Implementing Adaptation through LDCF and SCCF and the Climate Information Gap

Dr. Bonizella Biagini
Head Climate Change Adaptation
Global Environment Facility
ASCE Meeting November 17, 2011

Outline

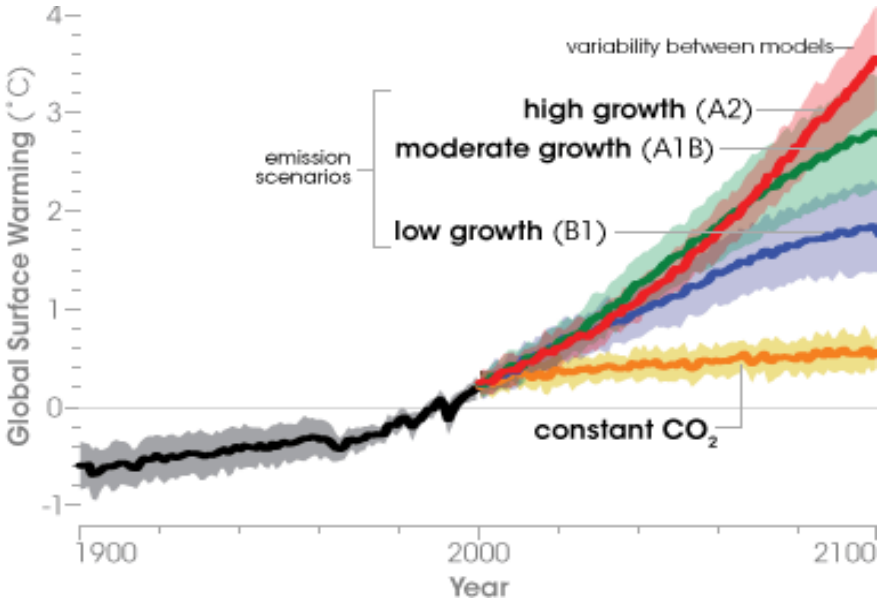
- Introduction
  - Need for adaptation
  - LDCF/SCCF
  - Objectives
- Basis
  - NAPAs
  - National Communications
- Project Design
  - Components
- Looking Ahead
  - Regional
  - Local
  - Communication

Introduction

Global Warming

•The surface temperature of the Earth will continue to rise through at least the middle of the 21st century.

• The global-mean surface temperature will increase by about 0.5 to 2 °C (roughly 1 to 3.5° F) over the period from 1990 to 2050



Effects

•Challenges in food and water security

• High frequency and intensity of disasters

• Increased health risks

IPCC, 2007

Introduction

- Need for both mitigation and adaptation.
- Respond to the impacts of climate change that are already occurring and prepare for future impacts.
- The most vulnerable communities are in developing countries
- Adaptation is the process of **reducing the adverse effects of climate change on human and natural systems.** It refers to the efforts made to cope with actual change as well as the process of adjusting to expected change

Introduction

- GEF: Financial Mechanism of the UNFCCC

- At the 6th Conference of the Parties (COP) in Bonn in 2000, three adaptation funds were created to meet the adaptation needs of developing country parties.

  - **The Special Climate Change Fund (SCCF)**
  - **The Least developed Countries Fund (LDCF)**
  - **The Adaptation Fund (AF)**

- At the 7th COP of the UNFCCC in Marrakech in 2001, the GEF was given the responsibility of managing SCCF and LDCF.

LDCF and SCCF

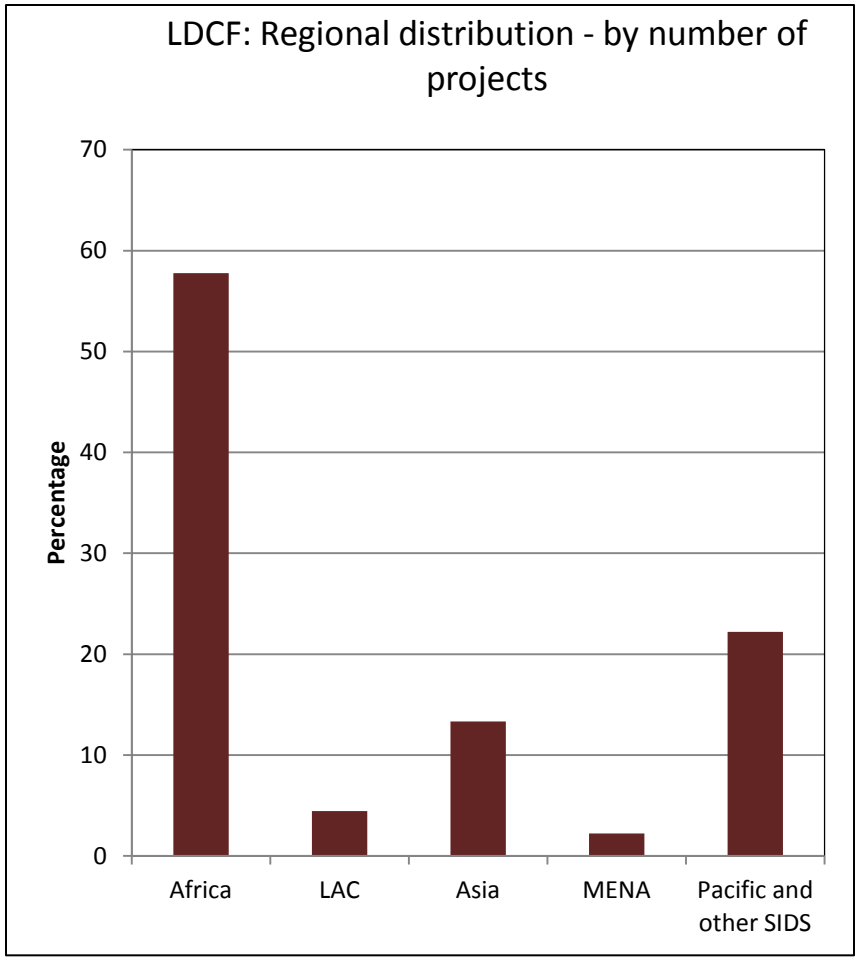
- Strategic Objectives
  - **Reduce vulnerability** to the adverse impacts of climate change
  - **Increase adaptive capacity** to respond to the impacts of climate change
  - **Promote** transfer and adoption of **adaptation technologies**

LDCF

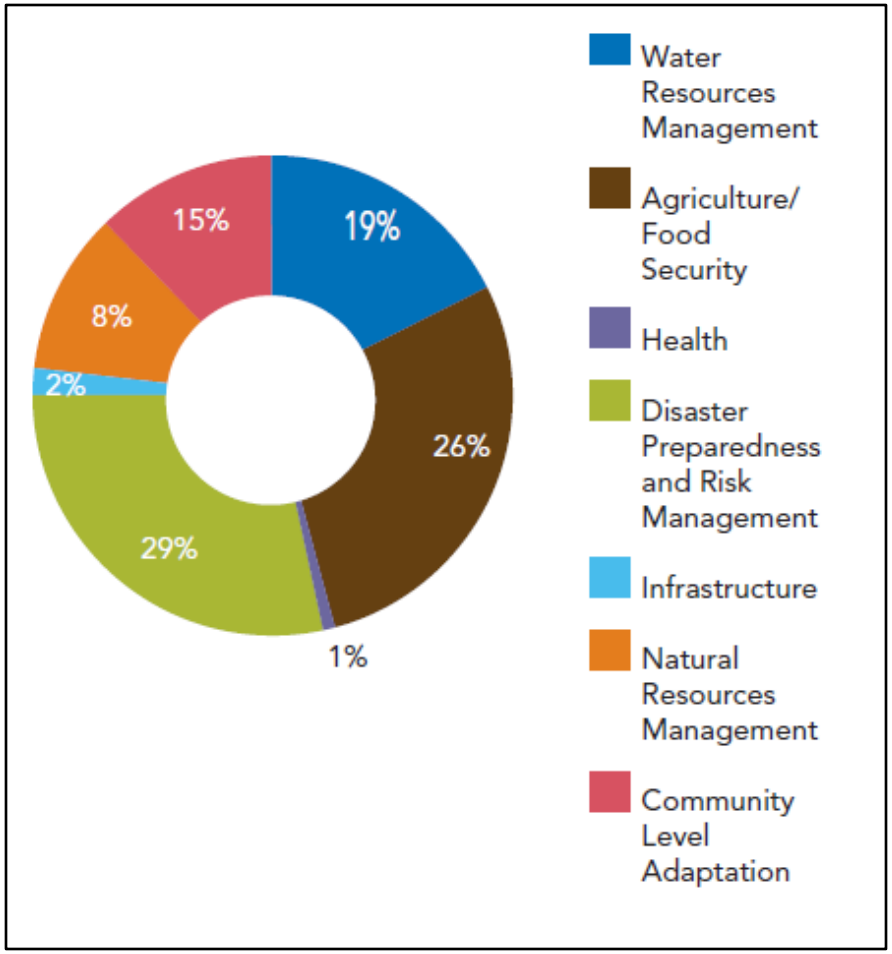
- The LDCF was established to address the special needs of the Least Developed Countries (LDCs) under the Climate Convention. **The LDCF is the only existing fund whose mandate is to finance the preparation and implementation of the National Adaptation Programmes of Action (NAPAs).**

- Goal:
  - To address the urgent and immediate adaptation needs of the 48 LDCs.

Projects Supported: LDCF
50 projects and programs ($206 million)



Regional distribution of projects



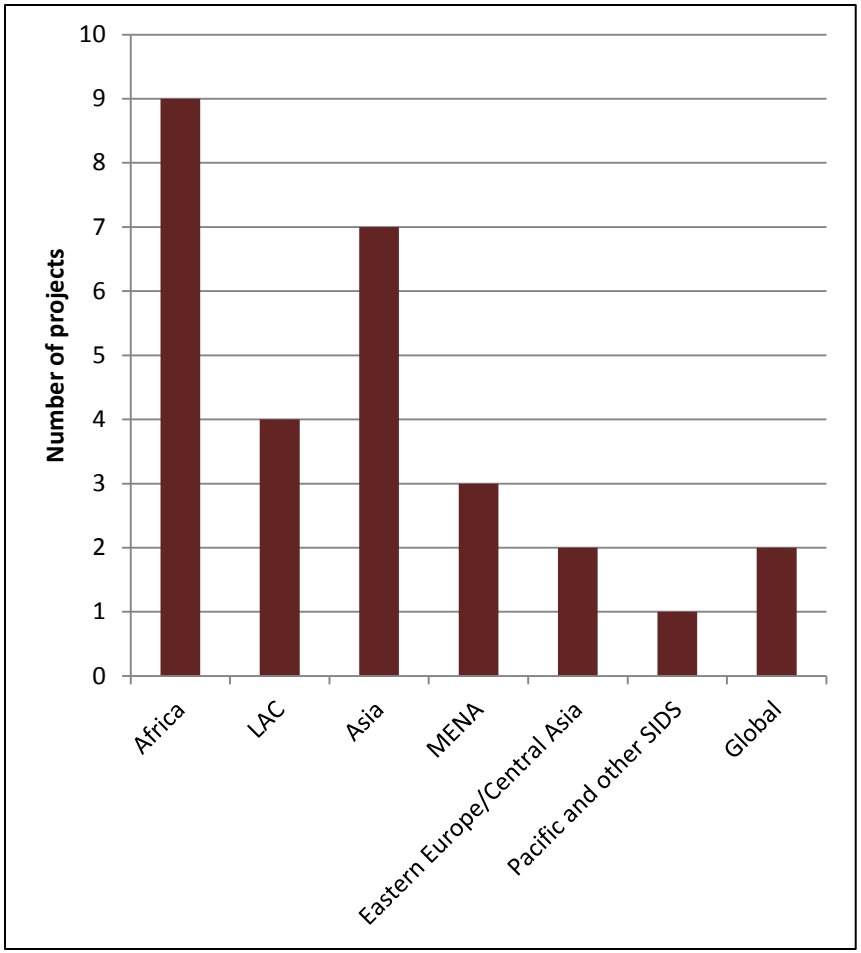
Sectoral distribution of approved funding

SCCF

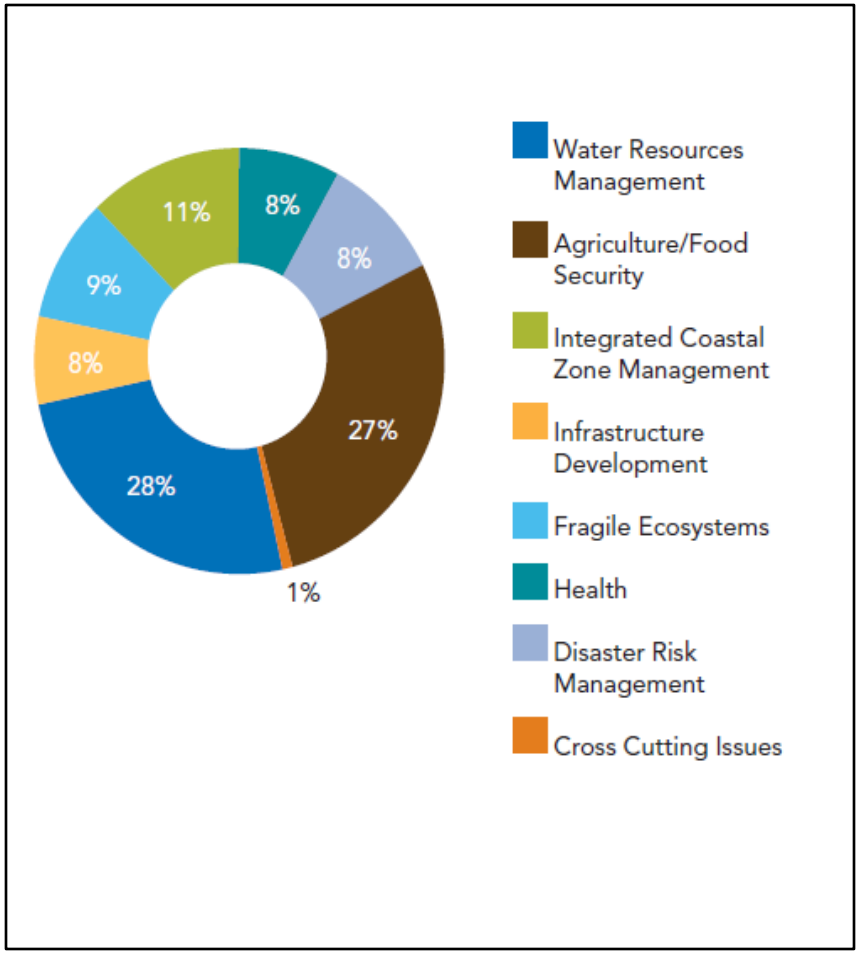
- The SCCF was established to support adaptation and technology transfer in all developing country parties to the UNFCCC.

- Goal:
  - To support both long-term and short-term adaptation activities in all vulnerable developing countries
  - To support technology transfer

Projects Supported: SCCF
40 projects and programs ($142 million)



Regional distribution of projects

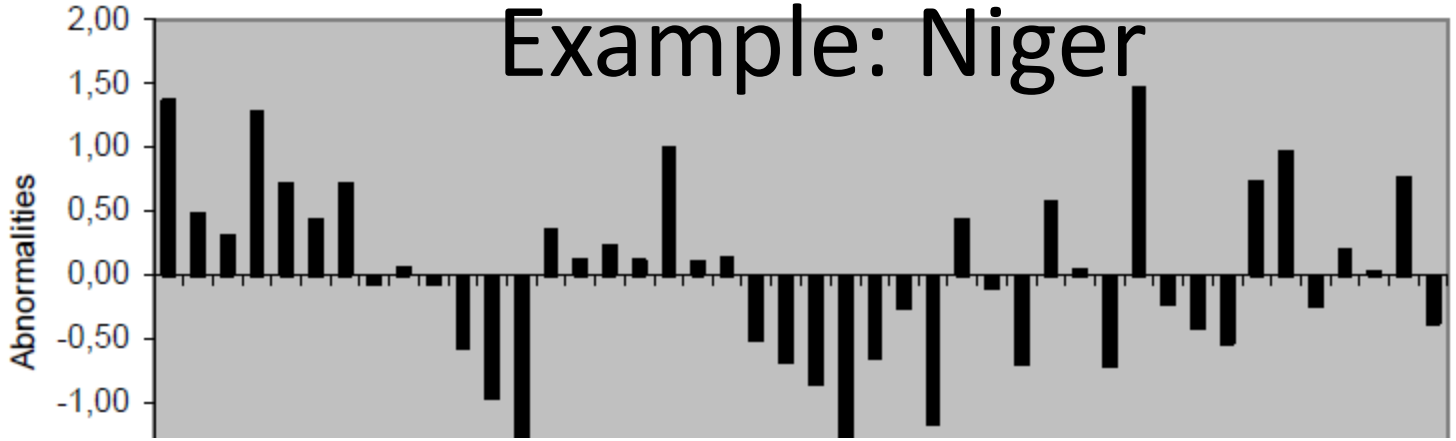


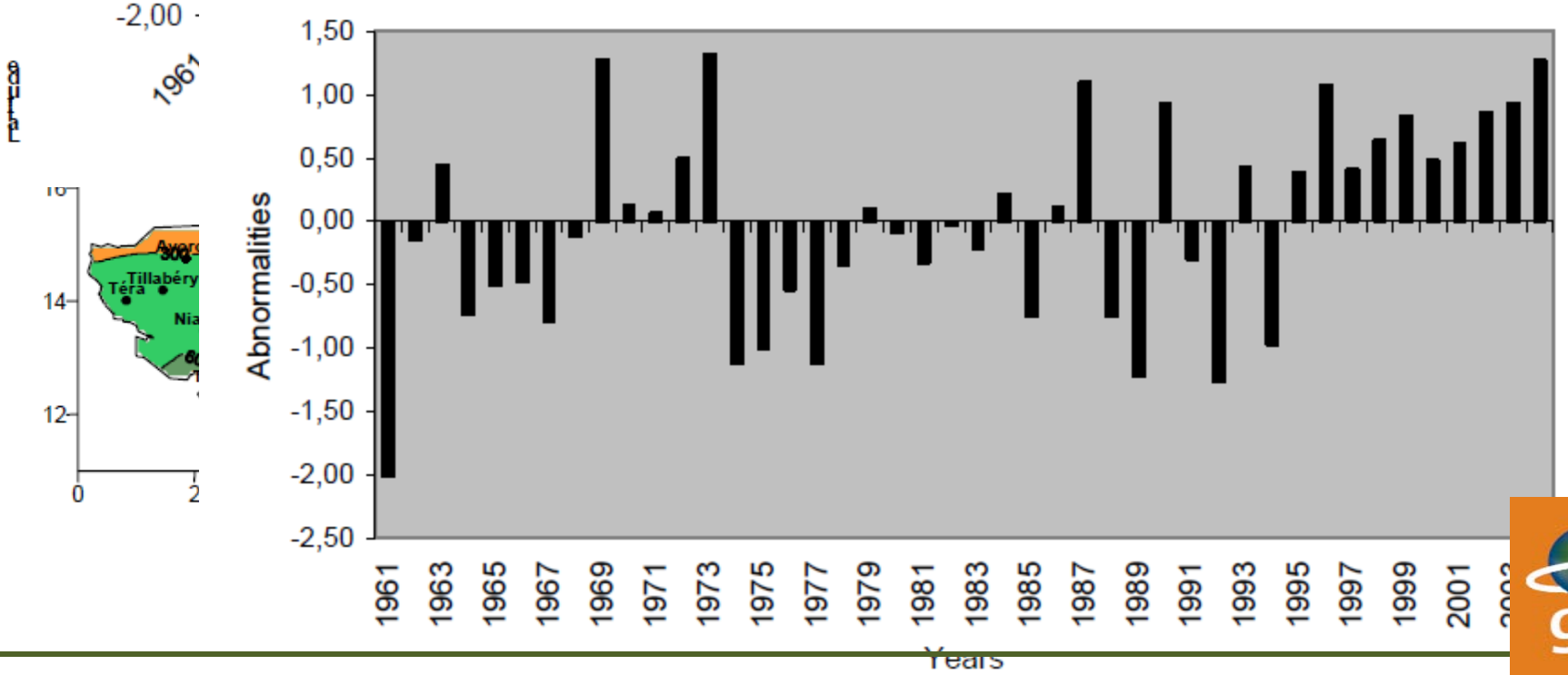
Sectoral distribution of approved funding

National Adaptation Programmes of Action

- Forms the basis of LDCF adaptation activities
- Process for LDCs to identify priority activities that respond to their **urgent** and **immediate** needs to adapt to climate change.
- Recognizes grass-root communities are the main stakeholders and community-level input is an important source of information.
- Action-oriented, country-driven and flexible and based on national circumstances.
- Includes
  - synthesis of available information
  - participatory assessment of vulnerability to current climate variability and extreme events
  - identification of key adaptation measures
  - criteria for prioritizing activities
  - profiles of projects and/or activities intended to address urgent and immediate adaptation needs
- Simple in format, easily understood both by policy-level decision-makers and by the public.

NAPA: Information Used
Example: Niger





Example: Niger

Risks

- Floods
- Droughts
- Sandstorms
- Extreme temperatures
- Stormy winds
- Locust invasion
- Bushfire

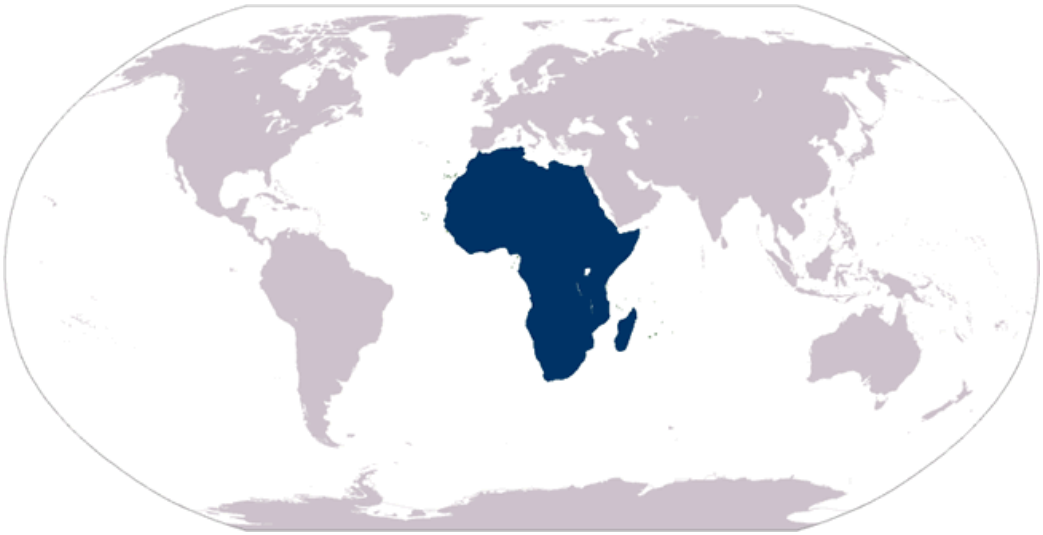
14 Project outlined

- Four options for the agricultural sector;
- Four options for the livestock farming sector;
- Three options for the water resources sector;
- Three common options for agriculture, livestock farming and forestry;

Project Preparation

- Project Preparation grants are available
  - Detailed review of climate risk information
  - Thorough analysis to identify vulnerable districts
  - Climate projections if available
  - Likely biophysical impacts, their scale and timing
  - Socio-economic implications

Information Readily Available



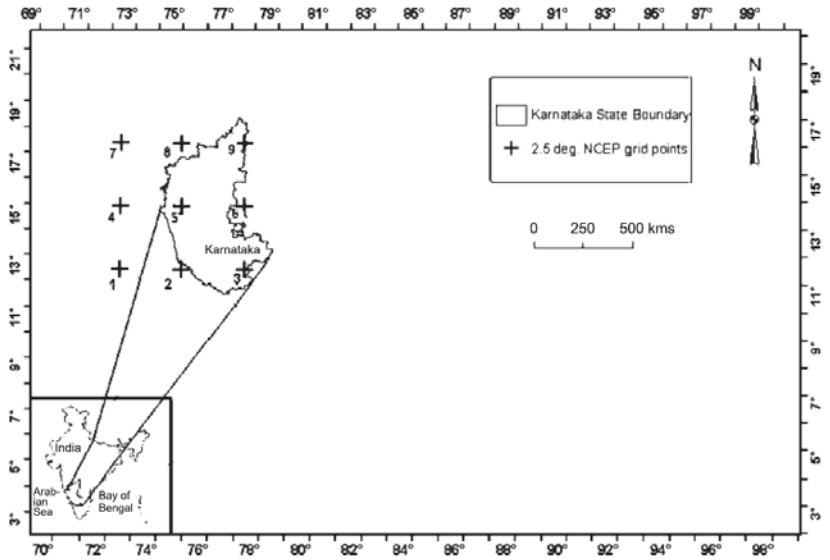
Africa

- Increased water stress for 75–250 million people by 2020
- Loss of arable land, reduced growing seasons, and reduced yields in some areas
- Threats to low-lying coastal areas posed by sea-level rise
- Further degradation of mangroves and coral reefs
- Decreased fish stocks in large lakes

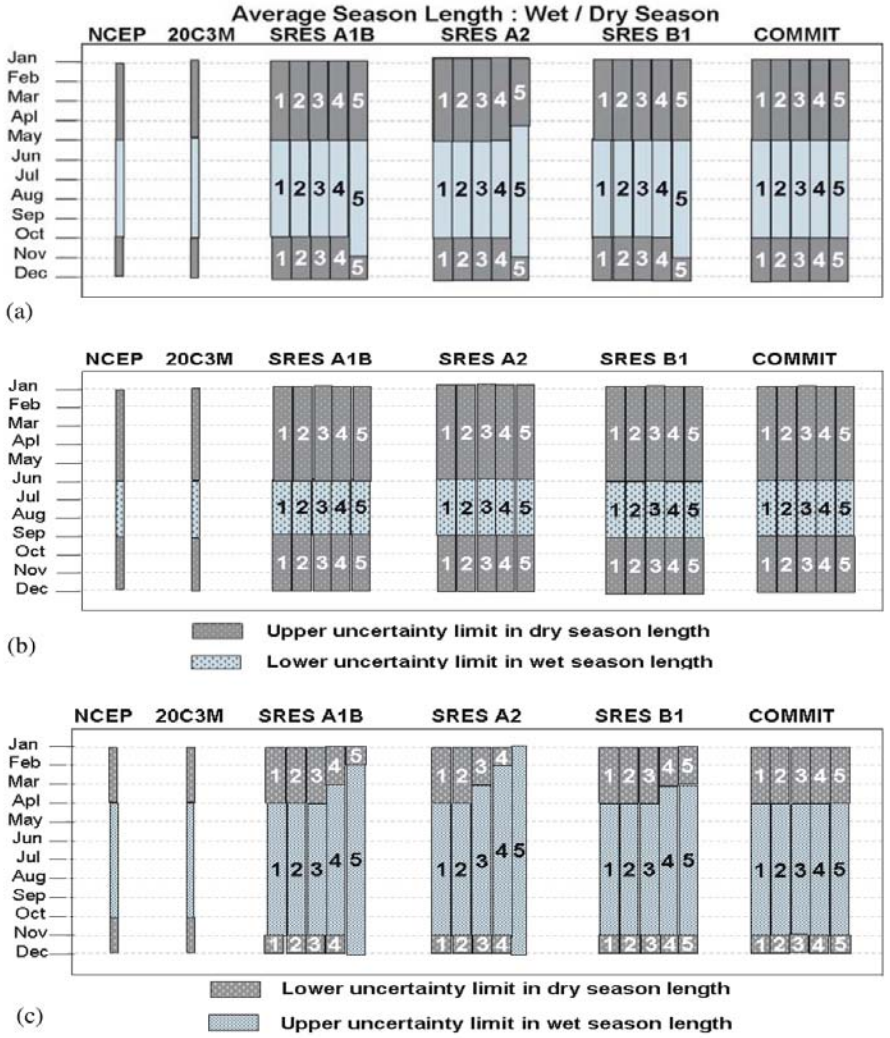
IPCC, 2007

Information Needed

Example: Climate resilient coastal protection and management in India



Karnataka, India



Anandhi, 2010

Impact of climate change on season length in Karnataka for IPCC SRES Scenarios

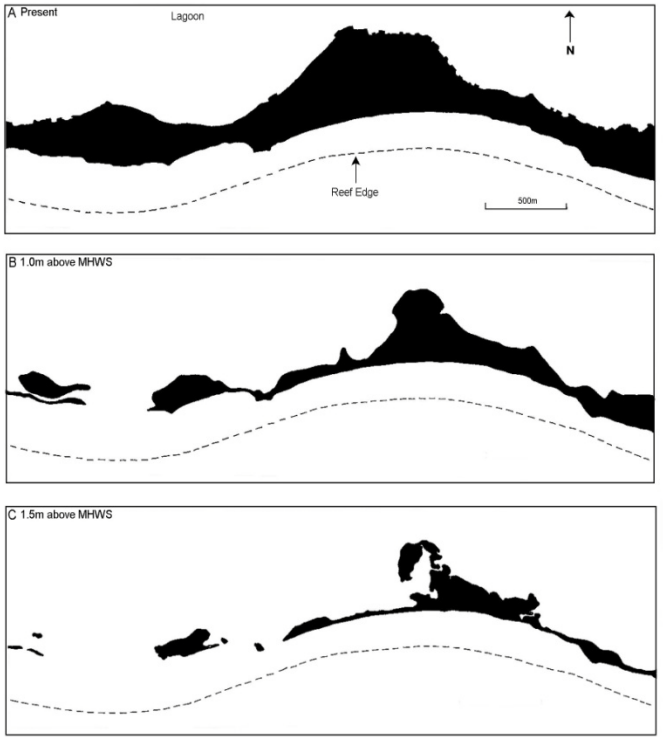
Information Needed

Example: Kiribati Adaptation Project

Type of Impact	*Physical Impact*	*Annual Damages (in millions of 1998 $)*	*Level of Certainty*
Impact on coastal areas:			
Loss of land to erosion		0.1-0.3	Low
Buariki ()	0.3 to 0.7%		
Bikenibeu ()	0.6 to 1.3%		
Loss of land and infrastructure to inundation		7-12	Low
Buariki ()	18 to 80%		
Bikenibeu ()	0 to 54 %		
Loss of coral reefs	10 to 40%	0.2-0.5	Very Low
Impact on water resources:			
Change in groundwater thickness (Bonriki lense)	19 to 38%	1-3	
Impact on agriculture:	Depends on rainfall scenarios; sea	+	
Agriculture Output Loss	level rise would have negative impact		
Impact on public health:	Expected to increase	++	
Increased incidence of diarrheal disease	22 to 33%	+	
Increased epidemic potential of dengue fever	4.6 to 6.1 fold	+	
Increased incidence of ciguatera poisoning	Substantial: impact on subsistence	+	
Impact on public safety and the poor	crops/fisheries, increased crowding	+	
Potential increase in fatalities due to inundation and water-borne or vector-borne diseases	Expected to increase		
Total Estimated Damages		*>8-16+*	

Potential Impacts of Climate Change, Variability and Sea Level Rise in Kiribati, 2050

Projected Inundation of Bikenibeu Island (South Tarawa) under Worst-Case Scenarios



A: Present status
B: Residual island under a worst case scenario, 2100;
C: Residual island under worst case scenario and storm surge, 2100
Source: World Bank (2000).

Project Design

Project Objective: Strengthen the resilience of Kiribati to the impact of climate variability, climate change and climate-related hazards by reducing the impact of storm surges and coastal erosion on the quality and availability of freshwater resources and the livelihoods of coastal communities.

Project Components	Indicate whether Investment, TA, or STA[b]	Expected Outcomes	Expected Outputs
1. Improved water resource management	Investment, TA	**Reduced impact of drought and storm surges on quality and availability of freshwater resources**	Water collection and water conservation practices (rainwater harvesting and storage, leakege detection and repair) scaled-up Groundwater availability in Tarawa and selected outer islands addressed and protection of freshwater resources enhanced National Water Resource Policy implemented to improve governance in the water sector Increased capacity in MPWU and government to better manage the water sector Increased community awareness and participation in water conservation
2. Increased coastal resilience	Investment, TA	**Reduced vulnerability of coastal communities to sea level rise and extreme weather events**	Increased physical protection of selected public buildings and public infrastructure Increased resilience of highly vulnerable coastal areas and coastal ecosystems Increased community awareness and participation in improved coastal zone management
3. Strengthen the capacity to manage climate and disaster risk	TA, Investment	**Climate and disaster risk concerns guide the development of policies and investments**	Institutional arrangements for CCA and DRR are strengthened Quality and management of climate and disaster risk data is improved. Climate and disaster risk management provisions are incorporated in coastal development policies and strategies

Need for Data and Information

- Regional and Local level Impact Assessments
  - Downscaled GCM models at regional and local scales
    - incorporate effects such as regional land characteristics, surface contours, and local hydrologic conditions, even though these factors are known to be important.
  - Spatial disaggregation of impacts is clear
  - Hot spots for climate risks are identified
  - Decadal climate predictions
  - Projections of important resources under different climate scenarios and comparison of different model outputs
    - Basin level information of ground and surface water conditions under climate change and patterns of human use
    - Regional level agricultural productivity
    - Incidences of extreme events and their likelihood in the future >>suitable areas for EWS
    - Information that can help predict infrastructure stability in various climate change scenarios
  - Unified source of all the information
- Characteristics
  - Easy to overlay social and economic information
  - Assumptions and input parameters easy to understand
  - Provide information on parameters and feedback processes that have not been included

Thank You

Contact Information

Boni Biagini
bbiagini@thegef.org

WEBSITE: www.thegef.org