

Climate change and policy in Africa: identifying needs and opportunities

Muyeye Chambwera
James MacGregor

Climate Change Economics Team
International Institute for Environment and Development
www.iied.org
3 Endsleigh St, London WC1H 0DD, UK

Climate change and economics at IIED

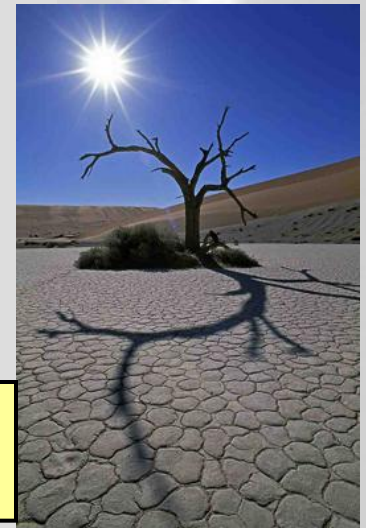


- The International Institute for Environment and Development
- Climate change economics at IIED finds fair and equitable solutions to CC impacts
- Network, collaboration, process nurture, knowledge management
- In Africa, CC economics uses novel methods to generate policy solutions using available data

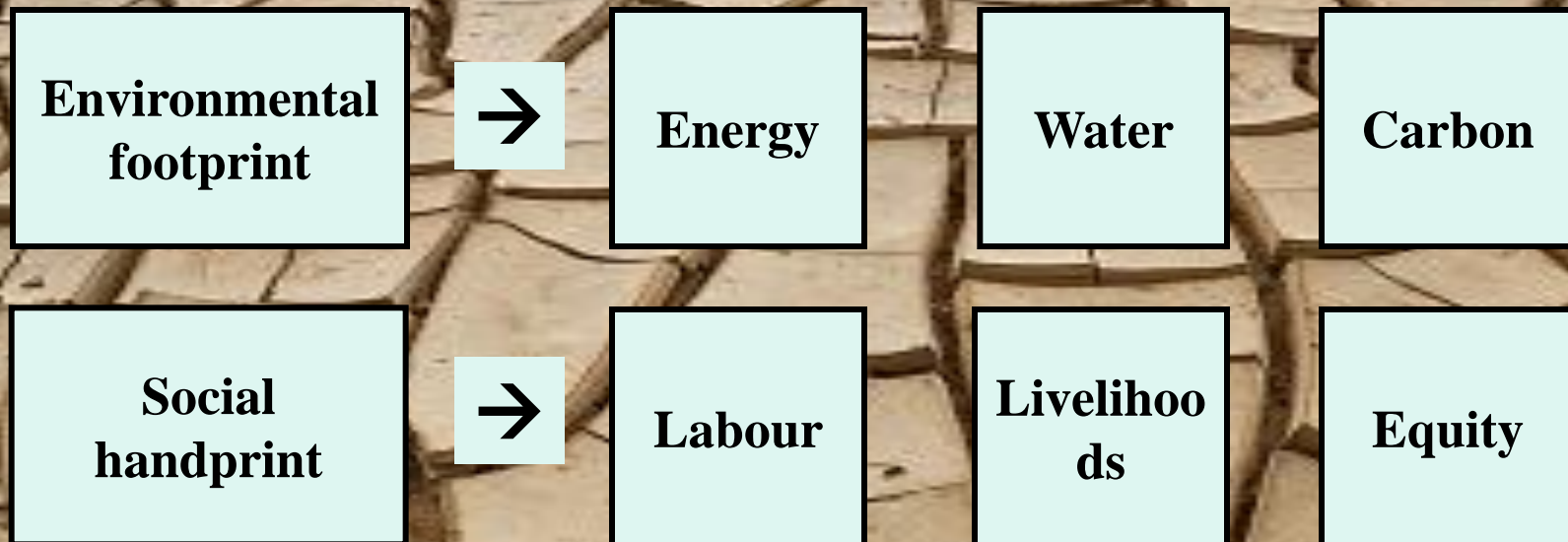
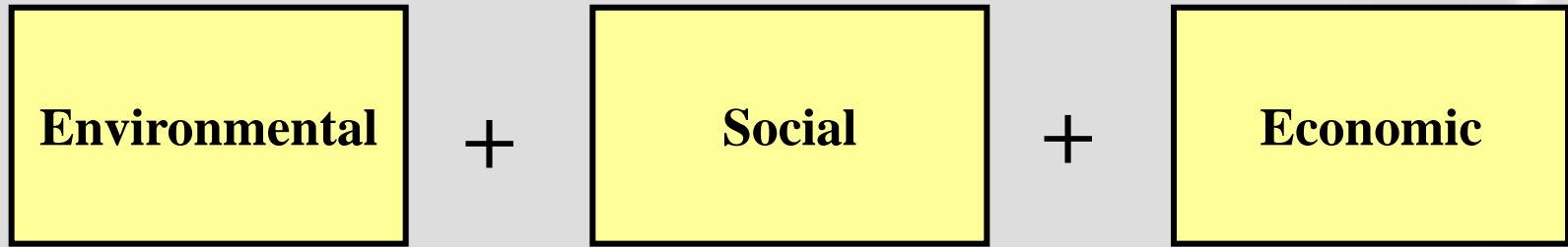


Fair miles not food miles

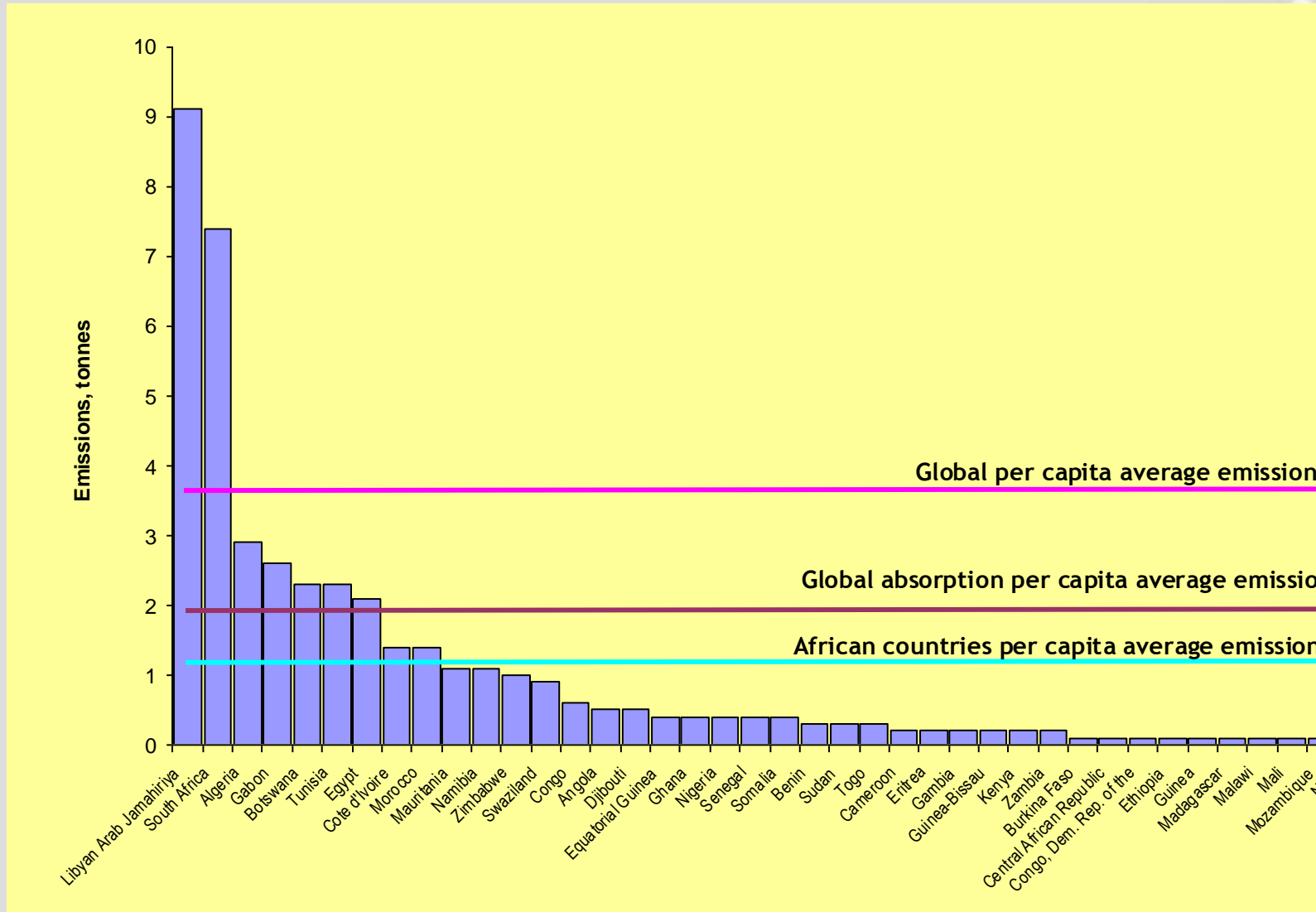
Estimating the economic costs of CC in LICs



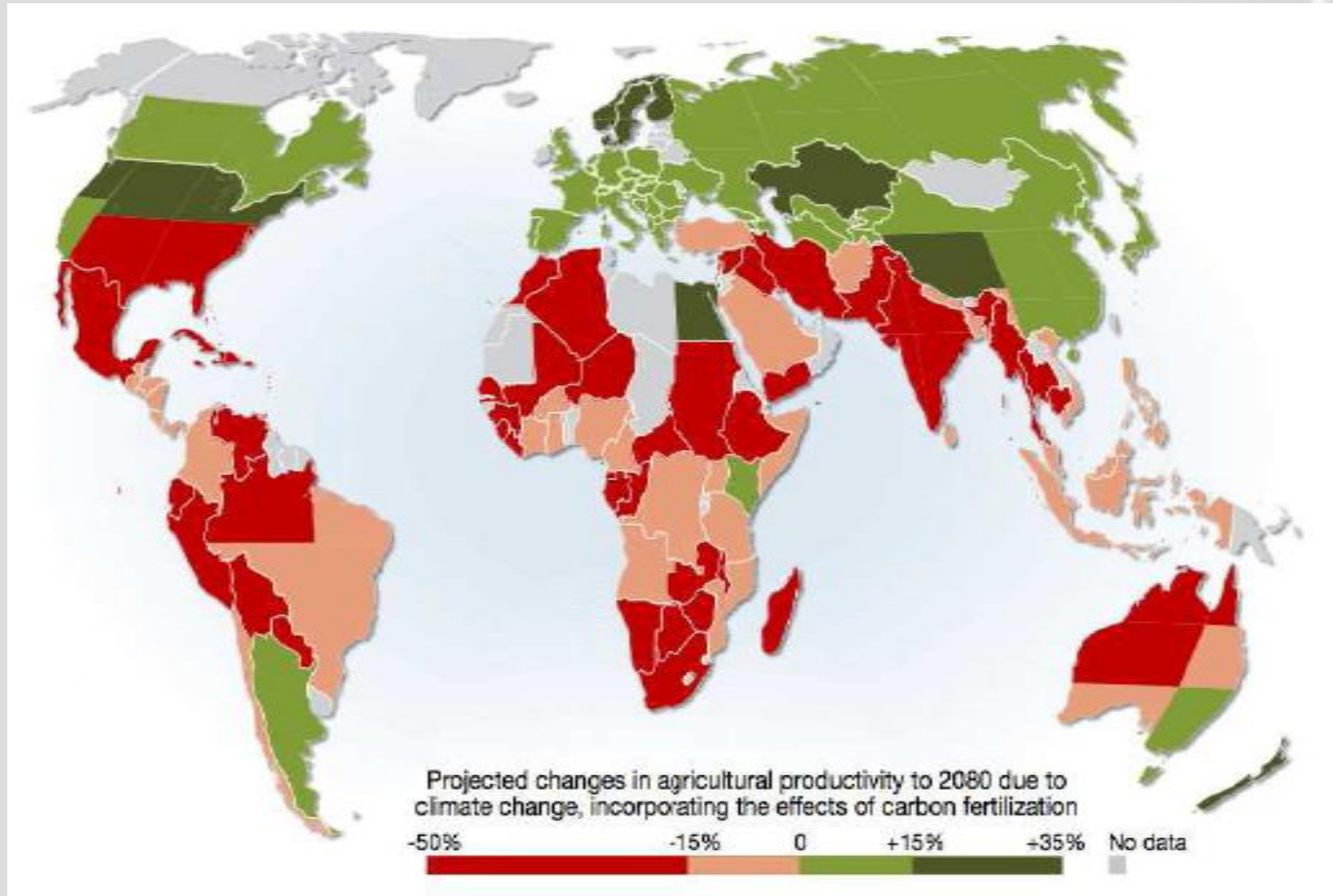
Sustainable development needs to be our guiding principle when designing policy, action



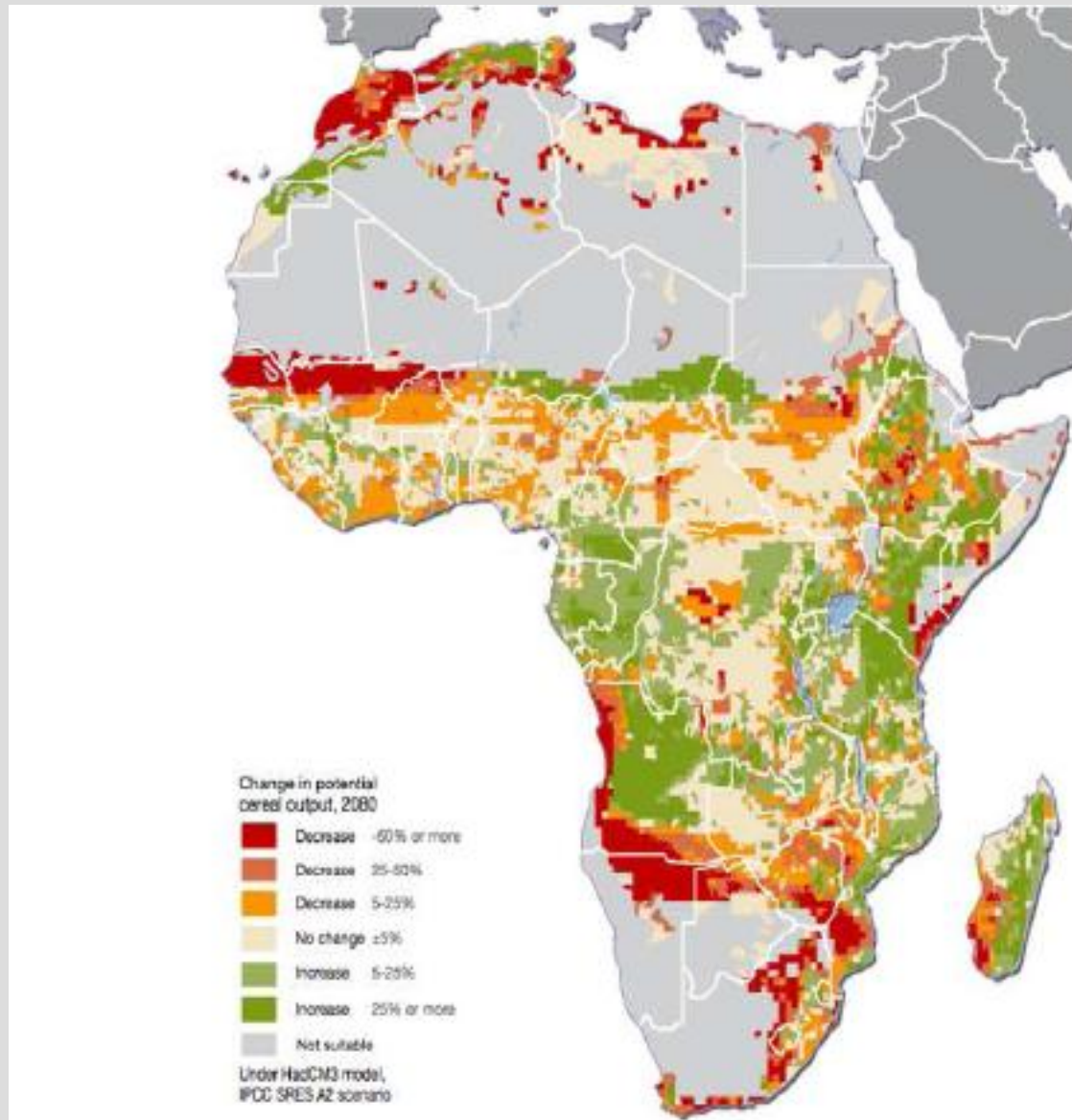
Differentiated responsibilities frame policy debate



Projected losses in food production due to climate change by 2080 (Cline, 2007)



Impacts of climate change on cereal output in Africa (Fischer et al., 2005) ^{ed}



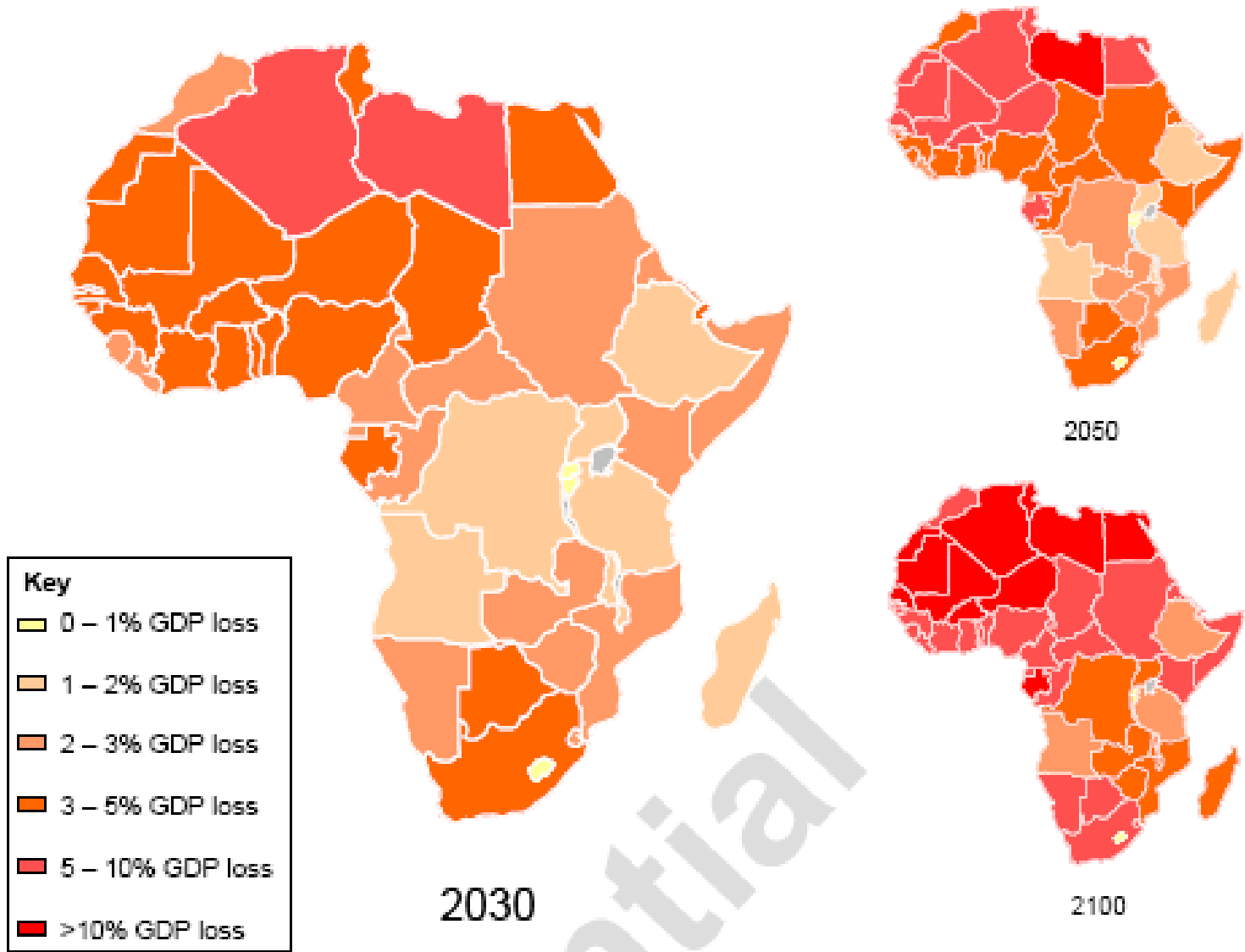


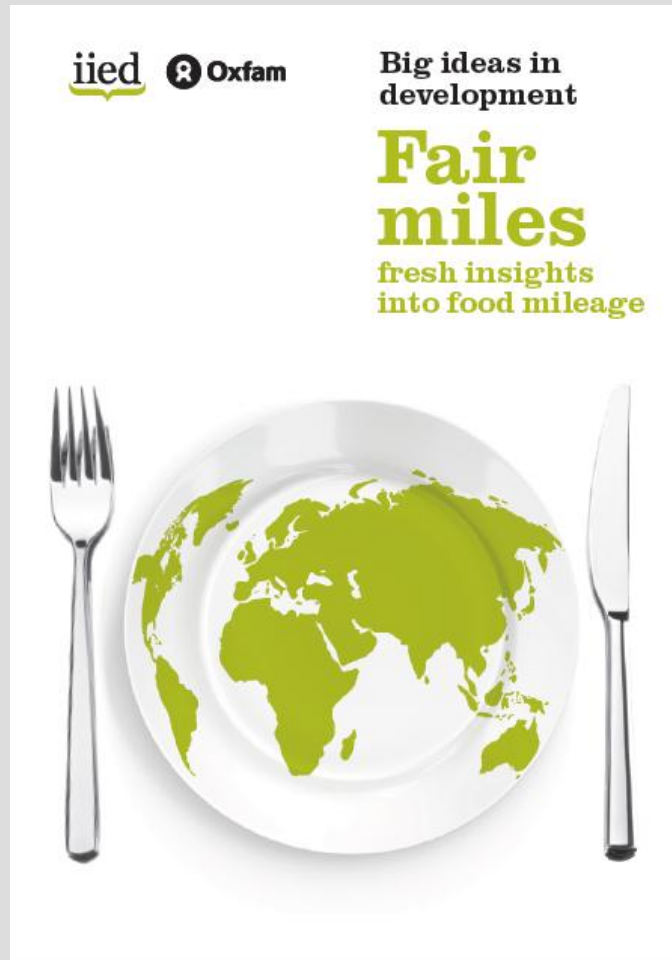
Figure 3. Annual Costs from Climate Change as a Fraction of GDP in Africa.
 Source: FUND national model

The PAGE Model: Africa Results

1. What are the challenges and opportunities with addressing CC in Africa?

- International agreements always fail
- Adaptation deficit
- Adaptability
- Africa carbon markets limited
- Externally driven solutions restrict opportunities
- *Opportunity*: With the right enabling framework, a demonstrated ability, willingness to adapt

Fair miles not “food miles”



- We need to balance our diets
- Embedded livelihoods, labour, water, quality, vitamins, etc
- Knee jerk reactions to food miles can cost the planet dearly
- Buy more from developing countries
- *In season, buy local; out-of-season, buy development-friendly*

Pocketbook - If you want a copy sent to you, email james.macgregor@iied.org

2. What are we measuring and what aren't we?

- The climate
- Economic impact of CC. No data \neq no policy development \neq no action!
- Costs of climate change
- Focus for measuring: Geographical, political, trade, private sector
- Information needs to be relevant
- *Opportunity*: Generation of information/data is key to make decisions now, to learn

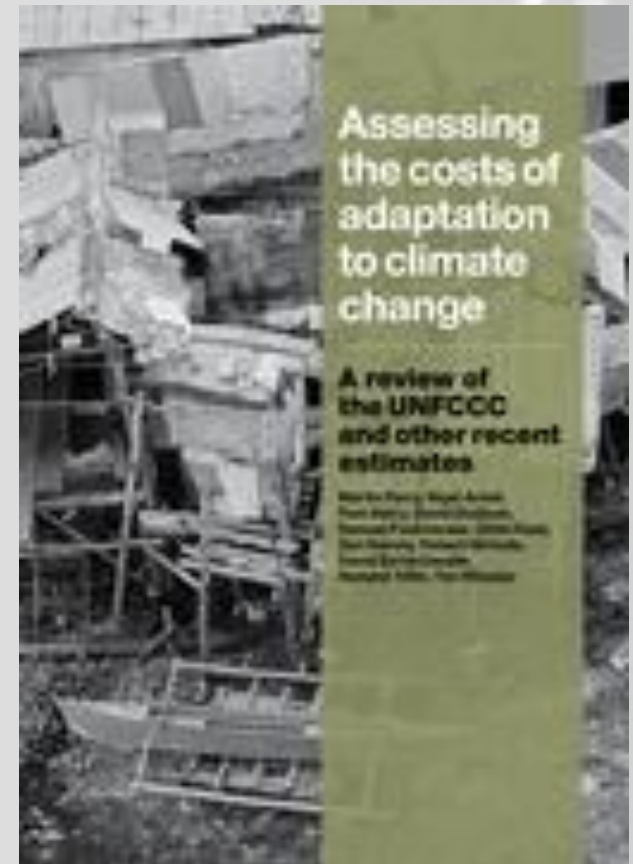
IIED and Grantham Institute



Assessing the costs of adaptation to climate change: A critique of the UNFCCC estimates

- Underestimates in the costs of adaptation by UNFCCC
- More funding is required

Copies from: www.iied.org



3. What do we need to do?

- Determine where the trigger for action come from?
- Growth trajectories
- Agriculture – development deficit
- Technology
- Adaptation
- Meteorology
- Private sector / business interest

- *Opportunities?*

WAMIS/ACAMD – WMO

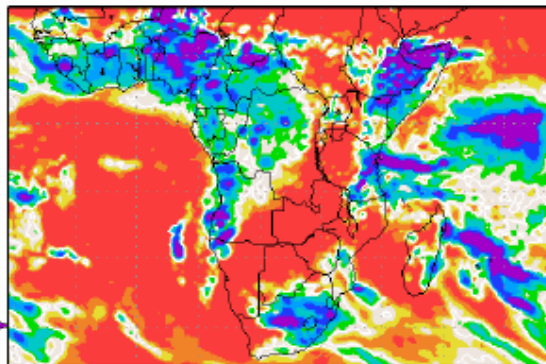
10-20 October 2009

Forecast

Soil Moisture changes

Precipitation (percent of normal)
during the first 7.5-day period:

Wed, 21 OCT 2009 at 00Z
-to-
Wed, 28 OCT 2009 at 12Z



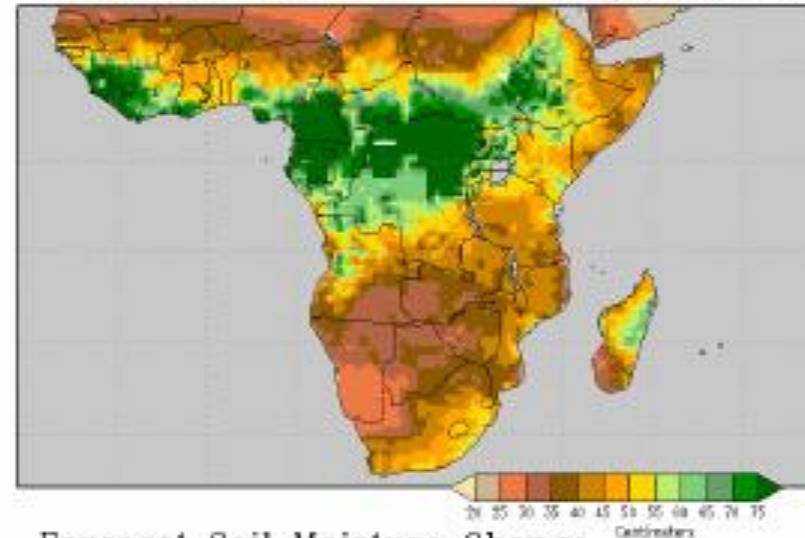
Precipitation forecasts from the National Centers for Environmental Prediction.
Normal rainfall derived from Xie-Arkin (DAP) Monthly Climatology for 1979-2003.
Forecast Initialization Time: 00Z21OCT2009

GRADS: COLA/IGES

Figure 8: Precipitation forecast, Source : COLA

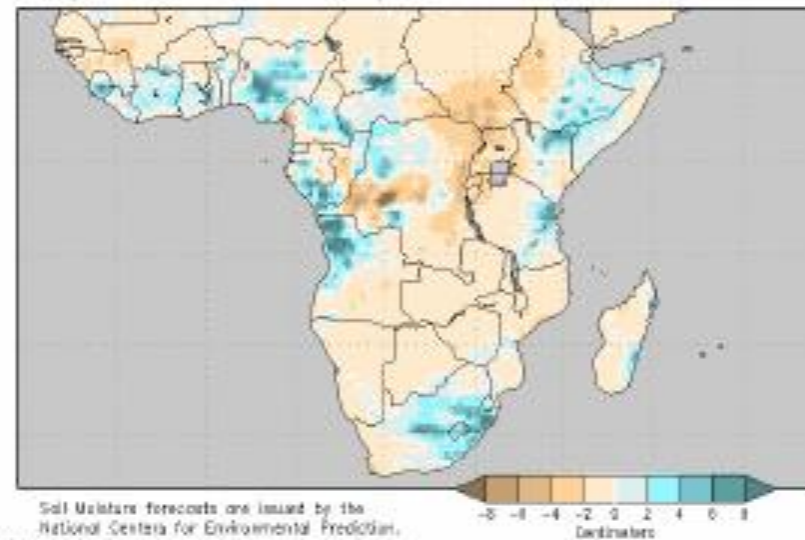
Initial Soil Moisture

Liquid Water in top 2 meters of soil
Valid time: Wed, 21 OCT 2009 at 00Z



Forecast Soil Moisture Change

Wed, 21 OCT 2009 at 00Z -to- Wed, 28 OCT 2009 at 12Z



Soil Moisture forecasts are issued by the
National Centers for Environmental Prediction.

© COLA/IGES

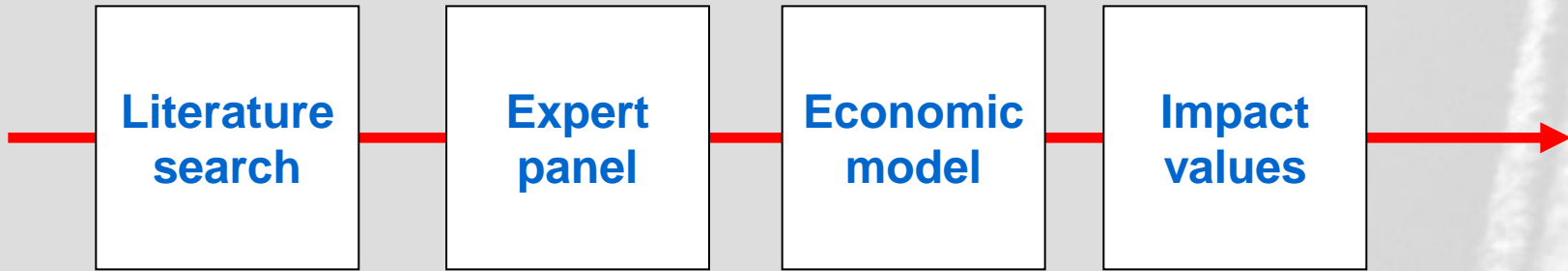
Figure 10 : Soil moisture forecast, Source: C

NAPA, Ethiopia, 2007



Project title	Rank	Estimated cost (USDm)
Promoting drought/crop insurance program in Ethiopia	1	8
Strengthening/enhancing drought and flood early warning systems in Ethiopia	2	10
Development of small scale irrigation and water harvesting schemes in arid, semi-arid, and dry sub-humid areas of Ethiopia	3	30
Improving/enhancing rangeland resource management practices in the pastoral areas of Ethiopia	4	2
Community based sustainable utilization and management of wet lands in selected parts of Ethiopia	5	2
Capacity building program for climate change adaptation in Ethiopia	6	3
Realizing food security through multi-purpose large-scale water development project in Genale– Dawa Basin	7	700

No data ≠ no policy development ≠ no action!



Namibia, 2007:
1-6% drop in GDP
over next 20 years;
24% drop in unskilled
wages

Tanzania, 2009:
0.6-1% drop in GDP
over next 20 years;
higher (5-68% drop
in GDP) post-2030



Weaknesses

- National level – informal sector > 70% GDP
- Hidden food insecurity – wheat productivity up, maize down
- **However ... economics becomes an art**
 - Using economics to develop an initial platform
 - Value of managed stakeholder process
 - Raising capacity to generate, analyse and disseminate data