

Counting the Cost of Climate Change in Developing Countries: Application to Tobago

James MacGregor
Tom Birch

International Institute for Environment and Development

www.iied.org

3 Endsleigh St, London WC1H 0DD, UK

Climate change and economics at IIED



IIED's is a policy-focused independent research organisation that specialises in linking local to global.

- We work with some of the world's most vulnerable people to ensure they have a say in the policy arenas that most closely affect them — from village councils to international conventions.
- We work in partnership with local organisations to make appropriate global change

Climate change at IIED finds fair and equitable solutions to CC by improving:

- Understanding of CC impacts for developing countries;
- Decision making capacities;
- Negotiating capacities in international CC negotiations;
- Sustainable livelihoods opportunities in the face of CC impacts

Economics at IIED has the following resources and capacities:

- 7 economists working in London and Edinburgh
- Track record in bringing an economic approach to a range of issues: forestry, conservation, livelihoods, poverty alleviation, agriculture
- **Global network** of economists, near-economists, econometricians and others
- **Knowledge management:** responsive and supporting

Estimating the economic costs of CC: Demand for this work



- **Policy makers:**
 - need data to begin lobbying for CC to be taken seriously
 - Begin elevating ranking/significance relative to other risks
- **Experts on CC**
 - Not taken seriously without robust, dependable, independent data
- **Civil society groups**
 - Limit to lobbying capacity without stronger arguments backed with data

Estimating the economic costs of CC: progress



IIED & partners are seeking ways of developing messages to influence policy-makers' decisions

- Project goal to estimate the economic costs of CC impacts in light of poor available data (economics and CC)
- And downstream to influence public/private behaviour
- In areas with poor data availability
- Messages:
 - Killer facts – e.g. x% of GDP
 - Messages – e.g. how the poor will be impacted
- “grassroots” methodology:
 - Listening to policy makers needs
 - Working with local partners to develop data/ corral information
- Examples:
 - Namibian economy 2007
 - Tanzanian economy 2008
 - Wildlife, Namibia 2009
 - Mining, Argentina, 2009

Methodology

- **Literature review**
 - Grey, web, official, NGO, etc
- **Stakeholder engagement**
 - champion identification
 - Gap identification
 - Local economists
- **Expert meeting**
 - facilitated by economists
 - generation of “consensual” findings
- **Outputs – data and gap identification**
- **Modelling – static and dynamic**
 - Adapting existing tools to fit with data constraints
- **Dissemination phase – media, stakeholders, etc.**

The economic impact of climate change in Namibia

How climate change will affect
the contribution of Namibia's
natural resources to its
economy

Downloadable: www.iied.org



e.g. Namibian economy

Pilot in Namibia owing to

- NRA for fish, forests, wildlife, water and minerals
- Social accounting matrix
- CGE model develop potential

Namibia:

- One of the driest countries in the world
- V low population densities
- Over 30% of GDP from its natural resources
- Independent since 1990
- World's highest Gini coefficient

Expert panel

- 20 experts met Feb 07

Outcomes

- Climate:

- drier, intense variable rainfall, 2-6 degree increase, less plant cover, higher evaporation, desertification, water shortages

- Macroeconomic:

- **up to 6% loss to GDP – US\$70-200 million**
- under worst case scenario – agricultural and fishing outputs impacted
- Irrigated crop production could thrive but job creation minimal

- Social: poorest hardest hit –

- Labour-intensive livestock farming hit hard
- **loss of 24% of unskilled wages**
- Poor pastoralist and dryland populations most affected
- Displacement/ migration to urban areas

Values	Current GDP contribution (%)	Changes expected due to climate change (%)	Effect on GDP (millions N\$)	Confidence in range of change
Use values:				
Cereal production	0.5	Decrease (10-20)	-16 to -32	Low to medium
Crop production	1	Decrease (10-20)	-32 to -65	Low to medium
Livestock production	4	Decrease (20-50)	-264 to -660	Medium
Traditional agriculture	1.5	Decrease (40-80)	-197 to -395	Medium to high
Fishing	6	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 -2142	

Objectives of this meeting



Tourism

- Profile
 - Internal – employment, stability, investment, policy profile
 - External – tourist expectations
 - Supply chain – airlines, travel agents,
- Sectors
 - Water, accommodation, value, ornithology
- Analysis of stability
 - Strengths
 - Risks
 - Weaknesses
 - Competitiveness – of Tobago, of Caribbean, of island tourism
- **Climate change**
 - Expected impact
 - Forecasted impact on tourism

Tobago's tourism economy in the news



Trinidad and Tobago's *Newsday* [3 May 2009]:

- the Caribbean needs to turn over a new leaf and adopt a more sustainable approach to tourism if we are to keep this industry alive
- locals have become key contributors in ensuring the tourism product is sustainable
- There is evidence that the product offered by the Caribbean is becoming “stale” as destinations in the Mediterranean and Pacific are emerging to satisfy our target markets.

• Trinidad and Tobago's *Express* [3 May 2009]:

- Tobago undertook on its own, through the enlightened House of Assembly, to try last weekend to keep the Tobago Jazz brand alive
- A lack of rooms put regular airlift in jeopardy because decisions about airlift to tourist destinations are determined by demands for seats. With the Tobago Hilton being left to rot and issues affecting other hotels, I fear negative impact on airlift decisions regarding Tobago.

Tobago's tourism economy in the news



National Consultation on Poverty [6 May 2009]

- There is a need for the rapid mobilisation of domestic resources. No matter how many resources a country **may** have, it will need the assistance of friendly agencies such as the Caribbean Development Bank. Very small countries cannot go through these massive adjustments alone,” the consultant informed.
- “crucial” to further strengthen poverty alleviation efforts: these include constitutional reform, effective land management and allocation, and retrofitting for climate change

• Kenya, *The Guardian* [12 May 2009]

- Kenya is planning to erect thousands of miles of electric fencing around its key national parks and to double the number of armed guards to protect water sources and stop impoverished people felling trees, as the effects of climate change become more serious.