

EROSION

VANISHING COAST

Trinidad and Tobago is losing its coastline, a problem for an island nation where 70 per cent of the population lives near the edge

While oil and gas provides the Caribbean island of Trinidad and Tobago with its main economic base, dredging for new pipelines, coupled with changing weather patterns, may be having a disastrous effect on the nation's picturesque coastline. 'Although not all of the beaches and bays are monitored, we have figures for the north coast where we see retreat of up to one metre per year,' says Junior Darsan, who studies erosion on the island.

There are several anti-erosion measures in place around Trinidad, ranging from sea walls to rubble revetments. Revetments are sloping structures that absorb energy from incoming waves. 'We have sea walls. We have structures along the island in some sections. We also have sea walls in small bays in the northwest. On the west coast, there are sea walls to protect roads close to the coastline,' says Darsan.

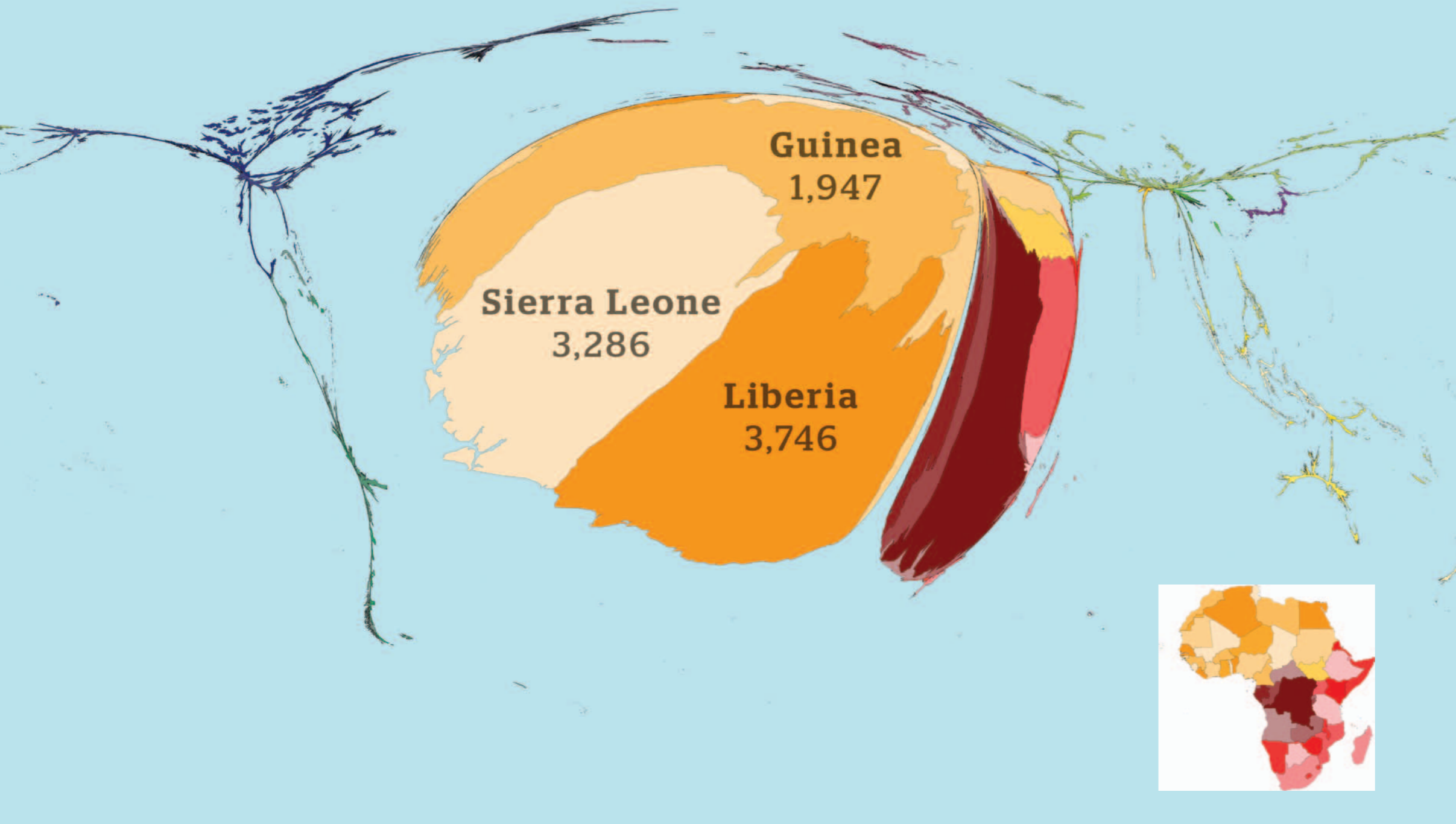
In terms of climate change, there are reports of a 1,000-year sea level rise of around 1.1 metres. Most of Trinidad is low-lying, so *any* increase in sea level will translate into shoreline erosion,' he adds. Storm intensity may also play a role, although Trinidad and Tobago is south of the hurricane belt. Waves from hurricane activity increase erosion and those hurricanes are set to increase.

Since 2012, the government has been examining how to protect the shoreline. 'At the moment it's trying to find out more about how erosion is going to take place, and how it will interact with the oil and gas industry,' adds Darsan.

This erosion has caused difficulties for local communities. 'At one settlement in the south of Trinidad, people used old car tyres and anything they could put their hands on to develop a makeshift coastal defence from the ocean,' says Darsan. Erosion rates are slower on the sheltered west side, which avoids strong Atlantic weather systems, while in Guapo Bay, on Trinidad's southeast side, an entire village was displaced.



REUTERS/ANDREA DE SILVA



CARTOGRAMS

EBOLA DEATHS

BY BENJAMIN HENNIG

As of February 2015, almost 10,600 people are known to have died from the Ebola disease. The recent outbreak in West Africa has not been brought under full control since it became part of international attention early 2014. Not only does it outnumber cases and deaths of all previous

outbreaks (before 2014, the World Health Organization had recorded 2,387 cases and 1,590 deaths), but the geographic patterns are also different this time. The above cartogram shows the distribution of the total number of deaths of all outbreaks of Ebola as recorded by the WHO and the Center for Disease Control and Prevention. The dominance of the current outbreak, with the three most affected West African countries being labelled, becomes dramatically visible.

According to the figures published in early February, 22,522 cases were counted with a total of 8,994 deaths to date. Exact numbers have to be treated with caution due to too many uncertainties in the counts of cases, but at least they provide a basis upon which health workers and organisations dealing with the crisis can act.

The WHO update in early February indicated an increase in the weekly case incidence for the first time in 2015 and combined an increasing geographical spread in Guinea

with a widespread transmission in Sierra Leone.

These figures show that fighting Ebola remains a big challenge. This is even more significant with the wet season approaching, bringing difficulties in accessing the more remote areas. These are crucial locations for getting the spread of the virus under control as the facilities there to treat patients and safely bury the dead are not of an equally high standard as those in the more densely populated urban centres. Preventing the further spread of the virus is therefore more problematic in these areas even if the population densities are much lower. (For more on the struggle against global diseases, see *Dossier* on page 34.)

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