

Climate Change Adaptation: Planning and Practices

Unfccc workshop
- Keynote presentation -

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Building on past lessons,
experience

Filling gaps, overcoming
constraints

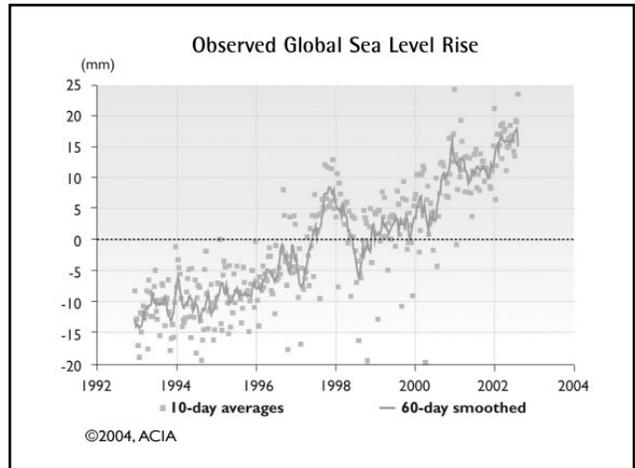
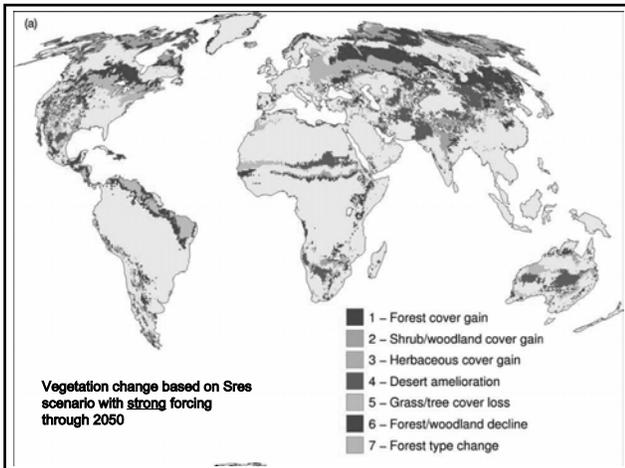
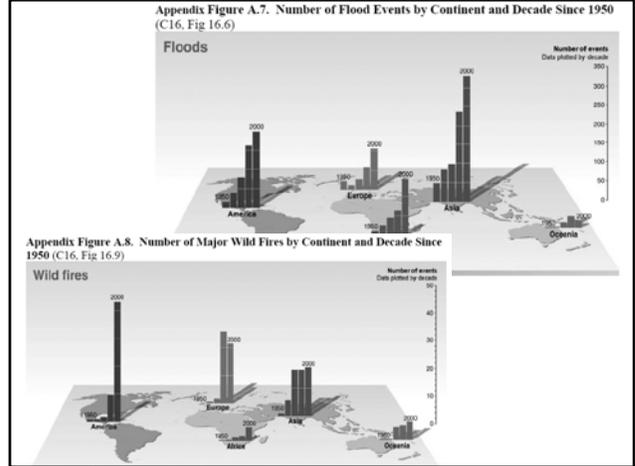
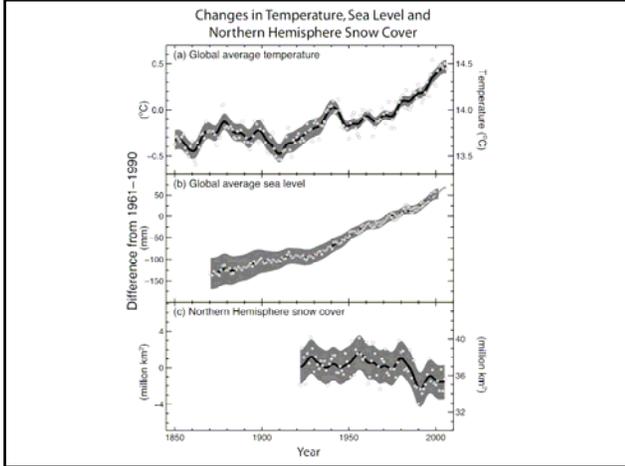
Exploiting opportunities for
action

The Nairobi Work Programme

- Methods and tools
- Data and observations
- Modelling, scenarios, downscaling
- Risks and extreme events
- Socio-economic information
- **Planning and practices**
- Research
- Technologies
- Economic diversification
 - ... we need to act holistically in
key sectors of national economies

Adaptation planning, practices

- Collecting, analysing and disseminating information on past and current practical adaptation actions and measures, including projects, strategies, local and indigenous knowledge
- Facilitating communication and cooperation – Parties, organizations, business, civil society, and decision makers, other stakeholders
 - ... a rather modest change in the
light of the challenges we face



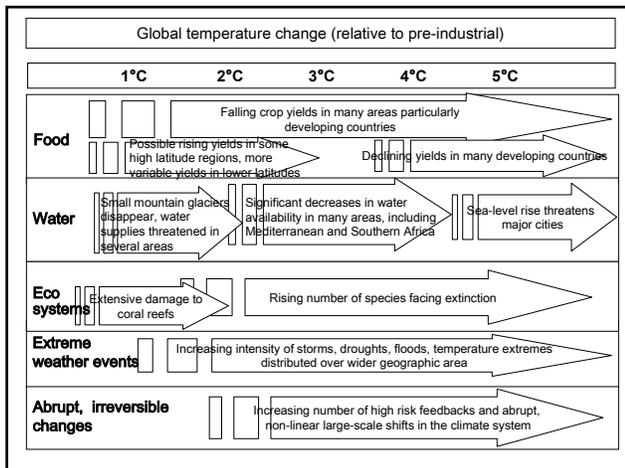
Exposure to sea-level rise

Table 6.12. Indicative estimates of regional exposure as a function of elevation and baseline (1995) socio-economics. MER = market exchange rates (after Anthoff et al., 2006).

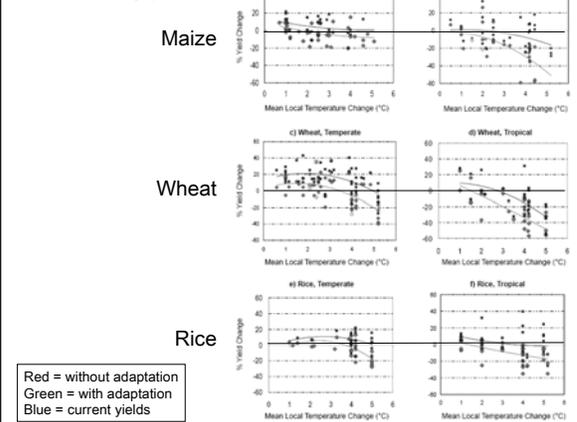
Region	Exposure by factor and elevation above mean high water								
	Land area (km ²)			Population (millions)			GDP MER (US\$ billions)		
	1m	5m	10m	1m	5m	10m	1m	5m	10m
Africa	118	183	271	9	14	22	6	11	19
Asia	875	1548	2342	108	200	294	453	843	1185
Australia	135	198	267	2	3	4	38	51	67
Europe	139	230	331	14	21	30	305	470	635
Latin America	317	509	676	10	17	25	39	71	103
North America	640	1000	1335	4	14	22	103	358	561
Global (Total)	2223	3667	5223	145	268	397	944	1802	2570

Implications for agriculture

- Crop yield likely to increase at higher latitudes and decrease at lower latitudes
- Global agricultural production potential likely to increase with increases in global average temperature up to 3°C, but above this is likely to decrease, regional winners and losers
- Increased frequency and intensity of extreme events – droughts, fire, floods - with consequences for chronic and transitory food insecurity
- Loss of nursery areas for fisheries through inundation and coastal erosion in low-lying areas of the tropics
- Local extinctions of commercial fish species at edges of ranges
- Loss of coastal/estuarine agriculture lands due to saltwater intrusion
- Need for improved water storage and more efficient use
- Increased diseases in livestock and transfer of pathogens from animals to humans



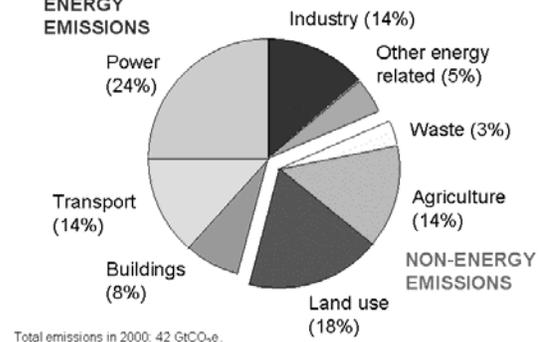
Trends in crop yields



Issues for agriculture

- Agriculture, forestry, fisheries as core components of national adaptation strategies and plans of action
- Food security – supply, access, availability, quality – is a key challenge, esp. in food deficit countries
- Environmental goods and services – land and water resource, biodiversity, watersheds, soil fertility, forest products – are key challenges
- Environments at risk – esp. coastal areas and small islands, mountains, arid zones – probably need special emphasis
- Link adaptation actions to mitigation, disaster risk and emergency response, development assistance initiatives

ENERGY EMISSIONS



Gaps and constraints

- Systematic national observing systems for - land, water, atmosphere – have declined significantly in poorer countries; data sharing is generally poor
- Lack of experience in successful integrated approaches to climate change adaptation, mitigation
- Are our institutional structures and capacities sufficient to meet the challenge?

Lessons from the past

- Capacity building requires a long time horizon, outcomes can be problematical, redundancy is helpful
- Long-term investment does not guarantee sustainability
- Even the best data, information and planning do not necessarily translate into good policies or practices
- Institutions, human resources, cross-institutional linkages are key points that deserve attention
- Focus on actions that will influence the people who will be most affected

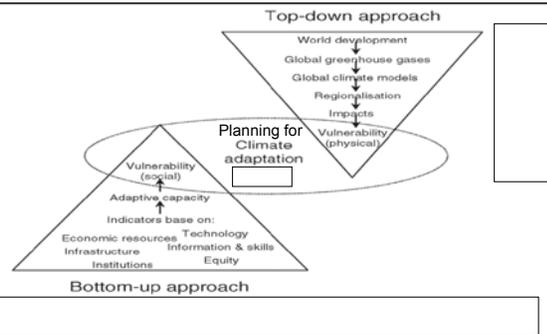
Opportunities for action

- Sustainable agriculture has always addressed adaptation to climate variability, is foundation for the future
- Link adaptation actions to national policy frameworks that include mitigation, disaster risk reduction
- Build upon risk management efforts in order to:
 - Identify and characterise spatial and temporal threats of increased climate variability at sub-national levels – vulnerable populations, ecosystems
 - Understand decisionmaking and risk aversion behaviour of smallholders; support livelihood approaches
- Maintain the viability of economically important activities in agriculture and rural sector through participation of Finance or Planning ministries
- Use regional transboundary collaboration mechanisms (e.g. river basin agreements)

... more opportunities

- Build upon infrastructure already in place – crop yield forecasting tools, drought monitoring and early warning systems, land and water management
- Promote new approaches such as conservation agriculture to help reduce emissions and improve agroecosystem resilience
- Promote bioenergy systems for greenhouse gas benefits and emissions and sequestration
- Use research and technology to undertake plant breeding and develop alternative crops
- Communicate best practices for crop and natural resources management – water, soil, pests, ... – to vulnerable groups

Making adaptation work in practice



Linking 'Top-down' and 'bottom-up' perspectives and approaches

FAO framework

- Production systems management
- Legal and institutional
- Policy and planning
- Social and economic
- Ecosystem management
- Research and technology
- Capacity building and knowledge management

LADA - Land Degradation Assessment in Drylands

Fire information system
 Overview the MCOIS Rapid Response System and Data Dissemination from LMD

GLCN
 GLOBAL LAND COVER NETWORK

LCCS
 LAND COVER CLASSIFICATION SYSTEM

aquastat
 CropWat
 ClimWat

ecocrop

HORTIVAR Horticulture Cultivars Performance Database

GTOS
 GLOBAL TERRESTRIAL OBSERVING SYSTEM

EMPRES
 emergency prevention system

Global Information and Early Warning System
 - on food and agriculture (GIEWS)

Foodcrops and shortages
 Map of unfavourable crop prospects and food supply shortfalls

Locust watch
 Locust and Other Migratory Pests Group

FAOSTAT
 FAO Statistical Databases

FIVIMS

Legal Office
FAOLEX
 Laws, regulations on food, policies agriculture, renewable natural resources

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

GLOBEFISH

Agro-MAPS

FAOAIDEnews
 Avian Influenza Disease Emergency

FAO
GeoNetwork
 [Find and analyze geo-spatial data]

Geospatial analysis – a powerful planning tool

Layer 1: Hydrography rivers and lakes.

Layer 2: Elevation contours

Layer 3: Infrastructure

Layer 4: Soils

Layer 5: Major land-cover types

A range of projections and scales.

... beyond Nairobi

- Accelerated transition to carbon-neutral economies, increased energy efficiency, improved management of natural resources
- Financing mechanisms that effectively tap Oda and private investment sources
- A place for adaptation within a post-Kyoto agreement