

Below the Line

In this country, the land is lower than the sea — and stays dry anyway.

7 min read

Before you read

- **dyke** — a long bank built to hold back water
- **polder** — land taken from water and kept dry by pumping
- **reclaim** — to win land back from the sea or a lake
- **sea level** — the average height of the sea's surface
- **surge** — a sudden rise of sea water pushed by a storm
- **barrier** — something built to block or slow a force
- **drain** — to carry water away from a place



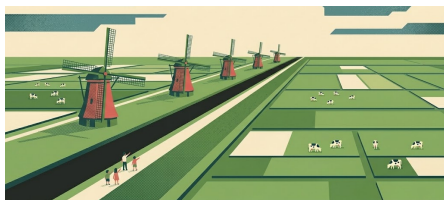
A Dutch dyke with the sea on one side and farmland below on the other

¹ Stand on a sea dyke in the Netherlands on a calm day and you can see something that should not make sense. On one side of you, the grey water. On the other, below you, a village. Cows. A church tower. A road with a cyclist on it.

² The sea is higher than the houses.

³ About a quarter of the Netherlands lies below sea level, and more than half of it would flood regularly if nothing were done. Nothing is a word the Dutch have never been able to afford.

⁴ The work began roughly a thousand years ago with banks of earth thrown up around villages and fields. A ring of earth keeps new water out, but it does not remove the water already inside, or the rain that falls afterwards. That water has to be lifted out.



A row of old windmills pumping water out of a polder

⁵ That is what the famous windmills were for. They were not there to grind flour. They turned a wheel that lifted water from the low ground up into a canal, and the canal carried it to the sea. Land drained this way is called a polder.

⁶ Steam engines replaced the windmills, and electric pumps replaced the steam. The job never changed. Somewhere today, pumps are running, or the water would creep back within weeks.

⁷ For centuries the system held, and the country kept reclaiming more. Then came the night of the 31st of January 1953.

⁸ A deep storm in the North Sea met a high spring tide. The water was pushed up far above its normal level — a storm surge — and it arrived in the dark, at the weekend, when warnings reached very few people. Dykes gave way in more than a hundred places. Over eighteen hundred people in the Netherlands died.



The Oosterschelde storm surge barrier with its gates raised

⁹ The response was the largest building project the country had ever attempted. Over the following decades the Dutch shortened their coastline, raised their dykes and built a series of enormous barriers across the widest openings.

¹⁰ The cleverest of them does not shut. The Oosterschelde barrier stands open almost all the time, letting the tide run in and out so that the shellfish and the birds that depend on salt water keep their home. Only when a surge is forecast do its steel gates come down. Safety and the living water, instead of safety in place of it.

¹¹ The Dutch now protect against a storm so rare it might come once in ten thousand years. Even that is a choice rather than a guarantee, and with seas rising the calculations are being done again.

¹² There is a saying here: God made the world, but the Dutch made the Netherlands. It sounds like a boast. Stand on that dyke, with the sea at your shoulder and the church tower below your feet, and it sounds more like a job description.

Part A Choose the best answer

Circle the letter next to the right answer.

1. What were the traditional Dutch windmills used for in the polders?
 - A grinding flour for the villages
 - B lifting water up into canals
 - C generating electricity for the pumps
 - D warning villages about storms
2. Why was the flood of 1953 so deadly?
 - A the dykes had not been built yet
 - B the pumps had all broken down
 - C a storm surge met a high tide at night, with few warnings
 - D the barriers were left open by mistake
3. What is unusual about the Oosterschelde barrier?
 - A it is made entirely of earth
 - B it stays open most of the time and closes only for surges
 - C it is the oldest barrier in the country
 - D it pumps water as well as blocking it
4. What does the passage say about the level of protection today?
 - A the country is now completely safe from flooding
 - B protection has been abandoned as too expensive
 - C it is designed for a very rare storm, and is being recalculated
 - D only the cities are protected now

Part B Write your answer

Answer in two or three sentences.

5. Explain why building a ring of earth around a field is not enough on its own to keep it dry.

6. The Oosterschelde barrier could have been built as a solid wall. Explain why it was not.

Part C Think deeper

There is no single right answer here. Say what you think, and show where in the passage it comes from.

7. The writer ends by saying the famous saying sounds like a job description rather than a boast. Using two details from the passage, explain what the writer means.

8. The Dutch decided to protect against a storm that might come once in ten thousand years, which cost enormous amounts of money. Do you think that was the right decision? Give a reason, and use something from the passage to support it.

Answer key

For parents and teachers

Part A

1. B — lifting water into canals | 2. C — a surge and high tide at night with few warnings | 3. B — it stays open except during surges | 4. C — built for a very rare storm, now being recalculated

Part B

5. Because the bank only keeps new water out. Rain that falls inside, and water already in the ground, has nowhere to go, so it must be pumped up and out. Accept any answer identifying water from inside rather than from the sea.

6. A solid wall would have shut the tide out of the channel and killed the salt-water life — the shellfish and birds — that depends on it. Accept answers naming the wildlife or the tide as the reason.

Part C

These answers vary. Mark the reasoning, not the answer.

7. Strong answers connect the saying to the ongoing work: a thousand years of dykes, pumps that must run constantly, calculations being redone as seas rise. The point is that the country is maintained, not just built. Prompt with: what happens if they stop?

8. Mark the reasoning, not the verdict. A strong answer weighs the cost against something concrete from the text — the 1953 deaths, a quarter of the country below sea level, rising seas. A weaker answer gives a view with no support.

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