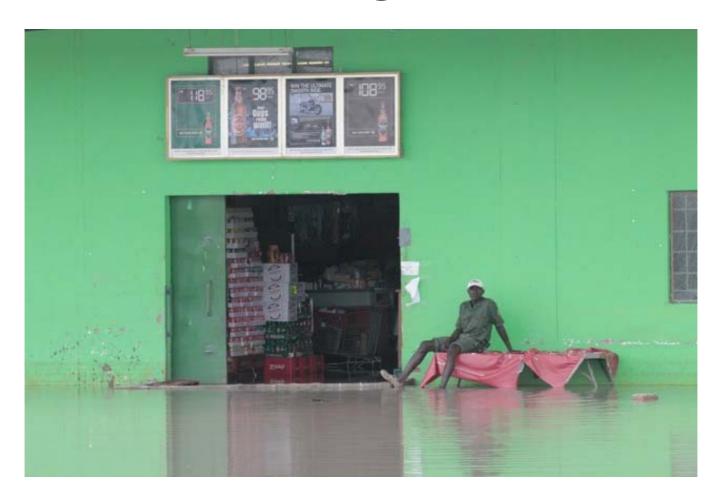
Climate change – is it real?



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Question 1:

Do you know what the cost has been to recover from cyclone Katarina in the US?

- a. US\$ 5.8 billions
- b. US\$ 108 billions
- c. US\$ 900 billions

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What does the science say?

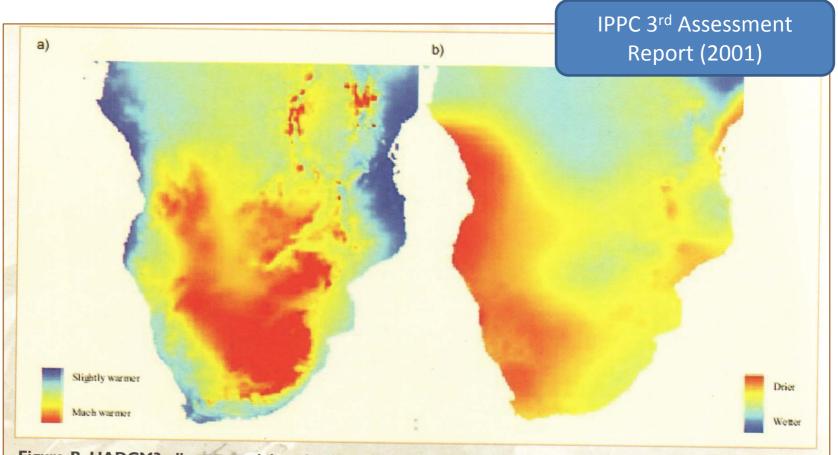
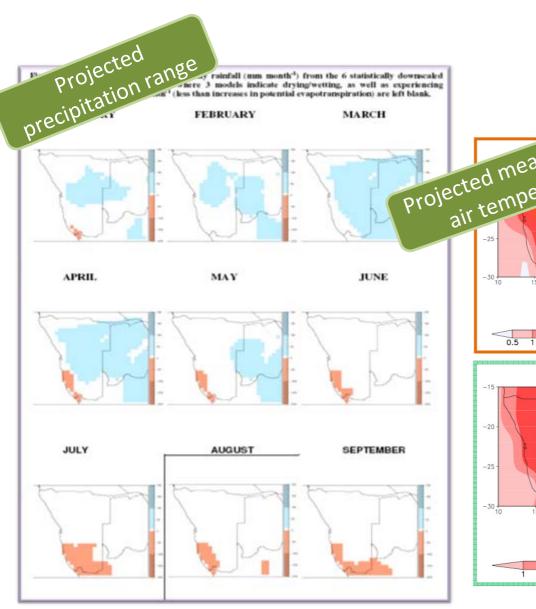
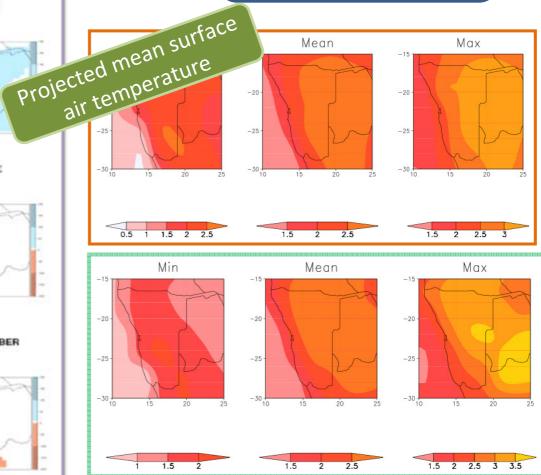


Figure B. HADCM3 climate model projections of changes in temperature (a) and precipitation (b) for 2050 relative to mean conditions over the 1961 to 1990 period, under the IPCC SRES A2 (high emissions) scenario. Source: Scholes & Biggs (2004), data interpolated by G. Hughes, National Botanical Institute, South Africa.



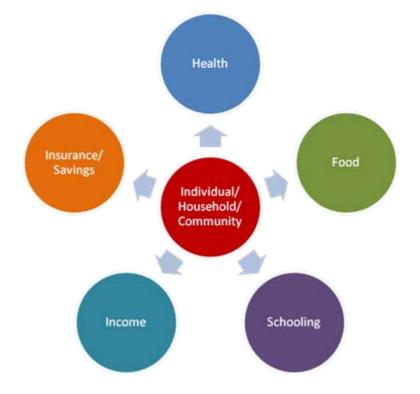
Namibia's Vulnerability & Adaptation Assessment (2008)

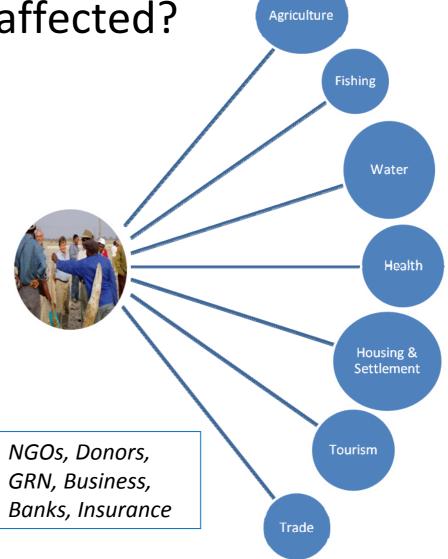


Climate Change Vulnerability in Africa Egypt/Cairo/The Nile: Coastal areas threatened by sea-level rise; Nile North Atlantic Oscillation a key factor in river basin sensitive to climate, with international climate vulnerability, with regional implications impact on fisheries industries Hom of Africa heavily affectted by North Africa recurrent droughts Important commercial Rainfall variability modulated agriculture adapted to West Africa by vegetation dynamics, surface bimodal rainfall; shifts properties in the Sahel; empirical in rainfall patterns evidence of species changes would have farreaching impacts Central Africa High proportion of population concentrated in coastal East African Great Lakes and areas in West African cities such as Lagos and Banjul, reservoirs respond to climate thus especially vulnerable to sea-level rise variability with pronounced changes in storage Regional climate modeling experiments show deforestation in Central Africa will impact climate in distant south (teleconnections) Southern Africa Coastal marine fishery likely to be negatively affected by changes in Bangwuela current Western Indian Ocean Islands Long-lasting impacts of drought on national economies for SADC region Floods in 1999 severely affected coastal population and infrastructure, with longlasting economic and development impacts; adaptation and recovery very costly and Complete loss or displacement of beyond the means of African countries Succulent Karoo biome projected The vulnerabilities under climate change, and many species losses in other biomes Desertification Deforestation Sea level rise Loss of forest quality Intensity of extreme events increased significantly over South Africa: biome shifts will favor Reduced freshwater horticulture over plantation forestry; malaria risk Spread of malaria Degradation of woodlands availability areas projected to expand southward Impacts on food Cyclones Coral bleaching security Coastal erosion

Which parts of Namibia's economy are potentially vulnerable?
Who is affected?

Individuals, households, communities





Key economic points I

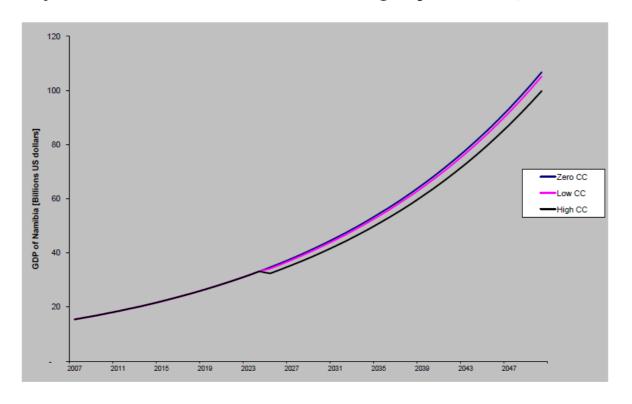
Table 4. Possible Climate change effects on GDP per sector

Values	Current contribution to GDP	Changes expected due to climate change	Affect on GDP, millions N\$ per year	Confidence in range of change
Use values				
- Cereal production	0,5%	Decrease (10 - 20%)	- 16 to - 32	Low to Medium
- Crop production	1,0%	Decrease (10 - 20%)	- 32 to - 65	Low to Medium
- Livestock production	4,0%	Decrease (20 - 50%)	- 264 to - 660	Medium
- Traditional agriculture	1,5%	Decrease (40 - 80%)	- 197 to - 395	Medium to high
- Fishing	6,0%	Increase (30%)/decrease (50 %)	0 to - 990	Low
- Tourism	2-3%	Increase/Decrease	-	Low
- Forests	+ *	Unchanged	0	Low
Non-use value	+*	Decrease	-	Low
Total value			- 509 to - 2 142	

^{*} not included in the traditional national accounts

Key economic points II

Projected Namibian GDP under three climate change impact scenarios, 2007-2050:

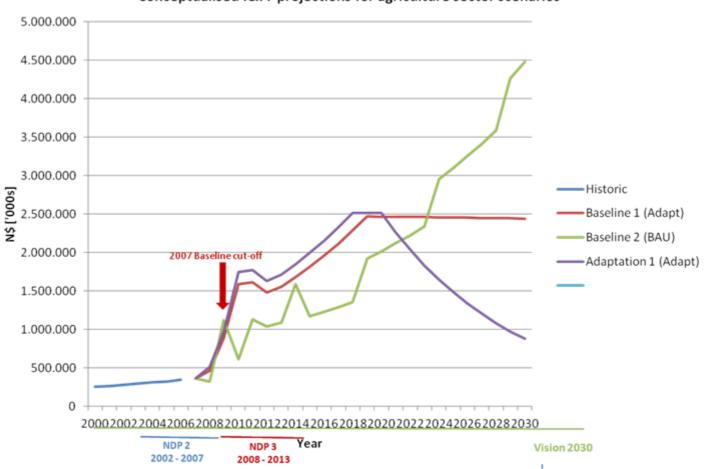


Reid et al, 2007

 Overall it is suggested that over 20 years, annual loses to the Namibian economy could be up to 6% of the GDP, from CC impacts on natural resources (NRs) alone.

Cost of action vs non-action

Conceptualised I&FF projections for agriculture sector scenarios



But is it real?

The cost of action vs inaction

	Adaptation action	No action	
CC is false/ not real	 Investments Improved governance Knowledge Resilience Economic costs 	•Business as usual •"normal" environmental and economic pathways	
CC is real	 Economic costs Benefits from investment Potential for overall improved governance systems 	 Disasters High economic cost Many people highly vulnerable Larger disparity 	

The Bottom-line

Real or not — taking adaptive action is the <u>only</u> sustainable option!

Some possible macro-level adaptation options

Some of the required measures for strengthening adaptation include:

- Ensuring access to high-quality information about the impacts of climate change and carrying out vulnerability assessments. Early warning systems and information distribution systems help to anticipate and prevent disasters.
- Increasing the resilience of livelihoods and infrastructure using existing knowledge and coping strategies.
- Improving governance, including a transparent and accountable policy and decision-making process and an active civil society.
- **Empowering communities** so that they participate in assessments and feed their knowledge into the process at crucial points.
- Integrating climate change impacts in issues in all national, sub-national and sectoral planning processes and macro-economic projections. The national budget process is key here.
- **Encouraging a core ministry** with a broad mandate, such as finance, economics or planning, to be fully involved in mainstreaming adaptation.

Source: Adapted from Sperling (2003) in Stern Review: The Economics of Climate Change (2006)

What is already ongoing in Namibia?

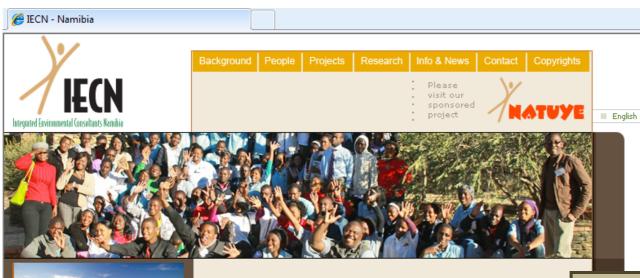
- Ministry of Environment & Tourism (MET): Namibian designated lead institution
- Multi-stakeholder National Climate Change Committee (NCCC)
- Africa Adaptation Programme (AAP): set foundation for national adaptation approach
- Special investments into piloting community-based adaptation (CBA)



Let us discuss what YOU can do!



Thank you!





Headline News

22.11.2011

What impact did Nacoma's communication strategy have?

A team of IECN staff are currently travelling the four coastal regions to hear from people in the street and office holders what impact the Nacoma project had on their knowlege and understanding of coastal zone

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More

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Welcome

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