

BBC NEWS - Rising sea levels: A tale of two cities

By Michael Hirst in Rotterdam and Kate McGeown in Maputo

When people talk about the impact of rising sea levels, they often think of small island states that risk being submerged if global warming continues unchecked. But it's not only those on low-lying **5** islands who are in danger. Millions of people live by the sea - and are dependent on it for their livelihoods - and many of the world's largest cities are on the coast. By 2050 the number of people living in delta cities is set to increase by as much as 70%, experts suggest, vastly increasing the number of those at risk. To shed light the impact of rising sea levels, we are taking a close look at two very different cities and their varying responses to the problem.

10 Much of Rotterdam - Europe's busiest port city - lies several metres below sea level, and this vulnerable position has led it to develop some of the best flood protection in the world.

As the capital of Mozambique - one of the world's poorest countries, and one that is already feeling the effects of climate change - Maputo is struggling to provide cost-effective measures to mitigate the effects of the rising waters. Authorities in both cities know urgent action is needed to protect **15** their populations, and both are trying to rise to the challenge.

Weaker Gulf Stream

rise in temperatures around the world due to carbon emissions since the industrial revolution means many icecaps and glaciers are steadily melting. Rising temperatures have also caused ocean waters to expand - the main cause of sea level rise in the 20th Century. The 2007 IPCC projected a likely **20** sea level rise of 28-43cm this century, but it acknowledged that this was probably an underestimate, as not enough was known about how ice behaves.

"The fact that sea levels are rising is a major reason for concern and it's a combination of the global average rise together with the natural variability leading to larger regional rises," said Dr John Church, from Australia's government-funded science and research body, the CSIRO. The **25** weakening of the Gulf Stream coupled with the gravitational effects of being closer to the North Pole mean waters in the northern hemisphere are experiencing the biggest rise. Off the Netherlands, for example, sea levels rose by some 20cm in the last 100 years. But the country's national Delta Commission predicts they will increase by up to 1.3m by 2100 and by as much as 4m by 2200. "There is a problem and we have to find an answer," said Rotterdam's Vice-Mayor Lucas **30** Bolsius, "We need to invest. If we don't put money into this issue we'll have a problem surviving"

Cyclones

The Dutch drew this conclusion from a massive storm surge in 1953, which caused widespread flooding and killed nearly 2,000 people. They set about defending populated areas with a massive **35** network of dykes and dams, and experts now estimate the country is protected from all but a one-in-10,000-year event.

The story is very different in Mozambique. Already buffeted by regular floods and cyclones, the problem of rising sea levels is one the authorities in Maputo could do without. But Mozambique has been identified as one of the countries likely to be affected most by climate change, and the issue **40** will not go away. While scientists cannot give an exact figure of how much the sea has already risen in Mozambique, the effects are already obvious.

"I went to the beach a lot as a child, and I've noticed things are changing," said 34-year-old Jose, who lives in Maputo. "The water is eating the land - little by little it's eating the land."

Mozambique has compiled an action plan, and has been offered help from the World Bank, UN **45** agencies and a plethora of other aid agencies. But so far little has been done, and much of what the country would like to do is beyond its budget. "I think people are still at the stage of 'Oh my God - what are we going to do?'" as environmentalist Antonia Reina puts it. Mozambique will be going to the Copenhagen summit as part of a united African delegation, to ask for help from richer countries - like the Netherlands.

50 Africa argues that climate change - including rising sea levels - is a global problem, and demands a global response. While most would agree with that sentiment, the reality is that every country has its own battles to face .

READ THE TEXT FIRST

No aids allowed. No corrections.

1. **VOCABULARY.** Circle the most appropriate alternative (a-b-c) for the meanings of the following words in the context of the article

Line 1 rising	Stopping	opposing	increasing
l.6 livelihoods	maintenance	riding hoods	life
l.15 challenge	defiance	defeat	battle
l.17 due to	two and	likely	because of
<i>l.19 likely</i>	<i>probable</i>	<i>pleasant</i>	<i>believable</i>
<i>l.24 funded</i>	<i>supported</i>	<i>financed</i>	<i>discovered</i>
<i>l.30 issue</i>	<i>subject</i>	<i>number</i>	<i>fact</i>
<i>l.32 surge</i>	<i>sudden increase</i>	<i>revolt</i>	<i>tide</i>
<i>l.35 dykes</i>	<i>reservoir</i>	<i>walls</i>	<i>dams</i>
<i>l.37 buffeted</i>	<i>hit</i>	<i>fed</i>	<i>served</i>
<i>l.40 figure</i>	<i>number</i>	<i>shape</i>	<i>drawing</i>
l.47 environmentalist	atmosphere	ecologist	surrounding

6 POINTS.....

1. **REFERENCE WORDS.** Whom or what do the following words refer to in the text?

1. They (line 1).....
2. It (line 5).....
3. Those (line 8).....
4. It (line 11).....
5. One (line 12).....
6. Their (line15).....
7. This (line 20).....
8. They (line 34).....

4POINTS

C.) **TRUE / FALSE - 2 points:**

1. Rotterdam has developed excellent flood protection measures that no longer require authorities to take urgent action . T/F
2. The population of Mozambique lives in a situation of threat and instability. T/F

D.) **Write suitable questions for the following: - 4 points:**

!. _____ ?

Mozambique is vulnerable to catastrophes and the hazards resulting from climate change aggravate the situation of absolute poverty in the country.

2. _____ ?

Some adverse effects of climate change include floods, drought and tropical cyclones.

E.) Comment on ONE only. Write 4 - 6 complete sentences. - 4 points

- Which priority actions should governments take to reduce the number of victims and the loss of properties due to natural disasters and climate change?

Venice shares many issues with other cities threatened by coastal flooding including Rotterdam, London and St.Petersburg. In your opinion, can Venice save 'itself' and its prestigious cultural heritage against the signs of climate change and the pressures brought about by industry, port activity and tourism

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4, CLOZE . 10 POINTS. Complete this article from the Times of January 7th 2010 by selecting the most appropriate words (lettered a-t) to fill in the blank spaces (numbered 1-20)

(a) emergence (b) gaps (c) those (d) advances (e) hopefully (f) value

(g) continue (h) towards (i) puzzle (j) commitment

(k) record (l) key (m) prioritise (n) coming (o) populate (p) found

(q) worldwide (r) dust (s) into (t) that

SCIENCE NEWS: THE CHALLENGE

1).....questions for the (2) decade include determining the nature of

dark matter (3)..... permeates the Universe. Others want to know how tenuous gas

and (4) is converted into dense stars and planets and how many earthlike and

habitable planets (5) the Galaxy. Answers to all these questions could be (6)

by 2020 but the astronomy community must decide which to (7)

Drug Development

The industry will bifurcate (8).....firms that pursue a long term (9)..... to creating novel drugs and (10)..... that focus on marketing. But the development of effective treatments is the only sustainable source of (11)..... for the pharmaceutical industry. Globalisation of drug innovation will (12)..... No one should be surprised to see the (13)..... of a major Chinese multinational drug company with strong innovation abilities.

Human Origins

One of the big challenges is to begin to fill in the large (14)..... in our knowledge about human evolution in Asia. (15)..... by 2020, we will have many more pieces of the big (16) of human evolution: how and why did hominids evolve and disperse (17)..... over six million years? (18) can be expected from genetics, isotope analyses and palaeo climate research. But we cannot answer the key questions about evolution without working (19)..... a more geographically complete fossil (20).....

KEYS

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ANSWER KEY FOR REFERENCE WORDS

1. people 2. the sea 3. people 4. Rotterdam 5. Mozambique 6. Populations of Rotterdam & Maputo 7. Sea level rise 8. The Dutch

True/False

1. F
2. T

CLOZE ANSWERS: CORRECT WORDS IN CORRECT WORDS

(1) Key (2) coming (3) that (4) dust (5) populate (6) found
(7) prioritise (8) into (9) commitment (10) those
(11) value (12) continue (13) emergence (14) gaps (15) hopefully (16) puzzle
(17) worldwide (18) advances (19) towards (20) record