

**Responding appropriately to  
climate change may  
cost a lot...**

**failing to do so may  
cost the earth**

**John Seager, SAHA**

**HSRC Conference, Johannesburg,**

**16 Sept. 2009**



# Outline

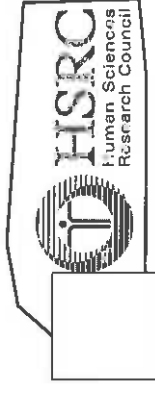
- A brief review of current understanding of climate change.
- What are the likely consequences in Africa?
- Do South Africans know anything about it?
- A look at some possible scenarios.
- A look at current international policy developments.
- Conclusion.

# The economics of climate change

The Stern Review (2006) presented the first economic analysis of climate change.

- Before this we only had a rather unreliable 'weather forecast'
- Economic arguments convinced people to start taking climate change seriously
- The key message was: spend a moderate amount now to avoid spending a lot more later

Stern, N, 2007. *The economics of climate change*. Cambridge: Cambridge University Press.

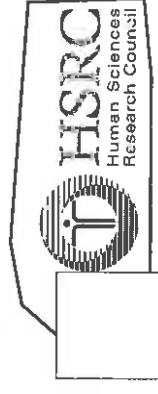


## Three years on

"When it [the Stern review,] came out, people thought I'd over-egged the omelette. But all the things people were looking at turned out to be worse than they thought. Doing nothing looks even more reckless than it did even a few years ago."

Lord Nicholas Stern.

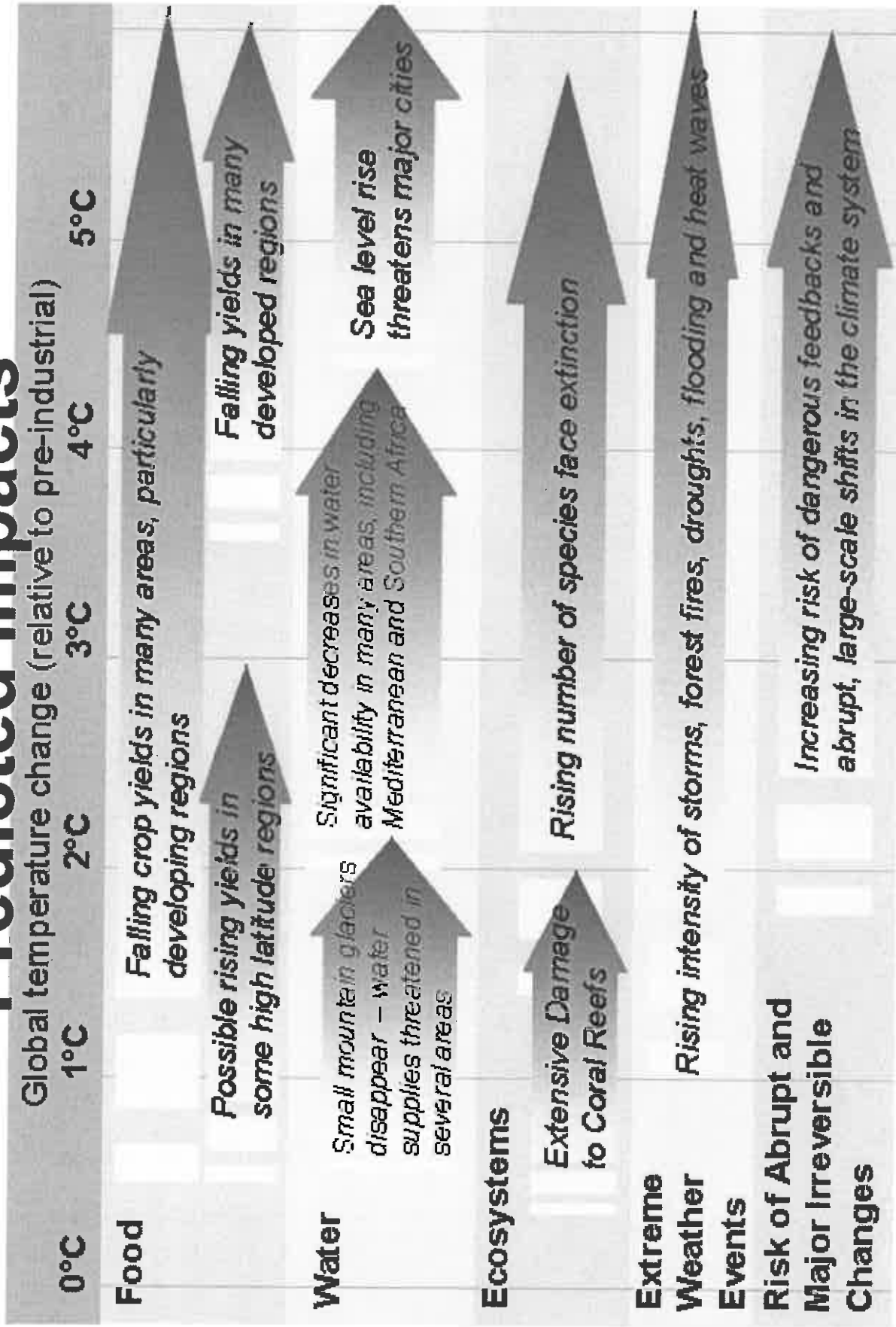
The Guardian, 30 March 2009



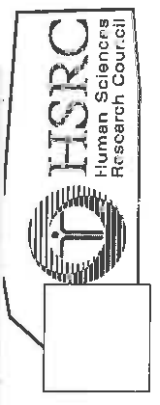
# Point of departure

- There is irrefutable evidence that climate change is of largely human origin
- The need for action is urgent
  - **Mitigation** of the causes of global warming is needed, e.g. control of greenhouse gas emissions.
  - **But we also have to adapt**, i.e. change the way we live, because stabilisation of the climate will take a (very) long time.

# Predicted impacts



Source: Stern Review, 2006



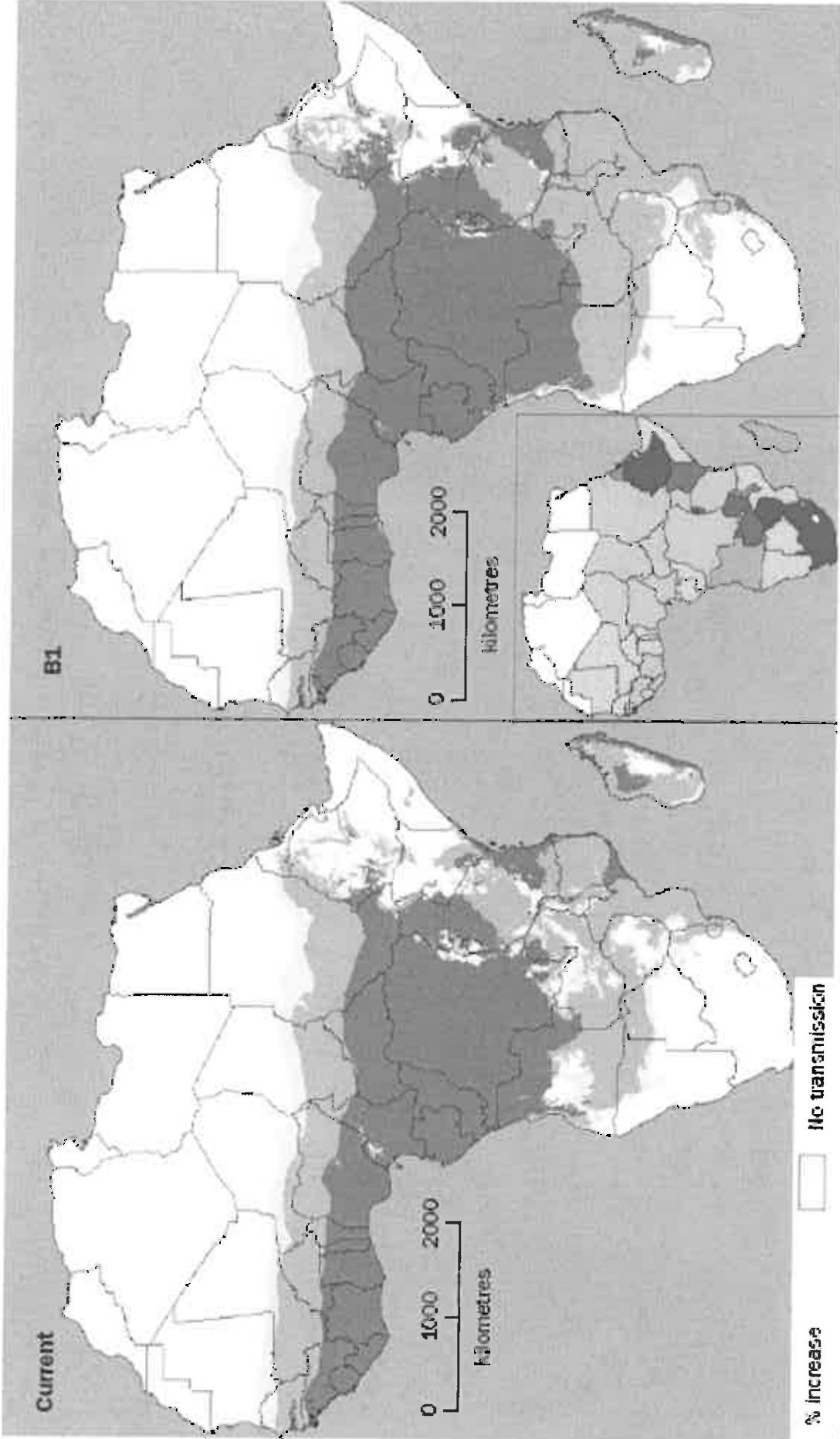
WHO estimated mortality (per million people) attributable to climate change by the year 2000



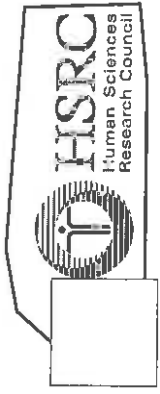
Source: Patz et al. (2005)

Cf. TB mortality SA 2005 = 1580 per million

# Projected malaria transmission: current and 2100



Tanser et al. 2003

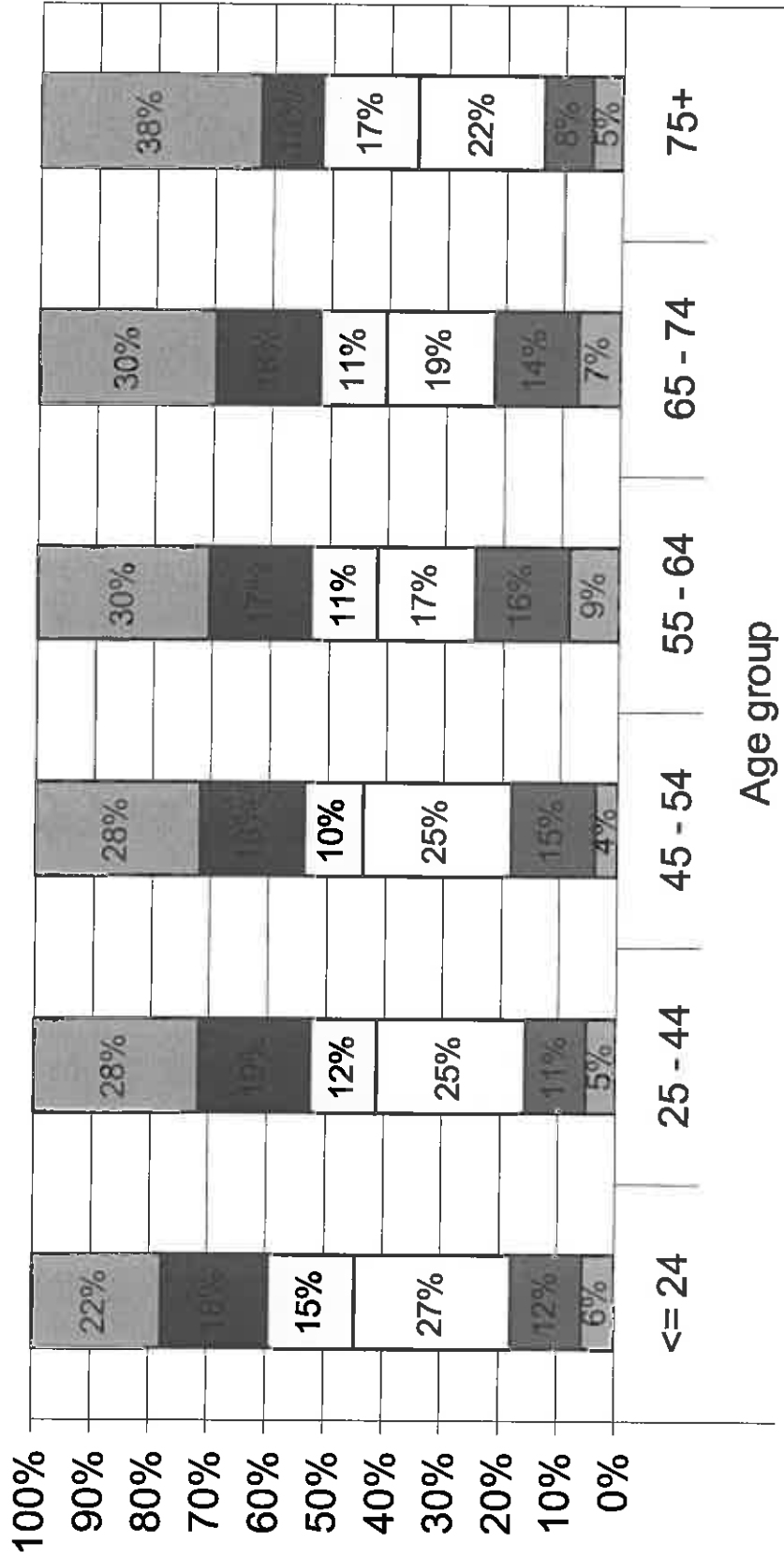
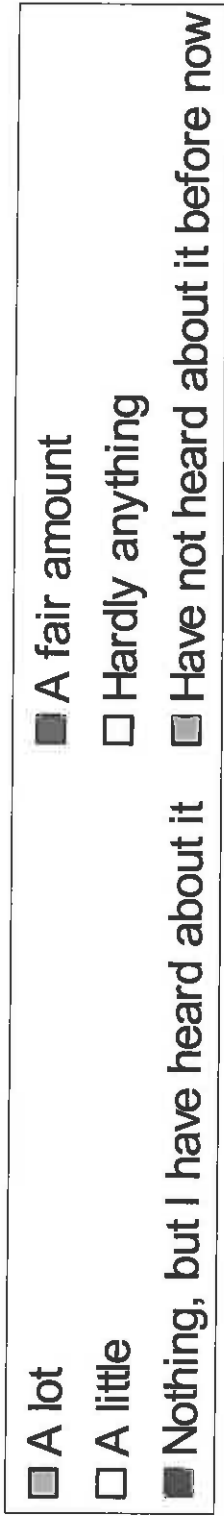




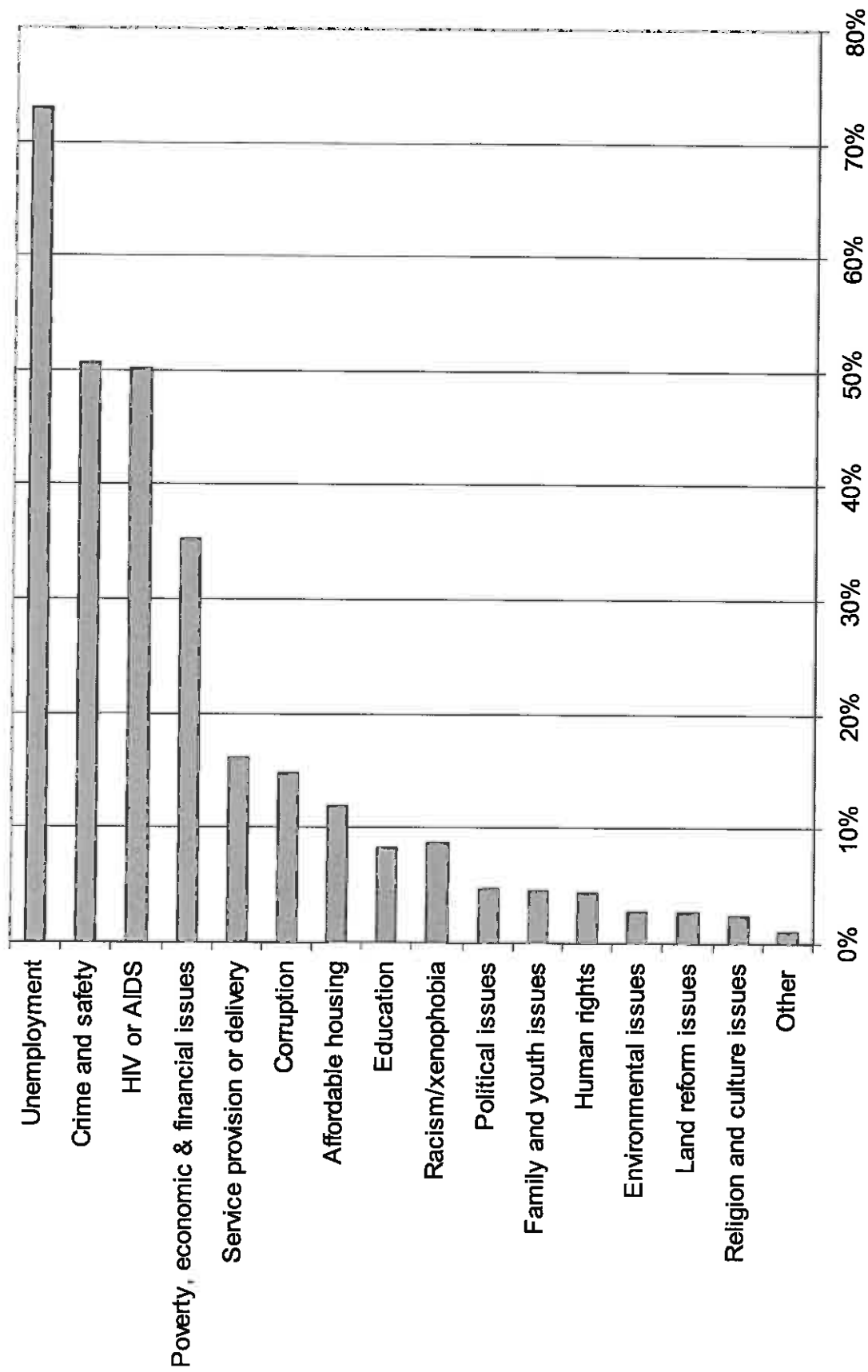
# What are South Africans' attitudes to climate change?

- SASAS 2007, included a module on climate change.
- N=3164
- 16+ years, representative sample
- Awareness and concern; views on causes and impacts; responsibility for action (i.e. government, NGO, industry, individual); and support for interventions.

# How much, if anything, would you say you know about climate change or global warming? (SASAS, 2007)

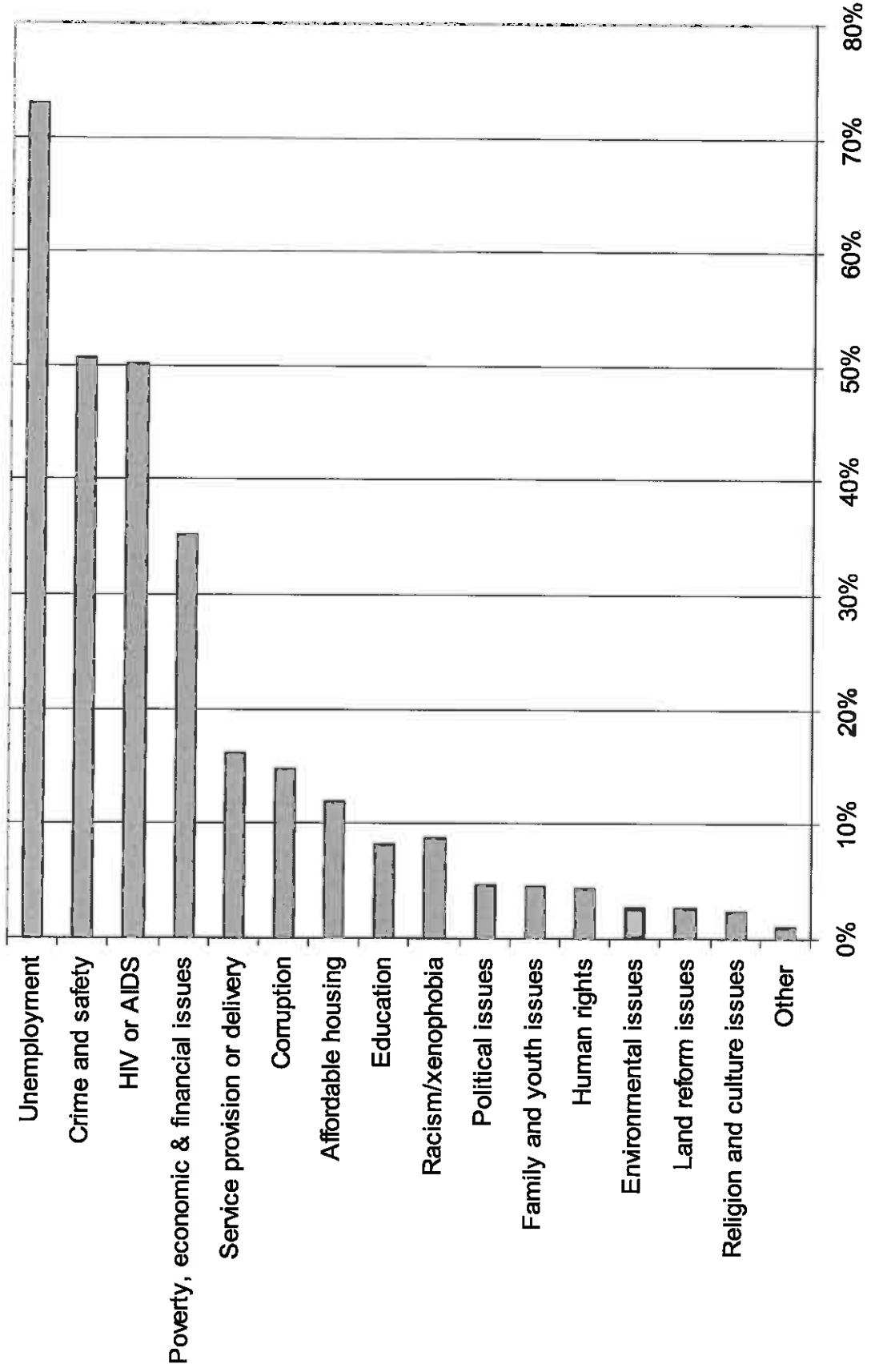


# What are the three most important challenges facing South Africa today? (SASAS, 2007)

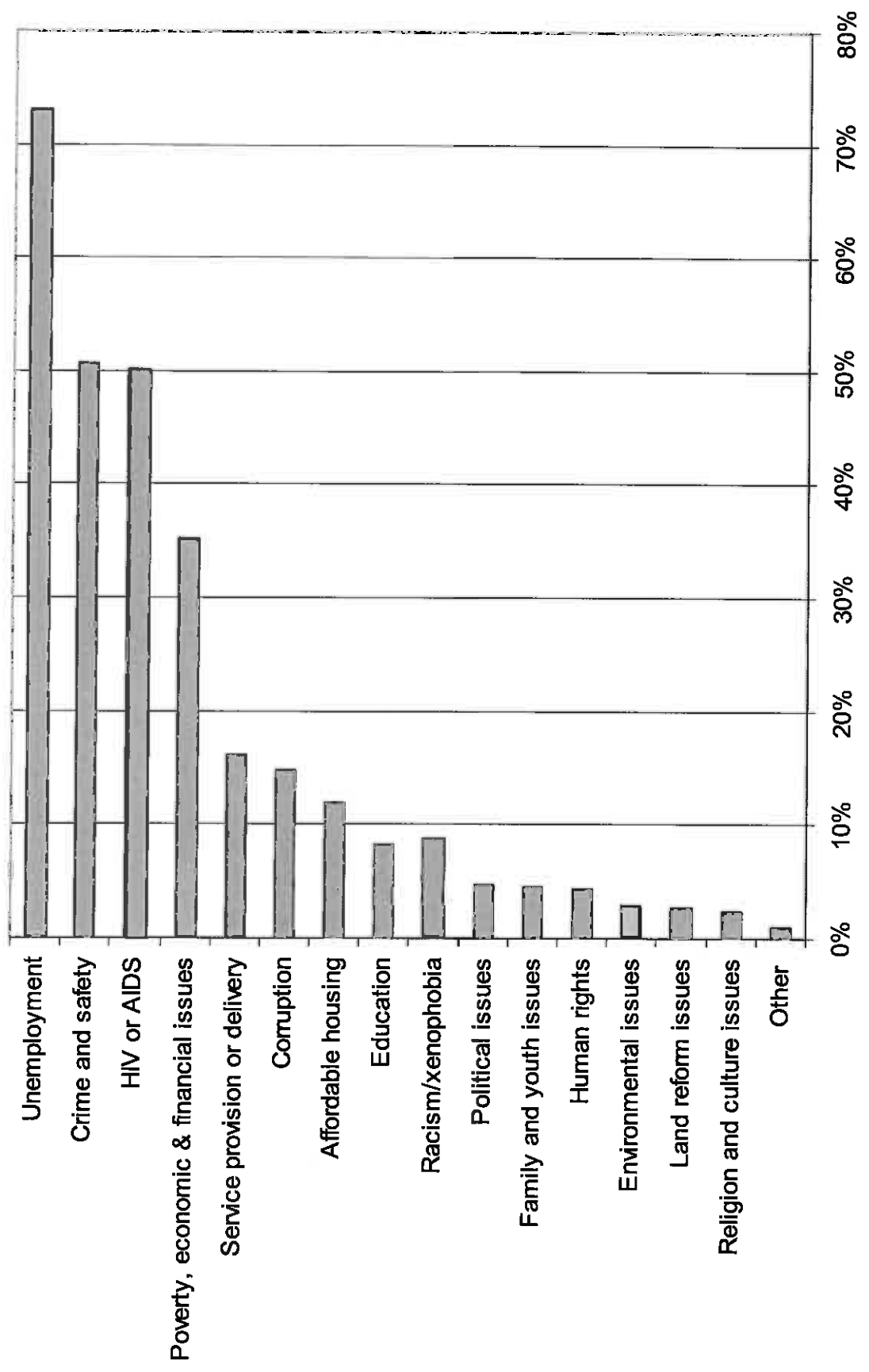


# *What are the three most important challenges facing South Africa today?*

*(SASAS, 2007)*

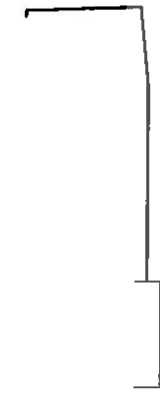
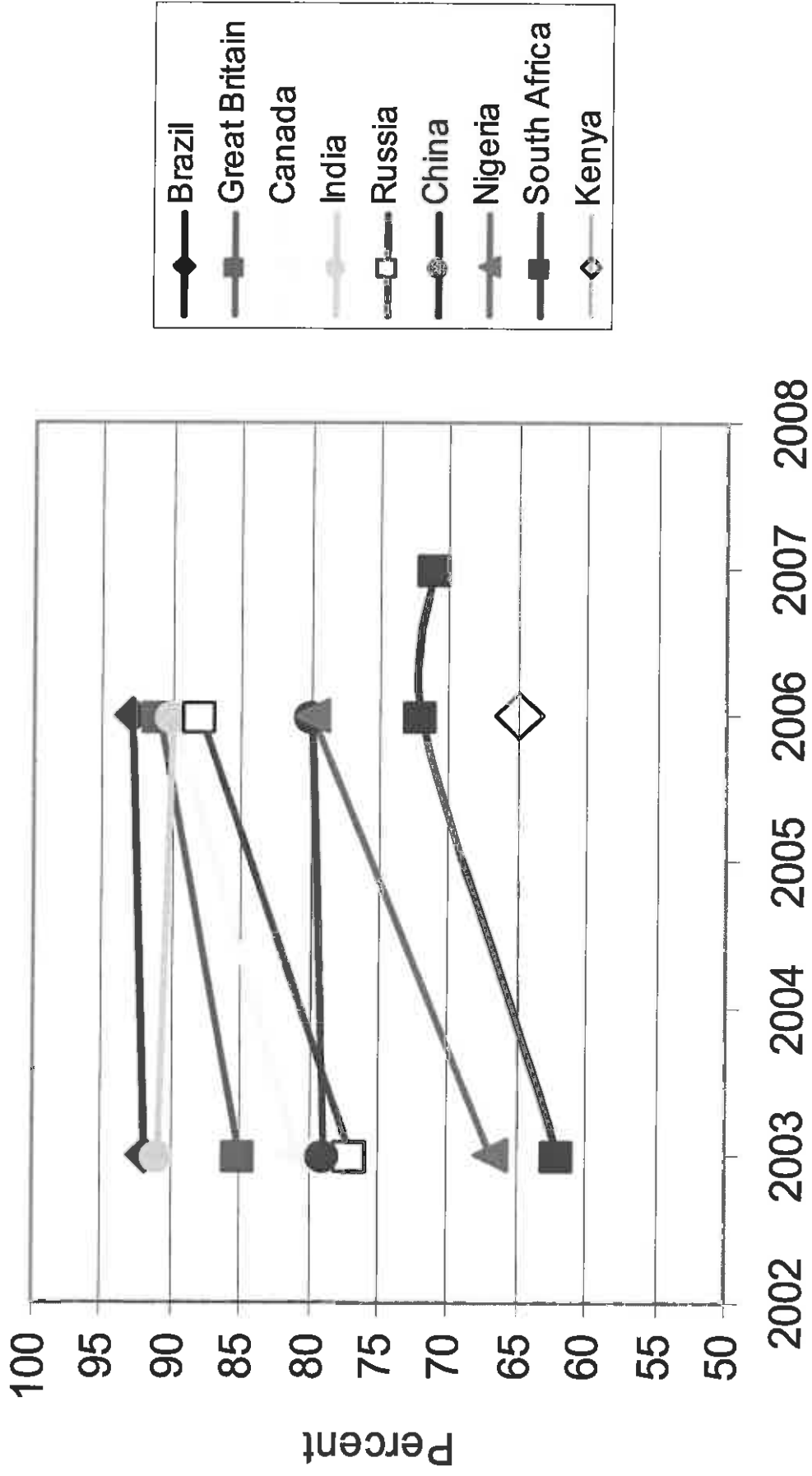


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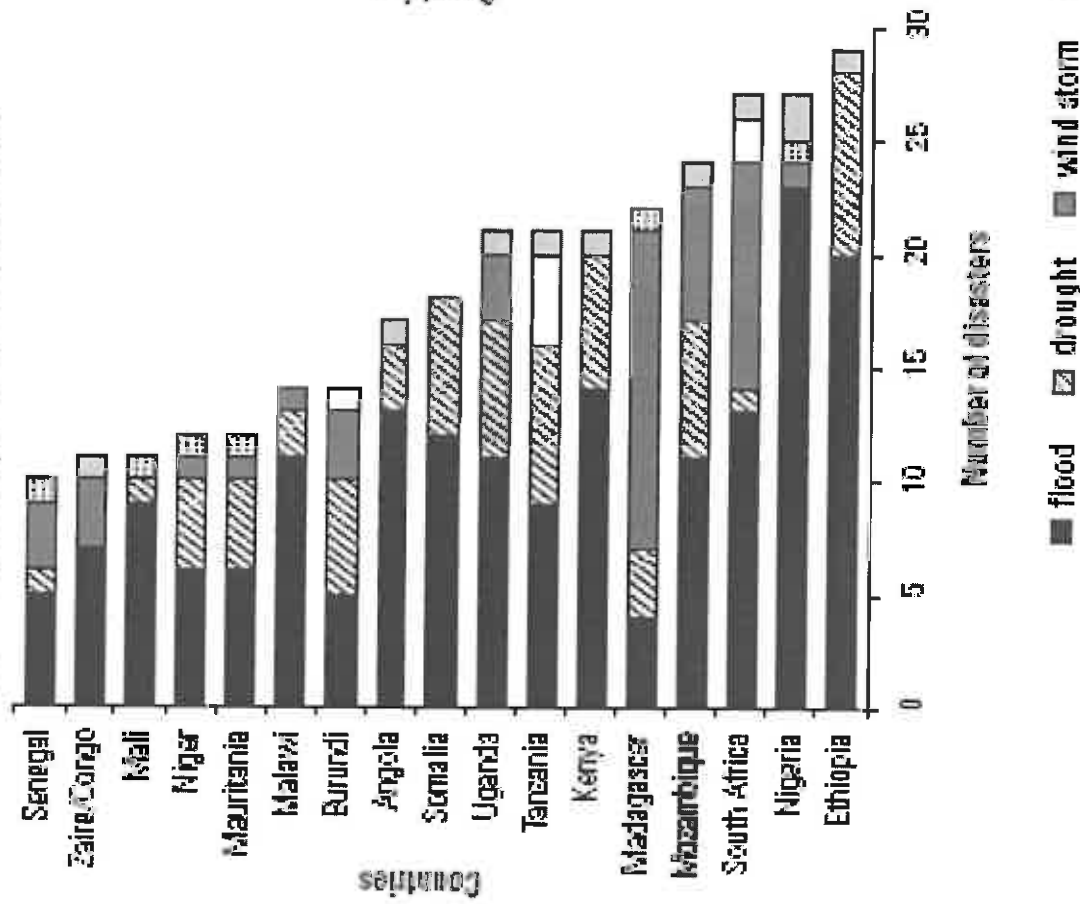
# Climate change is a "Very serious" or "Somewhat serious" problem

Source: 2003, 2006, GlobeScan Poll; 2007, SASAS

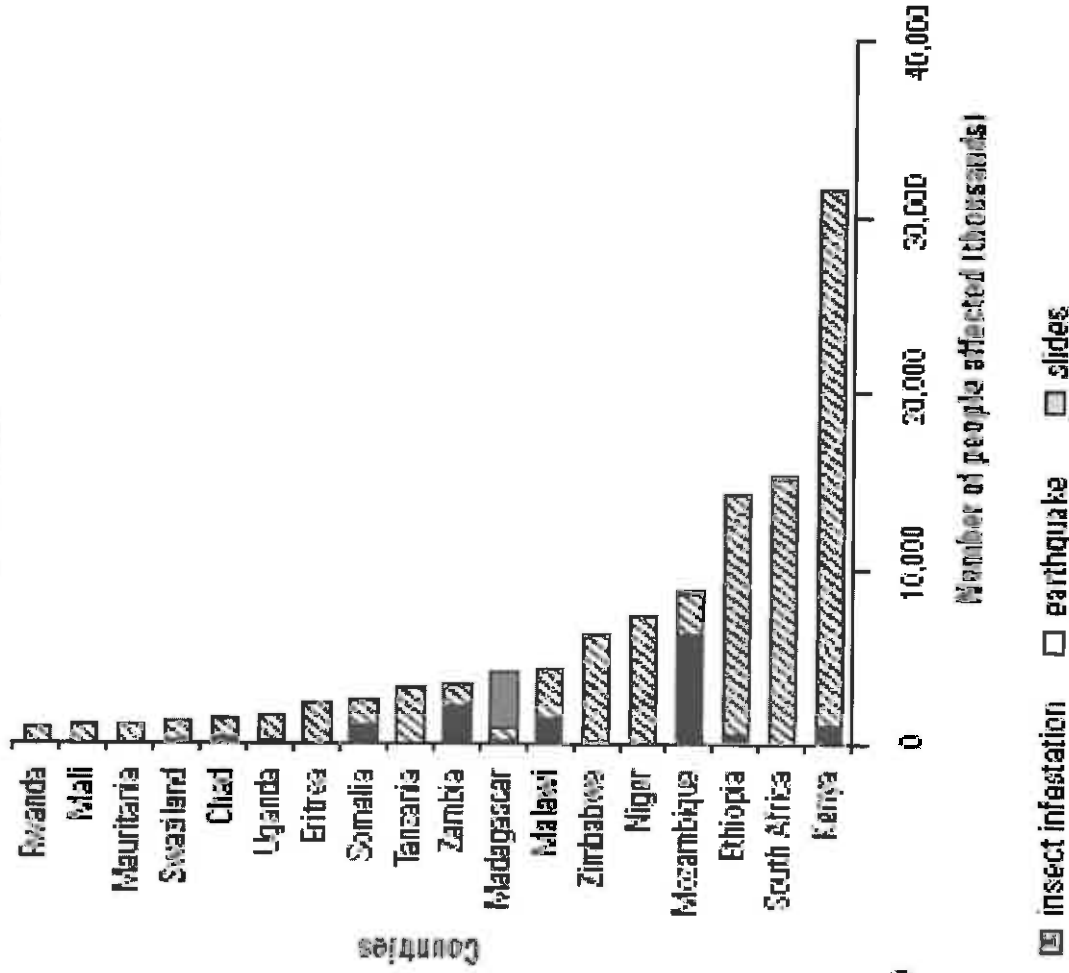


# Impact of severe weather events

A. Number and types of disasters (1990-2006)



B. Number of people affected (1990-2006)



Source: Center for Research on the Epidemiology of Disasters (cited in Chhibber & Laajaj, 2007)

# What sort of scenarios could we be facing?

1. **Mass migration** may occur, and already overcrowded cities undergo unprecedented growth
  - massive challenge for housing, water, sanitation, energy
  - increased AIDS, diarrhoea and cholera on a scale that could disrupt the economy.

## Or **people stay put** and *new systems are developed*

- agriculture adapts
- livelihood diversification is facilitated

## Or **people stay put** and *we ignore the looming disaster*

- food insecurity becomes critical
- massive food aid is required
- conflict arises over scarce resources (arable land, water, food)



# What sort of scenarios could we be facing?

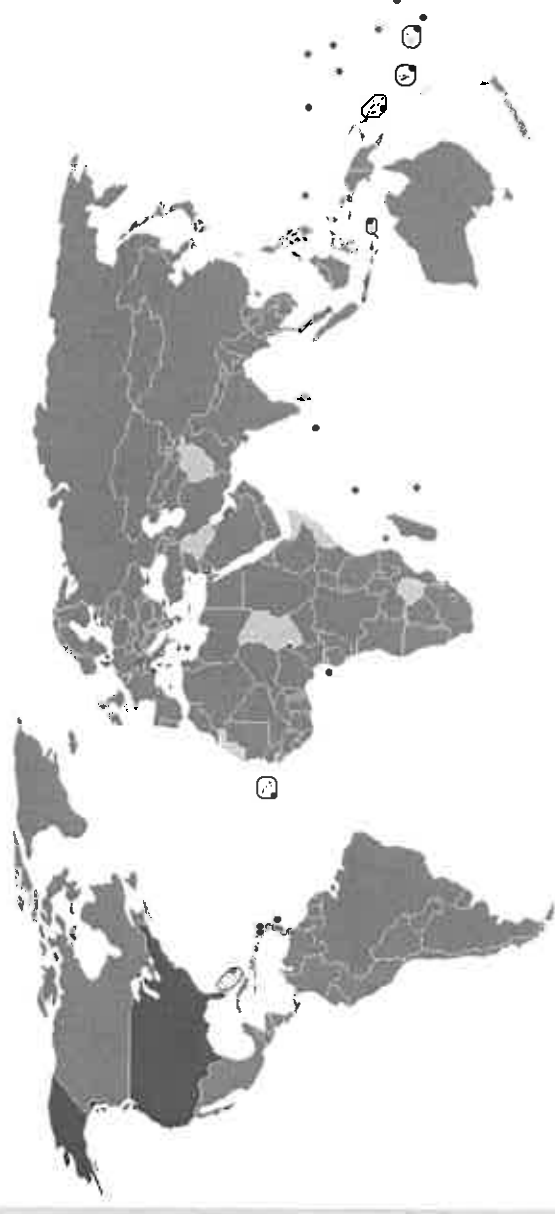
2. If we ignore threats to biodiversity
  - biodiversity may reach a tipping point in the relatively near-future
  - the 36% of tourists who come to SA for the wildlife go elsewhere
  - severe impacts on tourism revenue (currently 5-11% of GDP)

Or conservation is regarded as a national priority

- we preserve more of our wildlife and thereby the tourism industry
- we develop new tourism attractions around changing biomes

# Where to from here? (1)

- Seeking a sequel to the Kyoto protocol (1997)
- The UN Framework Convention on Climate Change, Bali 2007
- UNFCCC Copenhagen, December 2009.
- The new deal must be more ambitious than the Kyoto protocol.



## Where to from here? (2)

- Stern (2009) argues that we must get it right this time, because success will herald an unprecedented era of global cooperation.
- He argues that failure to reach agreement will undermine investor confidence - the real driving force for development.
- International cooperation is necessary not only for development but for dealing with the obstacles to development, such as water availability, agricultural production, malaria and AIDS.

## Where to from here? (3)

- We are in a recession and growth is urgently needed.
- Should we delay the clean air policies?
- Stern argues that the critical lesson from the recent 'economic melt down' is that we need to **recognise the early warning signs and act in time** - we seem to have acted in time to avoid a total economic 'crash', we need to act in time to address climate change.

## **Where to from here? (4)**

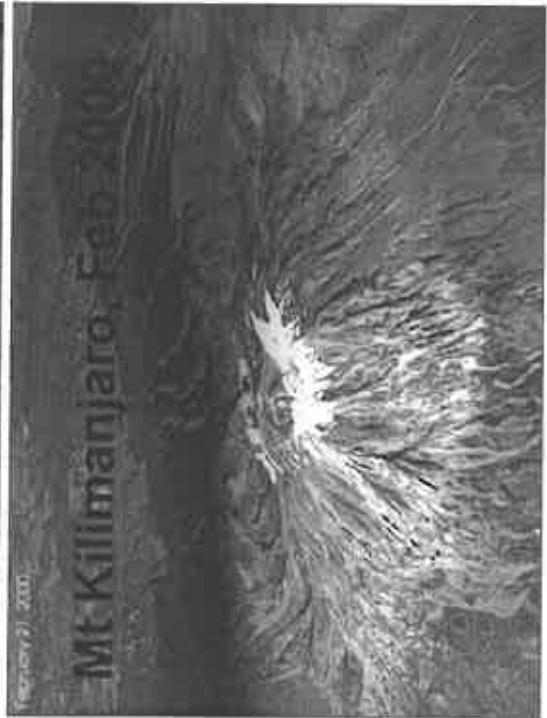
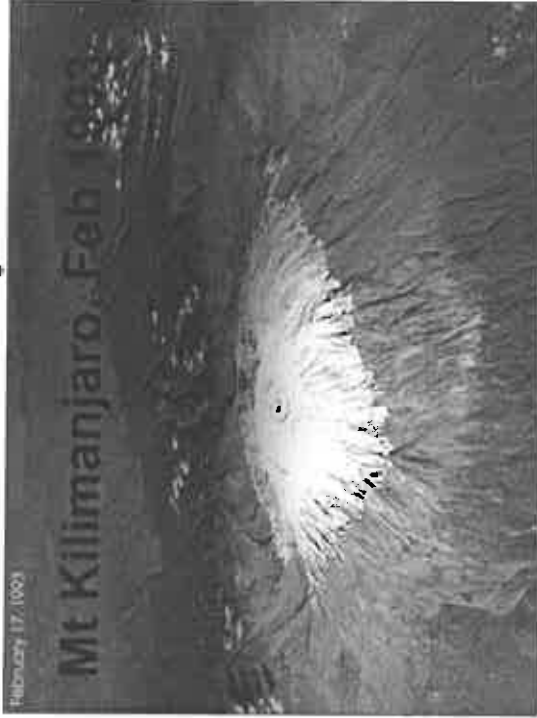
- The common 'doomsday' predictions, so popular in the media, are unhelpful and lead to perceived helplessness and inaction.
- We can manage the future, if we take appropriate action without further delay.
- We need to gather evidence with which to inform ourselves about possible courses of action - from local to international levels.

## Conclusion

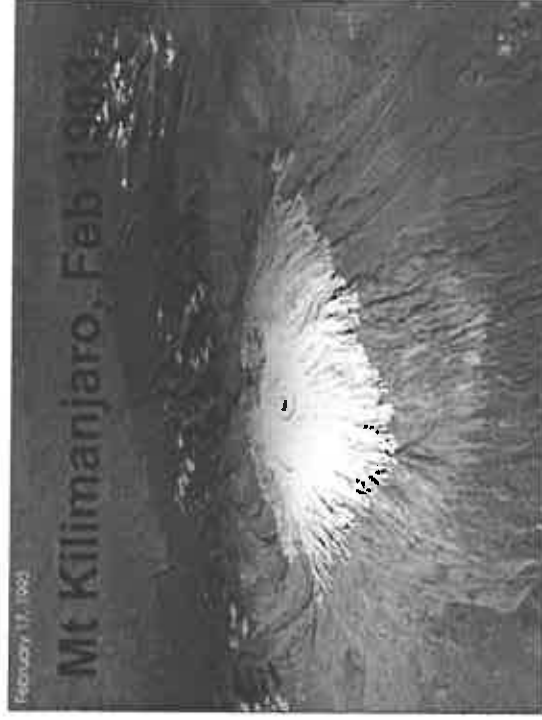
Act now and it may cost a lot...

act too late and it could cost the earth.

# Thank you!



# Don't believe everything you hear!



Mt Kilimanjaro is losing its ice cap.

This has been used as 'evidence' of *global warming*.

Actually, Kilimanjaro is losing ice because it is getting *drier*, not hotter. It might be due to *climate change* but it isn't due to *warming*.

Kaser et al., 2004

