Cost of the Weak Links in Coastal Defences Programme

A review performed in 2003 revealed a number of weak links in the Dutch coastal defences, where the seawall no longer met safety standards. The Ministry of Transport, Public Works and Water Management has now decided to strengthen the seawalls in ten places and to this end has drawn up a plan called the Weak Links in Coastal Defences Programme. The idea is for work on the seawall no longer met safety standards.

The Ministry has budgeted a sum of €743 million for the programme.

Dual objective: simultaneous improvements in safety and quality of the spatial environment

The weak links in Coastal Defences Programme is designed to achieve two objects at the same time: to improve safety and to raise the quality of the spatial environment. This dual objective has the effect of raising the level of spending by the Ministry of Transport, Public Works and Water Management. The extra cost does not stem from the requisite level of investment in land-use planning, as these charges are borne by the relevant local authorities. The problem is that the safety solution associated with changes in the spatial environment (such as the use of consolidation sand) is generally costlier than a simpler solution that would nevertheless meet the relevant safety standard, e.g. dyke reinforcement. To date, the additional cost thus incurred for the programme as a whole stands at approximately €107 million (+14%).

The simplest solution would simply involve raising the dykes along the coast. Here, public safety (i.e. flood defence) would be the only consideration.

Using consolidation sand to strengthen the coastal defences is a more expensive solution. However, this option does enable the authorities to adapt the spatial environment in a manner that caters not just for the interests of the flora, fauna and the landscape, but for people’s leisure needs as well. The local and regional authorities pay for the cost of this type of spatial adjustment.

Main cost factor: the price of consolidation sand

The cost of extracting sand from the seabed and then using it for infill purposes has a huge impact on the cost of the programme as a whole. This is because tons of millions of cubic metres of sand are needed for the purpose of recharging beaches and dunes. The Noordwijk project is the project that has made the most progress to date. The distribution of expenditure is shown in the diagram opposite. Almost half the budget has been spent on consolidation sand.

Consolidation sand

46%

Dual object: simultaneous improvements in safety and quality of the spatial environment

A modest alternative

The preferred option

Distribution of costs arising from Noordwijk project

VAT

16%

Contingency planning

6%

Other incidental expenses

5%

Regional water authorities (as commissioning authority)

9%

Other direct costs

10%

Consolidation sand

46%

Programme budget

743

Tip of Noord-Holland

Hondsbossche and Pettemer seawall

Noordwijk

Scheveningen

Delfland Coast

Voormezeele Werk

Westkapelle

Flushing

West Zeeland

Flanders

Consolidation sand

46%

How are costs controlled in successive project stages?

The estimated cost of each project, at six different points in time (in millions of euros)

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