Climate Change Adaptation Policies in Africa

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"We are running out of time. Time to tackle climate change. Time to ensure sustainable, climate-resilient green growth. Time to generate a clean energy revolution. In the 21st century, supplies are running short and the global thermostat is running high. Climate Change is showing us that the old model is more than obsolete. It [climate change] has rendered it [the old model] extremely dangerous. Over time, that model is a recipe for national [regional, and global] disaster. It is a global suicide pact." (Ban Ki-Moon, 2011. *Remarks to the World Economic Forum*, Davos, Switzerland, 28 January 2011. Minor edits mine).

Implications:

Climate Change = a Scientific Fact, Political and Economic Problem, Existential Threat to Human and non-Human Life::

Its Impact = Reflects Nature's Reaction, is indiscriminate::

Adaptation Policies => Global in Nature, Multiple Actors::

This Presentation…

- Climate Change (C∆C): Nature, Extent
- The Cost of Climate Change (C∆C): Why Adaptation is Important
- Context of Adaptation
  - The Debate
  - Fossil-Fuel Dependence
  - Capacity Issues
- Adaptation Policy Initiatives
  - South Africa
  - Kenya
  - Ethiopia
- Challenges to Adaptation Policy Initiatives
  - Capacity
  - Awareness
  - Priorities
- Conclusion

Climate Change: Nature & Extent

- Climate Change (C∆C) =
  - Modification in concentration of atmospheric constituents: gases, radiations, particles, etc
  - Mainly (not exclusively) due to Greenhouse Gas (GhG) emissions
  - Increased atmospheric carbon dioxide (CO2) (use of fossil fuels)
  - large-scale, long-term shift in the planet's weather patterns (temperatures, rainfall, seasons, sea levels, glaciers, ice, etc)
  - More Rapid since Industrial Revolution
- C∆C ≠ :
  - Sporadic, short-term weather changes
  - Artificial weather alterations (e.g. cloud seeding)
  - Weather hazards (e.g. cyclones, tsunamis, storms, etc)
  - Occurrences due to to heavenly bodies' cycles
  - Synonymous with GhG emissions; partly a result of Greenhouse Prob.

Nature, Extent … continued

- Global temperature change: av. rise by 0.89 °C from 1901 to 2012; global-average surface temperature increase by end of 20th century = 1.4 to 5.8°C (2.5 to 10.4°F) relative to 1990.
  - Changing rainfall patterns
  - Ice & glaciers melting; sea levels rising; rivers drying
  - Changes in seasons
  - Rapid rate of genetic mutations of bio-organisms
  - Weather hazards more recurrent & destructive
  - Risk of territorial disappearance/submerged
  - Rising sea levels, melting arctic ice, etc

The Cost of C∆C

- Consider Political, Socioeconomic, Scientific sensitivities (e.g. biodiversity extinction risks).
  - C∆C a complex system defying scientific & policy grasp (Sterman 2011; IGPCC 2004; 2007)
  - Reduced socioecon., ecological, & aesthetic productivity
- Political difficulties: world ecopolitcs, transboundary concerns, environmental insecurity
- Decrease in aquatic ecosystem & Agricultural productivity, glacier retreats, germ resilience.
- Africa losing: 1-2% of GDP, est. US$10-20 bn by 2010
  - Econ. cost for Africa could equal 1.5-3% of GDP @ year by 2030

Context of C∆C Responses

1. The Debate: 3 Questions
   - Whether C∆C is real (C∆C Skepticism, Dunlap 2013)
   - Whether C∆C , if real, results from "anthropogenic increase in GhG concentrations" (IGPCC, 2004, 2007, 2013)
   - Whether or not C∆C is Natural (Natural Cycles).
- Confusion, complacency, denial waned => Global Consensus: C∆C real, mainly human-induced:
  - GhG emissions (Stern 2008; IGPCC 2004, 2007, 2013)
  - Depletion of Ozone Layer
  - 'Modification' of habitats for microorganisms
  - Change of seasons & weather patterns

Context … continued

2. Fossil-Fuel Dependence [since Industrial Revolution]
   - Petroleum, Coal, Gas for transport & other industries
   - Entrenched industrial-business interests
   - Fusion between science, industrial interests, politics
- Increasing consumption of fossil fuels
  - Relatively cheap, readily available energy sources vs. alternatives
  - Green, clean &/or renewable energies underdeveloped
  - Worldwide consumption est. to increase “from 87 MMbbl/d in 2010 to 98 MMbbl/d in 2020 & 119 MMbbl/d in 2040” (IEA, 2014:2).
  - Fossil Fuels—80% of total U.S. energy consumption since 1900.
- More CO2 emissions => ***Consensus*** on Green Development.

Context … continued

- Scientific Proof, Advocacy => Global CΔC Responses:
- IGPCC, UNFCCC – international instruments (e.g. Vienna, Montreal, Kyoto, Paris) & initiatives
- But: Deviation from Fossil Fuels vs. Response ***Capacity***
  - Techno-scientific: forecasting, restoration, public health, infrastructure, etc, inadequate for developing world
  - State-institutional: organisational set up, legal & regulatory env'nt, staffing, corruption control, technical competence
  - Economic: Adaptation Costs est. at $1-4 billion/year by 2050 (U EP 2010:7) – too high for underdeveloped economies
- Assistance to developing world … under UNFCCC

African Responses

- Framed within the OAU/AU & UN frameworks, regionalised under the AU, then nationalised
- Problem Construction by global epistemic communities: UNEP, UNDP, EU, Green Peace, etc – where's Africa?
- Debate on Africa's contribution to GhG emissions … vs. ***responsibility for*** Response (mitigation & adaptation) ***Costs***
  - What role for the 'World' in Africa's eco-preservation
  - Cost & Availability of Alternatives to Fossil Fuels
  - Capacity limitations vs. foregoing fossil fuels
- Africa's ***Development Priorities*** vs. climate change responses: Industrialisation, Value Addition, infrastructure development.
  - Dependence on Nature => Highest C∆C Impact

Adaptation Policy Initiatives in Africa

- Is adaptation sustainable without mitigation?
- Policy initiatives under the ambit of global responses: UNFCCC
- Under the AU framework, then ROs (aka RECs)
- Different but interrelated policies
  - Food, agriculture, environment, etc, policies
  - Some reactive, e.g. disaster-response policies
  - Some proactive, e.g. eco-conservation policies
  - Some specific (e.g. coastal, highland), others general
- Adaptation polities integrated in development
  - Esp. environment policies of ROs/RECs under the AU
  - Environment policies reflect mitigation more than adaptation

South Africa, Kenya, Ethiopia

Country	CΔC Adaptation Policy Strategies	Priorities
SOUTH AFRICA	• Constitution, 1996. • White Papers on: Environmental Management Policy, 1997; Integrated Pollution & Waste Management, 2000; • **CΔC** Response Green Paper, 2010 • National Climate Change Response Policy, 2011 • NDP: Vision 2030, 2012	○ Risk reduction & management ○ cost effective & beneficial mitigation policies, measures & interventions ○ Sectoral Policy & regulatory alignment ○ Integrated , informed, decision-making, planning, & Resource Mobilisation ○ Technology R&D, & innovation ○ Facilitated behaviour change ○ Near-term flagship programs
Policy Objectives	i. Manage CΔC impacts via interventions that build & sustain SA's socioeconomic & environmental resilience, & enhanced response c'pty ii. Contribute to global efforts to stabilise GhG concentrations in the atmosphere to avoid dangerous anthropogenic interference with	

… Kenya

Country	CΔC Adaptation Policy Instruments	Priorities
KENYA	○ Constitution, 2010, Art. 69-72 ○ National Climate Change Response Strategy , 2010 ○ National Climate Change Action Plan (2013-2017), 2013 ○ Climate Change Bill, 2014	• Integrate sectoral policies & interventions • Establish institutional infrastructure for CΔC adaptation interventions • Undertake meaningful research on CΔC adaptation • Cooperate with international community
Objectives	○ Develop adaptation & mitigation measures in key sectors, to ensure necessary policy, legislative & institutional adjustments ○ Enhance climate change awareness, education & communication in the country ○ Enhance R&D, & technology development & transfer in areas that respond to CΔC ○ Promote sustainable development	

… Ethiopia

Country	CΔC Adaptation Policy Instruments	Priorities
ETHIOPIA	• Constitution of FDR of Ethiopia, 1931/1995, Art. 44, 43, 51, 92 • Energy Policy, 1994 • Environment Policy of Ethiopia, 1997 • Climate-Resilient Green Economy Strategy, 2011	○ Establish institutions implement of the strategy (e.g. Ministerial Steering Committee) ○ Develop & implement "Green-Economy" development strategy ○ Food security & self-sufficiency ○ Strategic partnership to promote collaboration on international climate change policy
Objectives	• Achieve carbon-neutral middle-income status before 2025 • Reduce, prevent increase in, agriculture- & forestry-induced CO2 emissions • Promote sustainable development through sound management & use of resources, thru: treatment of wastes, precautionary & polluter-pays principles (cons. Rio Declaration, Principles 15 & 16)	

Challenges with African Policies

- Limited adaptive capacity
  - Post-1995 international attention on building capacity for African states, not sustainability.
  - Financial, Economic, techno-scientific, institutional limitations
- International adaptation efforts => Afro-National Adaptation
  - Not home-grown -> dependency syndrome,
  - Limited long-term options: Fossil Fuels cheapest -> No Green Energy, No alternative to Greenhouse Problem
- Limited Awareness => Reluctance toward Adaptation
  - Adaptation more hands-on than ivory-tower measure …
  - Ordinary Africans lack awareness
  - Science involved too complex, vague, remote, even for intellectuals
- African Priorities -> Post-Modern developmentality …
  - Industrialisation, infrastructure development, wealth mania, etc

Conclusion

- Africa contributes marginally, suffers ‘abundantly’!
- No easy road to CΔC adaptation …: capacity development, political will, awareness creation our global responsibility:
- No such thing as “African” adaptation policies & responses!
- African policies not targeted; scattered across sectors
- Capacity limitations & conflicting priorities afflict policy processes
- Inattention to contemporary developmentality counterproductive & futile
- Awareness creation a huge missing link: whose policies?

Thank You —