

What the Sea Is Owed

A city of twenty million on sand two metres above the water, and three ways of answering the Atlantic.

9 min read

Before you read

- **managed retreat** — the planned relocation of people and assets away from a hazard
- **hard defence** — engineered structures — walls, groynes, revetments — built to resist the sea
- **sediment budget** — the balance of sand arriving at and leaving a stretch of coast
- **littoral drift** — the movement of sand along a coastline by waves and currents
- **adaptation** — adjusting systems and settlements to a hazard rather than preventing it
- **path dependency** — the way an early decision constrains the choices available later



The Atlantic shoreline at Lagos — a concrete revetment on one side, low-lying settlement on the other

¹ Lagos sits on sand. Not metaphorically: the city occupies a barrier island system and the lagoon behind it, much of it within two metres of sea level, on a coastline that the Atlantic has been rearranging for as long as there has been a coastline there to rearrange. It is also, by most estimates, among the fastest-growing cities on earth. These two facts have to be held together, and most arguments about the city's future fail because they hold only one.

² The rearranging accelerated in 1908, when a harbour mole was built to keep the entrance to Lagos Harbour open for shipping. It worked. It also interrupted the littoral drift that carries sand eastwards along this coast, and the beaches downdrift of the structure began to disappear. Victoria Island lost, over the

following century, something approaching two kilometres of shoreline. The sea that arrived at the foot of those buildings was not a natural disaster. It was the second-order consequence of a successful engineering decision taken by people who could not have been expected to model its effects.

Three answers

³ There are, broadly, three things a coastal city can do, and Lagos has at various points attempted all three.

⁴ The first is hard defence: build a structure the sea cannot pass. Lagos has one, an eight-kilometre revetment of concrete blocks fronting a reclaimed peninsula, designed against a severe storm event and widely described as having halted erosion along the frontage it protects. On its own terms it has performed. The difficulty with hard defence is never the frontage it protects; it is everything else. A wall that stops waves also stops sand, and the coast beyond the wall is now downdrift of a new obstruction, which is precisely the position the harbour mole created in 1908. Communities east of the development report accelerating erosion. Whether and how much of that is attributable to the structure is genuinely contested and depends on sediment modelling that reasonable specialists read differently. What is not contested is the general principle: defending one stretch of coast transfers energy to the next.

⁵ The second is accommodation — building so that flooding, when it comes, does less damage. Raised floors, stilts, permeable surfaces, drainage that is maintained rather than merely built, floating or amphibious structures, and above all the preservation of the wetlands and lagoon margins that absorb surge. This is cheaper than hard defence and far less visible, which is both its practical advantage and its political disadvantage. No politician has ever been photographed cutting a ribbon on a drain that was cleared.

⁶ The third is managed retreat: moving people and assets away from the line. In Lagos this has largely occurred in its unmanaged form. Waterfront settlements housing tens of thousands have been cleared, with residents dispersed and compensation disputed, in operations justified variously on grounds of flooding, sanitation and development. The vocabulary of adaptation has, more than once, been available to describe an eviction.

Why the choice is not technical

⁷ It is tempting to treat this as an engineering question with a correct answer awaiting better data. It is not. Each option distributes costs differently, and across different people, and over different timescales, and those distributions are the substance of the decision rather than a complication of it.

⁸ Hard defence protects high-value land and concentrates its costs on coastal communities downdrift who did not finance it and were not consulted about it. It also tends to be funded privately, which means the protected frontage follows land value rather than population. Accommodation spreads modest costs widely and requires maintenance budgets to survive political cycles, which they reliably do not. Managed retreat imposes the entire cost on the people relocated, in the form of lost proximity to work, severed networks and whatever compensation is actually paid, in exchange for a benefit that accrues to a city that will mostly never know their names.

⁹ There is also path dependency to reckon with. Every kilometre of revetment makes the next kilometre more necessary, because the erosion it transfers must itself be defended; and every reclaimed hectare sold makes retreat politically unavailable, because the land now has owners with contracts. A city can arrive, through a series of individually defensible decisions, at a position where only the most expensive option remains open to it. That is the 1908 lesson, and the uncomfortable possibility is that it is being learned a second time rather than applied.

What a serious answer would involve

¹⁰ None of this amounts to an argument against defending Lagos. Twenty million people cannot be retreated, and a city generating a large share of national output is not a candidate for abandonment. The question is not whether to defend but how to decide, and on that there are three requirements that are more demanding than they sound.

¹¹ Coastal defence should be assessed at the scale of the sediment cell, not the parcel. Sand does not respect property boundaries, and a structure evaluated only against the frontage it protects is being evaluated against the wrong question. Second, the parties bearing the downdrift cost should have standing in the decision and a claim on compensation — not as a courtesy but because a cost nobody is obliged to count will be systematically underestimated. Third, retreat should be planned while it is still cheap, which means while the land is still low-value, which means long before anybody wants to discuss it.

¹² The last requirement is the one that is never met anywhere, by any government, in any country. That is not a Lagos failing. It is a general feature of political time, which runs in electoral cycles, set against coastal time, which runs in centuries. The Atlantic has no interest in the difference. It has been taking this coastline apart and putting it back together since long before there was a harbour to keep open, and it will go on doing so whichever of the three answers the city chooses, and whichever it declines to pay for.

Part A Reading closely

Circle the letter next to the best answer.

1. What does the passage identify as the cause of the shoreline loss on Victoria Island over the twentieth century?
 - A A rise in Atlantic sea level unique to the Gulf of Guinea
 - B The clearance of waterfront settlements
 - C A 1908 harbour mole that interrupted the eastward littoral drift
 - D The construction of the eight-kilometre revetment
2. Why does the writer call accommodation's low visibility both an advantage and a disadvantage?
 - A It is cheap to deliver but generates no political reward
 - B It is popular with residents but opposed by engineers
 - C It works in the short term but fails in severe storms
 - D It requires no maintenance but cannot be inspected
3. In paragraph 9, *path dependency* is used to explain why
 - A sediment modelling produces different results for different specialists
 - B a series of reasonable decisions can leave a city with only the costliest option
 - C retreat is always cheaper than defence in the long run
 - D private funding is more efficient than public funding for sea walls
4. Which of these does the writer explicitly decline to argue?
 - A That hard defence transfers erosion to neighbouring coasts
 - B That downdrift communities should have a claim on compensation
 - C That retreat should be planned before land values rise
 - D That Lagos should be abandoned rather than defended

Part B Analysis

Answer in two or three sentences each. Refer to the passage by paragraph number where it helps your answer.

5. The writer says the sea arriving at the foot of the Victoria Island buildings 'was not a natural disaster'. Explain the claim, and why the writer adds that the 1908 engineers could not have been expected to foresee it.
6. Paragraph 4 separates what is 'genuinely contested' from what is 'not contested'. Explain why making that separation strengthens the argument rather than weakening it.
7. Analyse the sentence about the ribbon and the cleared drain. What is it doing in an otherwise analytical passage?

8. Explain the writer's claim that 'the vocabulary of adaptation has, more than once, been available to describe an eviction'.

9. The passage closes on the mismatch between electoral time and coastal time. Explain how this final move reframes the three requirements that precede it.

Part C Think deeper

There is no single right answer here. Take a position and support it with reasoning and, where relevant, evidence from the passage.

10. The writer argues that defence should be assessed at the scale of the sediment cell rather than the parcel. What would have to change institutionally for that to be possible, and who would resist it?

11. Is privately funded coastal defence legitimate when it transfers costs to people who cannot pay for their own? Argue a position and answer the strongest objection to it.

12. The passage says twenty million people cannot be retreated. Test that claim: under what conditions, if any, would partial retreat become the responsible option?

13. 'Plan retreat while it is still cheap' asks a government to act against the interests of its current voters for the benefit of people not yet affected. Propose one mechanism that could make this politically survivable.

14. Compare this passage with a coastal or flood-risk problem you know — in your own country or elsewhere. Which of the three answers has been chosen there, and does this passage's analysis hold?

Answer key

For parents and teachers

Part A

1. **C** — the 1908 harbour mole interrupting littoral drift (para 2) | 2. **A** — cheap but politically unrewarding (para 5)
3. **B** — reasonable decisions narrowing later options (para 9) | 4. **D** — the writer explicitly rejects abandonment (para 10)

Part B

6. The erosion followed from a human decision — a structure that interrupted the sand supply — rather than from the sea behaving unusually, so describing it as natural misassigns responsibility. The concession about foresight separates causation from blame, which keeps the argument from becoming an accusation and makes the later warning about repetition harder to dismiss.
7. Conceding the contested attribution removes a point on which the writer could be refuted, and isolates a general principle that holds whatever the modelling shows. The argument is made to rest on the stronger ground. Credit answers that recognise strategic concession rather than treating it as hedging.
8. It supplies a concrete, slightly sardonic image for an abstract incentive problem, and it does the work in one line that a paragraph of explanation would do less memorably. It also shifts register briefly, which marks the point as one the writer particularly wants retained. Accept any answer addressing both the compression and the tonal shift.
9. Language developed to describe planned, protective relocation can be applied to clearances that are neither planned with nor protective of the people moved, which lends them legitimacy they have not earned. The understated phrasing — *has been available* — implies the borrowing was convenient rather than accidental. Strong answers notice the restraint.
10. It explains why the requirements are so rarely met without withdrawing them, converting an apparent failure of will into a structural mismatch between the timescales of politics and of coasts. The reader is left with the problem rather than a reassurance. Credit answers that see the final move as diagnosis rather than resignation.

Part C

These answers vary. Mark the reasoning, not the position taken.

11. Strong answers name an institution — a coastal authority with jurisdiction over the whole cell, mandatory downdrift impact assessment, a compensation levy — and identify the specific interests that would resist it: landowners, developers, individual municipalities protecting their own revenue.
12. Either position can be argued. The requirement is engagement with the transfer of cost to parties with no standing in the decision, and a direct answer to the best objection rather than a restatement of the original claim.
13. Look for conditions specified in advance — defence cost per protected resident, frequency of inundation, loss of insurability — rather than a view asserted. The skill here is converting a judgement into criteria.
14. Credit concrete mechanisms: buy-outs at current value, long-horizon leases with scheduled expiry, cross-party commissions insulated from electoral cycles, compensation funded before relocation is needed. A mechanism offered without an account of why it survives a change of government is incomplete.
15. Any well-chosen comparison counts — the Netherlands, Jakarta, Kota Kinabalu, Bangladesh, Louisiana, the Thames estuary. The assessment is of whether the student applies the passage's framework and reports honestly where it does not fit.

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