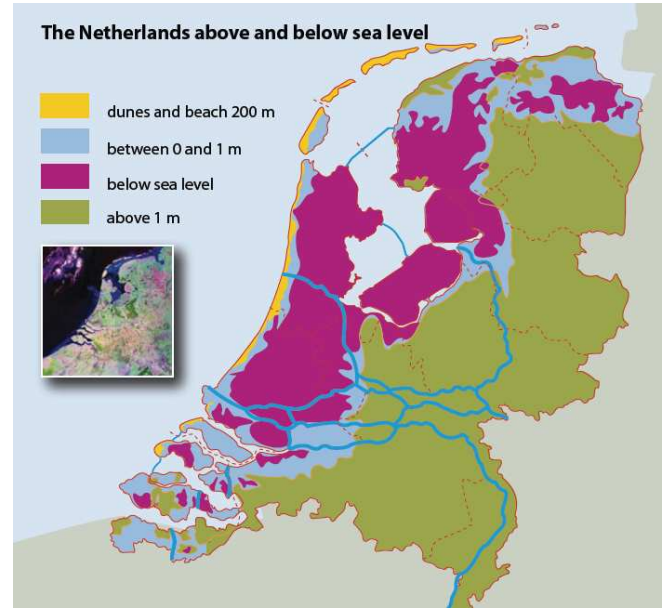


Figure 2. Location of the Netherlands and elevation of the country ⁽⁵⁾



The Royal Netherlands Meteorological Institute (KNMI) provides climate change scenarios for the Netherlands. Temperature is projected to rise and mild winters and hot summers will become more common. On average, winters are projected to become wetter with extreme precipitation events increasing. Mean precipitation for 2050 in winter could increase by between 3.6 and 14.2%, while precipitation on a wet day is likely to increase by between 3.6-12.1% compared to 1990 values ⁽²⁾. Climate change has the potential to lead to a 40% increase in river discharges in winter and 30% lower discharges in summer ⁽³⁾.



Figure 3. Flooding threat in the Netherlands

According to measurements in coastal areas and with sea-based buoys, the sea level has risen by 1 to 2 mm per year since 1900, amounting to a 20cm increase over the last century. Sea level change projections span a range between 15 and 35cm by 2050, and between 35 and 85cm for 2100, compared to 1990 values. The extent of sea level rise will depend on future carbon emissions and the speed of melting of terrestrial ice masses. At the same time, the Netherlands is subsiding between 0-4mm a year ⁽²⁾ due to oxidation of peat, soils subsidence and that sand and clay deposits are no longer being replenished by floods. In the low-lying parts of the Netherlands, soil subsidence will average between 2 and 60cm by 2050 ⁽³⁾. As a result of these factors, river flooding and coastal flooding are likely to become more common (Figure 3).

Development of the initiative

Key aims

The aims of “The Netherlands Live with Water” campaign are:

- To increase the awareness of the water problem, stimulating a sense of urgency without frightening the people;
- To communicate that a new approach and policy for water management is needed and also the reasons why;
- To increase knowledge of what this new policy (‘giving more room to water’) means and what the consequences will be;
- To get acceptance of the idea that far-reaching measures are needed now to keep Holland safe in the future, even if these measures have unpleasant personal consequences ⁽⁴⁾.

Themes driving the initiative

Adaptation to climate change was one of the main drivers behind this initiative. Climate change, combined with the growing population density and growing value of the national economy, increases the consequences of potential flooding events ⁽³⁾. The risk of flooding, which has been a significant public issue since the flood of 1953, was highlighted during the floods in 1993 and 1995 in the Maas (Meuse) and Rhine valleys.

For centuries, spatial planning in the low-lying Netherlands has been a matter of separating and maintaining the division between land and water. However, in 1999 the Ministry of Transport, Public Works and Water Management and the Association of Water Boards formed an independent Committee to assess whether the current water management policies were adequate to deal with the effects of climate change and to maintain a safe, liveable and attractive environment ⁽³⁾.

The Committee in its ‘Water Management Policy in the 21st Century’ report stated that a change in water management policy was required, involving relinquishing space to water rather than winning space from it ⁽³⁾. This was to be achieved by lowering the flood plains, widening the flood plains by moving dikes further back from the river and construction of water retention and storage areas. The measures taken have enabled the development of a long-term strategy for the safe removal of 18,000 m³/s in the River Rhine at Lobith ⁽¹⁾. The new approach may appear simple, but it isn’t, even if only because the costs are so high, and the fact that the costs are to be born by society. A key challenge is therefore to create sufficient support for the initiative within society ⁽⁵⁾.

It was found that individuals and social interest groups do not sufficiently recognise and acknowledge the problems associated with water. This is due to low awareness and trust in technology. Therefore, the Government made the decision to launch a public awareness campaign to better inform individuals and social interest groups about the risks and opportunities of living in a river delta area, and to encourage support for actions aimed at “making room for water” ⁽¹⁾. While the major defensive works were, up till the end of last century, built and paid for by the government. However, the current adaptive management responses are a shared responsibility between all levels of government, the private sector, non-governmental organisations and civil society at large. Such an approach therefore requires strong public support, and communication is a key feature of the new strategy ⁽⁵⁾.

Details of the initiative

The Netherlands Live with Water campaign is one of three major communication campaigns related to raising awareness of the risk of flooding. The other two are “Denk vooruit” (Think ahead) and a collection of risk maps on the Internet ⁽⁷⁾.



Figure 4. Cartoon featuring Peter Timofeeff, a TV weather forecast presenter. The text reads: "With the climate change it gets warmer and wetter".

The Netherlands Live with Water campaign uses a combination of a range of mass media approaches. The campaign uses radio and television commercials, newsletters, advertising and information booklets, informative events and a comprehensive website. A study of a representative sample of 277 people indicated that 86% of people look for information about changes in climate on Internet; 53% on TV; 43% in daily papers; 27% in magazines ⁽⁶⁾. There is a website where responsible parties in the public authorities can download material ⁽⁷⁾. A well known presenter of weather forecasts, Peter Timofeeff, is used as a spokesman for the campaign and is a "Water Ambassador". On national and regional radio and television, he brings the problems and solutions to peoples' attention through cartoons and personal appearances ⁽¹⁾. The campaign contains humorous elements to draw the attention of the public ⁽⁴⁾ (Figures 4 and 5).

Implementing the initiative

The campaign started in 2003 and is ongoing. Initially, the campaign focused around the message that the climate is changing and that this has consequences for water management in the Netherlands. Gradually, the campaign has put in simple terms what measures such as storing water mean in practice. Moreover, it highlights the efforts the national government, provincial authorities and water

boards are undertaking across the Netherlands to keep the country safe and dry ⁽¹⁾. In the future, the campaign will emphasise the concrete measures and examples of adaptation that are recognisable to the public and provide inspiration for administrators ⁽⁵⁾.

Monitoring and evaluation

The effectiveness of the campaign is monitored through a continuous survey carried out by TNS NIPO market research company. The monitoring and evaluation approach focused on the reach, impact, appreciation and comprehension of the campaign by the public. For measuring the actual reach of the campaign, recognition of the website, TV and radio commercials and the print advertisements is measured. The public's engagement with the campaign is measured through assessing factors such as whether it is credible, informative, clear, funny, irritating etc. Comprehension is measured through a series of open questions. This information gives a good picture of the strengths and weaknesses of the communication approach ⁽⁴⁾. The monitoring of the effectiveness of the campaign has resulted in adjusting the media used, i.e. using more print media rather than TV advertisements to reach a wider range of people ⁽⁴⁾.

Sources of funding

The campaign is funded by the central government. The key funding need was the media budget for advertising. It was €1.3 million. Half of the money was spent on TV commercials, 25% on print media; 20% on outdoor media (e.g. billboards), and 5% on radio ⁽⁴⁾.



Figure 5. Cartoon featuring Peter Timofeeff, a TV weather forecast presenter.

Stakeholder engagement

The lead authority responsible for the development and implementation of the initiative was the Ministry of Transport, Public Works and Water Management. Other organisations involved include Association of the Provinces of the Netherlands, Association of Dutch Water Boards, Association of Netherlands Municipalities, Ministry of Public Health, Spatial Planning and Environment, and Ministry of Agriculture, Nature and Food Quality ⁽⁵⁾.

Alongside the general public there are four key groups that are especially targeted by the campaign:

- Residents of areas in which water is a known problem or is especially relevant.
- Residents of cities.
- Homeowners.
- Businesspeople (e.g. farmers and gardeners).

Also, the campaign involves educational action for individuals working in the public administration and educational sectors ⁽⁵⁾.

Can it have an impact?

The public believe that the campaign has to date been informative and believable ⁽¹⁾. The awareness-raising part of the campaign seems to have worked, as most Dutch are now aware that more water is coming into Holland ⁽⁴⁾. Rising sea levels and river flooding are now seen as important concerns ⁽⁶⁾. The awareness that the government is implementing measures to balance the effects of climate change has also increased significantly. The main philosophy of the new policy approach: giving more room to water, has been increasingly accepted by the public over the course of the initial campaign period ⁽⁴⁾. At the end of 2003, 82% of the population recognised the social importance of measures to protect against flooding, and 72% endorsed the proposition that this would have to involve 'giving water more room' ⁽¹⁾. In 2009, 55% of a representative sample of the public were in favour of introducing a "water square" near their development to contain excess rainwater. However, three-quarters of the respondents were in favour of large-scale structural solution to sea flooding, i.e. the Delta Dyke, suggesting that the belief in technological defences is very strong ⁽⁶⁾.

Weatherman and 'Water Ambassador' Peter Timofeeff is seen as an appealing and likeable expert ⁽¹⁾. However, the campaign is focused on risk communication rather than disaster communications. Consequently, the concrete actions communicated that individuals can take to help respond to the problem are rather limited ⁽⁷⁾. Furthermore, risk communication seems to be a taboo in terms of publicly speaking of a flood disaster as a realistic scenario that the Netherlands could face. The resulting lack of clarity on the issue obstructs the Dutch government in bridging the gap in perception between itself and society in order to achieve its policy objectives ⁽⁸⁾.

"The Netherlands Lives with Water" campaign has achieved good results. The Dutch government will nevertheless have to now concentrate even more on communicating the effects, risks, and opportunities of climate change, and the measures needed to adapt to it. Where water is concerned, this means following the path which has already embarked on which involves communicating the risks, opportunities, possible future actions, available knowledge, available tools, etc that are available to address the problem. A long-term communication strategy will involve engaging all relevant stakeholders with the necessary adaptation measures through an open dialogue. The goal is to ensure active co-operation, in which all stakeholders accept their own responsibility in addressing problems relating to water in the Netherlands ⁽⁵⁾. In the 2006 annual report of the campaign ⁽⁹⁾ regional level communication is recommended as being especially important. It is also particularly important to communicate relevant issues in as explicit a manner as possible for residents ⁽⁷⁾.

Key messages

- To make significant changes in land use aiming at climate change adaptation, public needs to be well informed. This helps to avoid protests and ensures better cooperation in the implementation of strategies.
- The use of a variety of communications channels (TV commercials, newspaper cartoons, and a website) ensures that the message reaches different audiences and different sections of the public.
- The use of a popular, likeable expert as a spokesman is one of the key elements that supported the success of the campaign

- Monitoring of the effectiveness of the public campaign allowed significant changes to be made to improve the approach taken.
- A significant obstacle is the “taboo” character of risk communication relating to future flood risk. This was overcome by the use of likeable expert. However, that may have also resulted in diluting the message.

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