

Awakening the ‘Dutch Gene’ of Water Survival

Photo



On a beach in Noordwijk, the Netherlands, students competed to build a sand castle that could withstand the tide the longest. Credit Ilvy Njiokiktjien for The New York Times

NOORDWIJK, the Netherlands — Along a rugged, wide North Sea beach here on a recent day, children formed teams of eight to 10, taking their places beside mounds of sand carefully cordoned by candy-cane striped tape. They had one hour for their sand castle competition. Some built fishlike structures, complete with scales. Others spent their time on elaborate ditch and dike labyrinths. Each castle was adorned on top with a white flag.

Then they watched the sea invade and devour their work, seeing whose castle could withstand the tide longest. The last standing flag won.

Theirs was no ordinary day at the beach, but a newly minted, state-sanctioned competition for schoolchildren to raise awareness of the dangers of rising sea levels in a country of precarious geography that has provided lessons for the world about water management, but that fears that its next generation will grow complacent.

Fifty-five percent of the Netherlands is either below sea level or heavily flood-prone. Yet thanks to its renowned expertise and large water management budget (about 1.25 percent of gross domestic product), the Netherlands has averted catastrophe since a flooding disaster in 1953.

Experts here say that they now worry that the famed Dutch water management system actually works too well and that citizens will begin to take for granted the nation’s success in staying dry. As global

climate change threatens to raise sea levels by as much as four feet by the end of the century, the authorities here are working to make real to children the forecasts that may seem far-off, but that will shape their lives in adulthood and old age.

“Everything works so smoothly that people don’t realize anymore that they are taking a risk in developing urban areas in low-lying areas,” said Raimond Hafkenscheid, the lead organizer of the competition and a water expert with the Foreign Ministry.

Before the competition, the children, ages 6 to 11, were coached by experts in dike building and water management. Volunteers stood by, many of them freshly graduated civil engineers, giving last-minute advice on how best to battle the rising water.

The event, sponsored by two regional water authorities, also featured sophisticated Dutch technology, including an airborne drone that monitors hard-to-reach water management infrastructure, and a jeep-mounted infrared camera used to detect weaknesses in dikes, which showed thermal images of the most promising sand castles resisting the seas.

“If children can do it themselves, they really learn it,” said Harcko Pama, a teacher at an elementary school in Heemstede.

“I know that they will remember this when they are older — it has such great impact,” he said.

Mr. Pama’s class of 11-year-olds competed in three separate teams to build the most flood-resistant castle. Armed with shovels and using hands and feet to tamp down the wet sand, the children improvised, some bringing seawater up to the castles in their shoes, others using towels to move the sand. Plots measuring about nine square yards were carefully lined along the shore. Organizers had timed the exercise so that the children (and the judges) could watch their work being destroyed by the incoming tide just after they had finished construction. Some 250 children competed.

As if part of the greater lesson, the children, from four different elementary schools in low-lying regions of the country, met on a stretch of beach less than 10 miles north of a major dike renovation project. The new dike protecting the seaside resort town of Katwijk will feature a reinforced concrete core and an underground parking garage. The project is to be finished early next year at a cost of nearly \$70 million.

Photo



The seaside town Katwijk is getting a \$70 million dike upgrade. Credit Ilvy Njikiktjien for The New York Times

A recently released report by the Organization for Economic Cooperation and Development on water management in the Netherlands pointed to an “awareness gap” among Dutch citizens. The finding did much to get the sand castle contest off the ground.

But the awareness of the average citizen is only part of the problem. Many experts involved in technical aspects of water management warn of the rising average age of water professionals. Not only do fewer Dutch people worry about the rising tides, fewer go into technical fields, said Jaap Feil, who runs the National Water Traineeship program.

Onne Rosingh, a managing director at InTech, one of the many subcontractors that monitor the country’s vast dike systems, explained. “People want a clean job, and as civil engineer you have to stand with your boots in the mud,” he said.

The idea that exposure to water management professionals and a little competition would awaken what Mr. Hafkenscheid called the “Dutch gene” in the students was obviously not far from the mind of one volunteer, who told a group of 11-year-olds that there would be many jobs in water management in 20 years.

“You see all these kids and their enthusiasm — that is our hope for the future,” said Gerard Doornbos, chairman of the Rijnland District Water Control Board.

Mr. Doornbos’s title, “dijkgraaf,” or earl of the dike, attests to the 13th-century origin and proud tradition of the water boards. He said that the expertise and investment in water protection over the

years is one of the reasons that the Netherlands, with its new future-oriented plans, is relatively prepared.

“If you start anticipating, as we are doing, it will be much easier,” he said of the rising seas.

For all the obvious enthusiasm that the building of the sand castles brought, the subsequent dramatic destruction by the ocean’s foot-high waves was the high point of the day. Children ran through the water from one ruin to the next, cheering as the castles tumbled one by one.

In the end it was Esther van Zuylen’s class from Flambouw Elementary School in the town of Nigtevecht whose white flag resisted the flood the longest, and her class got a little glass trophy from the dijkgraaf as a prize.

“Making huge castles at low tides, trying to defend the castles as the tide comes in — that is who we are as Dutchmen,” Mr. Hafkenscheid said.

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