



Dutch Delta Programme

A preventive, comprehensive and adaptive approach

Climate change and increasing population density are placing great pressure on the world's delta regions. Many nations are looking for ways to protect themselves against flooding and water shortages. While action is needed urgently, a lot of governments are unsure how to proceed in the face of so many uncertain factors. Much remains unclear concerning the speed and impact of climate change and the associated costs. The Netherlands is leading the way, with the development of a long-term strategy based on an adaptive approach. We are pleased to share our expertise in this field with other countries.



What's the issue?

Around the world, many delta regions are at considerable risk as a result of the changing climate. By 2050, 15 per cent of the global population will live in flood-threatened regions. That is one third more than at present, and most of them will be in low or middle-income countries.

Furthermore, seven out of ten people are expected to live in cities. Predominantly located in delta regions because of their favourable conditions for trade, logistics, and food production and supply. There is an urgent need for cooperation to make delta cities more resilient. For countries looking for ways to protect themselves against flooding and water shortages, it is important to form coalitions. The Netherlands has considerable expertise in this field, which it is pleased to make available to other countries. As such, it is leading the way, with the development of a long-term strategy based on an adaptive approach.

A preventive approach

The purpose of the Delta Programme is to protect the Netherlands against flooding, now and in the future. It is also intended to assure supplies of fresh water. It covers numerous environmental and economic aspects, as well as nature management, agriculture, and recreation. As a low-lying, prosperous and densely populated delta nation, the Netherlands is vulnerable to flooding. The potential consequences of inundation are enormous, and include fatalities, injuries, social disruption, and billions of euros of property damage. In the past, failure to properly prepare has resulted in the Netherlands repeatedly falling victim to floods. Today, however, we pride ourselves on being the best-protected delta in the world. And we are determined to maintain that very high level of security. A preventive approach has therefore been adopted. The Netherlands prefers to a preventive approach against flooding, not only because prevention saves lives and livelihoods, but it is also far less costly than restoring the damage caused by flooding. Furthermore, the fresh water supply is very important to our economy and consequently needs to be assured in the event of future droughts.

Features of the Delta Programme

The Dutch Delta Programme has many valuable features that other governments can usefully draw upon when developing their own climate adaptation strategies. These include:

- **Water governance:** widely supported decisions are made in multi-tiered central and local government structures. Water governance is often vital for the development of a national plan or comprehensive approach.
- **Adaptive approach:** plans and policies can be adapted in line with developing circumstances and the level of socio-economic support. Much remains unclear concerning the speed and impact of climate change and the associated costs, so “no-regret” or “low-regret” measures are desirable.
- **Solution forms:** preference is given to “soft” solutions. “Hard” infrastructural solutions are adopted only where there is no alternative (“low regret”). The Building with Nature concept favours soft solutions, such as making room for the river and creating wave screens and sand-based solutions just offshore.
- **Multiple lines of defence:** flood prevention is combined with impact minimisation. The first line of defence is prevention, aimed at ensuring that floods do not occur. The second line of defence is to minimise the consequences of any flood that might nevertheless occur, by protecting vital infrastructure. The third line of defence is evacuation planning to mitigate the consequences of a worst-case scenario.
- **Innovation:** options are maximised through technological development. Considerable innovation is taking place in fields such as dyke reinforcement, multifunctional dyke construction, and coastal protection.
- **Legislation and finance:** the Delta Act and Delta Fund guarantee political backing and ensure that financial resources are committed in practice. Implementation of the Delta Programme on the basis of a long-term approach is therefore assured in the Netherlands.

The approach has proved successful when:

- Investments in flood protection and water security receive broad local support and are managed on a sustainable basis, often inspired by innovative approaches.
- Protection against flooding in urban deltas has improved.
- The Netherlands is a successful participant in various international programmes.
- There is increased awareness and political support in connection with water diplomacy.



Multifunctional dykes: innovative space-saving solutions: construction of an underground car park within the dyke at Katwijk.

Wim J. Kuijken – Delta Commissioner and Government Commissioner for the Delta Programme – describes the added value of the Delta Programme and its position within the International Water Ambition (IWA) of the Netherlands.

‘With most of its territory consisting of a low-lying delta in northwest Europe, the Netherlands is permanently preoccupied with space and water. Water, in the form of our rivers and the sea, is the basis of our prosperity. However, it is sometimes also a source of danger. Water-related disasters in the past have obliged the Netherlands to develop effective systems of water management. However, ongoing protection depends on maintenance and especially on continuous investment. We are committed to minimising the risk of future disasters and serious problems arising from flooding or drought. The Delta Act, the (annual) Delta Programme, the Delta Decisions, the Delta Fund (which receives a billion euros a year) and a government-appointed Delta Commissioner form the institutional framework for our country’s physical preparedness. Our approach is unique. The climate is changing, and we have a lot to protect. We have therefore adopted a preventive, comprehensive and adaptive approach, and our plans have a long time horizon, covering the periods up to 2050 and 2100. The lessons we have learned and the approach we have developed are well worth sharing with other countries that are also looking for answers to the many issues associated with flood protection and water security. The International Water Ambition provides a solid framework for the promotion of international collaboration in the interests of the public and the economy.’

Coverphoto:
De Maeslantkering: a flexible facility,
which can be used to shut rivers off
from the sea in storm conditions.



More information and contact

For more information, visit the following websites:

The Delta Commissioner:
english.deltacommissaris.nl

Netherlands Water Partnership (NWP)
www.nwp.nl/en/about-us

The Delta Alliance
www.delta-alliance.org

Ecoshape
www.ecoshape.nl

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