# Current Trends and Aspects of Gender, Climate Change and Biofuels Developments in Africa

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# Outline of Presentation

- Overview of Africa
- Climate change trends and aspects
- Gender and CC
- Biofuels development, currents aspects and trends
- gender and biofuels
- conclusion

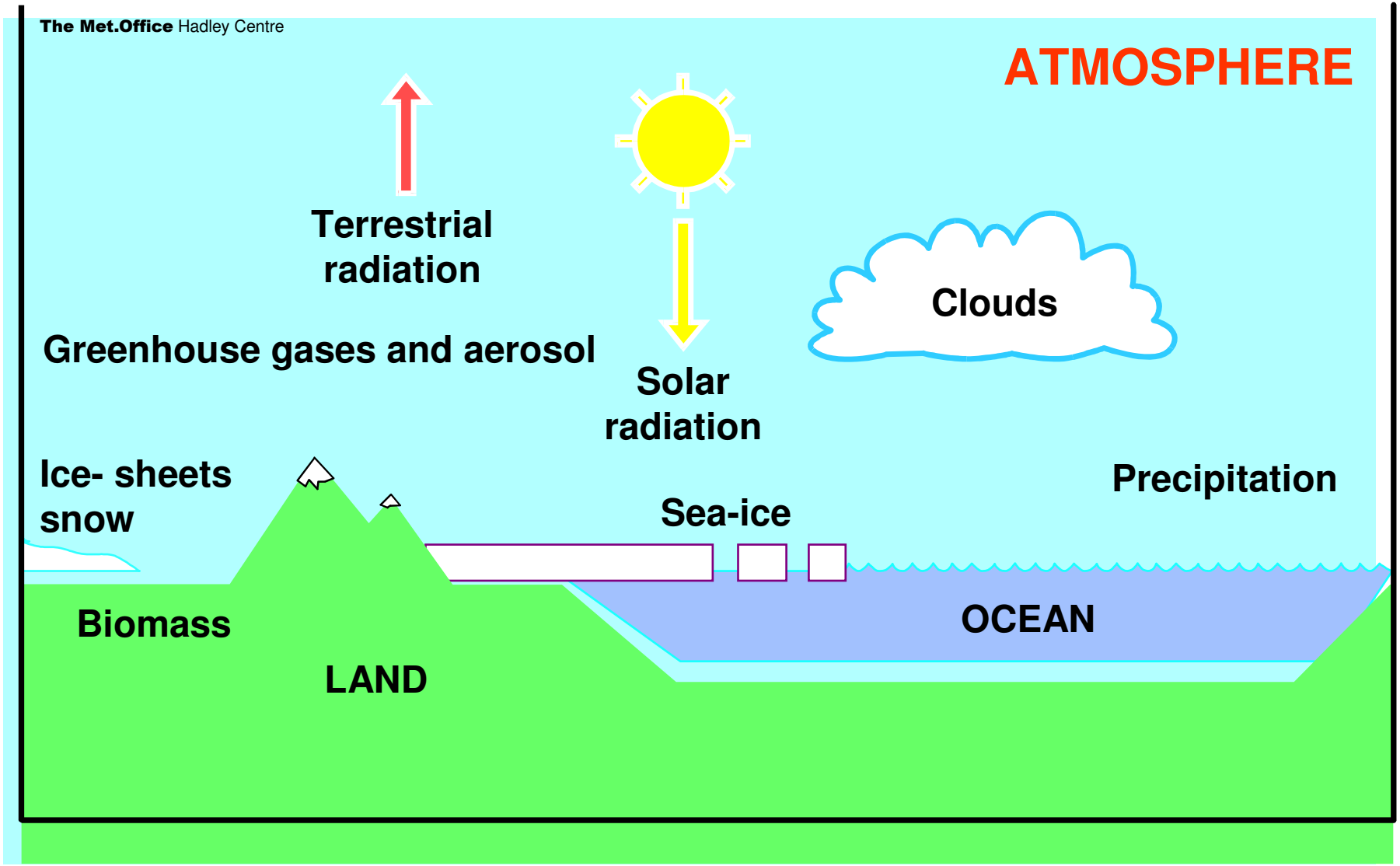
# Climate change – Conceptual issues

- It is widely accepted that the climate is changing - And will continue to change at unprecedented rates in recent human history

- Climate – The average and statistics of variation of weather in a geographical region. The averaging period is several decades

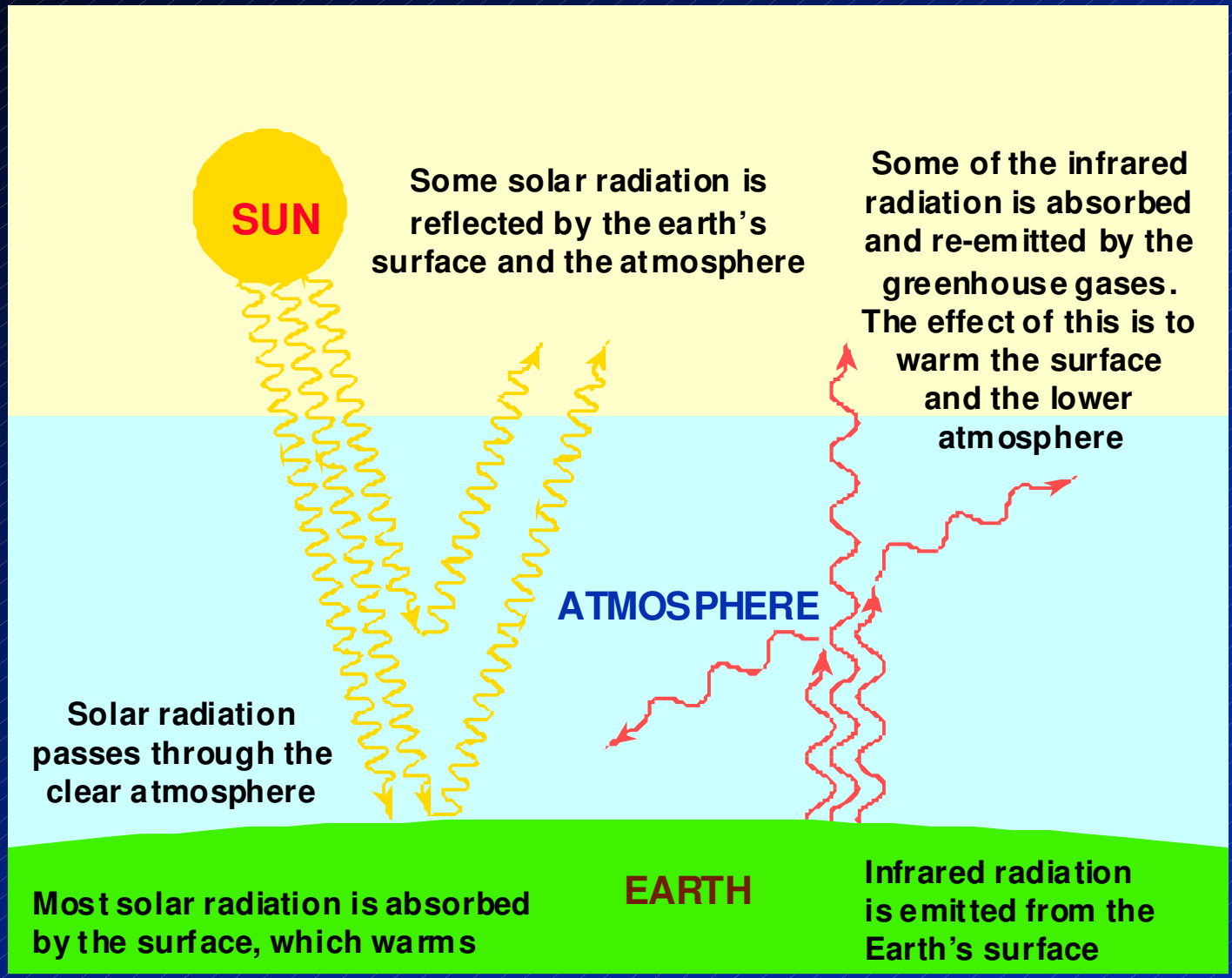
- Climate change (UNFCCC definition)

  Climate change is attributed directly or indirectly to human activities that alter the composition of global atmosphere and which is in addition to natural climate variability over comparable time periods




# THE CLIMATE SYSTEM

# The greenhouse effect

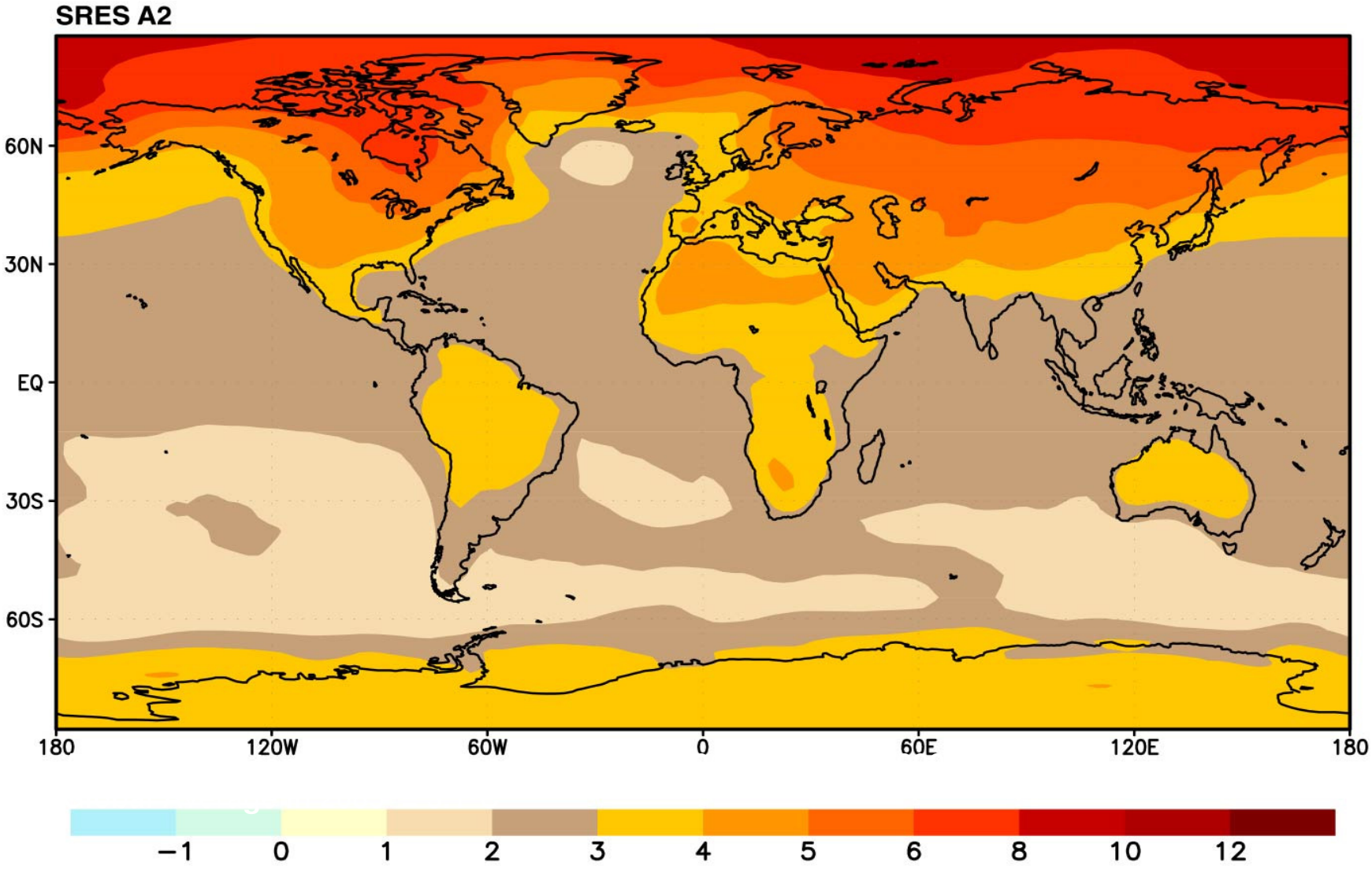


# Impact seen as Climate change indicators

- Climate models project the following:
  - increasing temperatures and precipitation which will alter the frequency, magnitude, and geographic distribution of climate-related

- **Average temperature changes**
- Earth's temperature increased by 1.5ºF during the 20th century
- 10 warmest years of the last century all occurred within the last 15 years
- 2001, 2002 and 2003 were three of the hottest years ever recorded
- **Rising sea level** – for example 7 inches in California since 1850
- **Shrinking snow pack** – Spring runoff has decreased by 10%
- **Glacial retreat**

# Land areas are projected to warm more than the oceans with the greatest warming at high latitudes (SEE AFRICA)



# Other impacts and trends

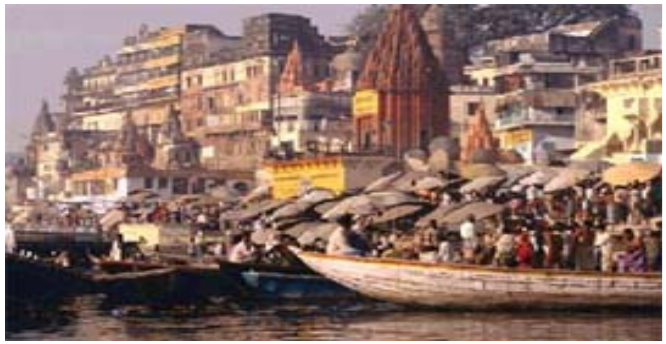
- Increased risk of floods, potentially displacing tens of millions of people, due to sea level rise and heavy rainfall events, especially in Small Island States and low-lying deltaic areas.

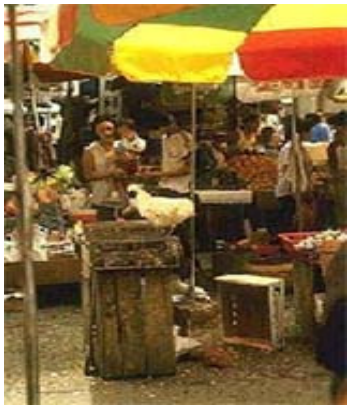
- Bangladesh is projected to lose about 17% of its land area with a sea level rise of one meter - very difficult to adapt due to lack of adaptive capacity

THE GREATEST CHALLENGE WILL BE ON SUSTAINABLE DEVELOPMENT(LIVELIHOOD)

and how people will adapt

World Population 6,056,528,577 ►





The Challenge for the globe is the  Sustainable Management of an ever changing planet

# Developing countries are the most vulnerable to climate change

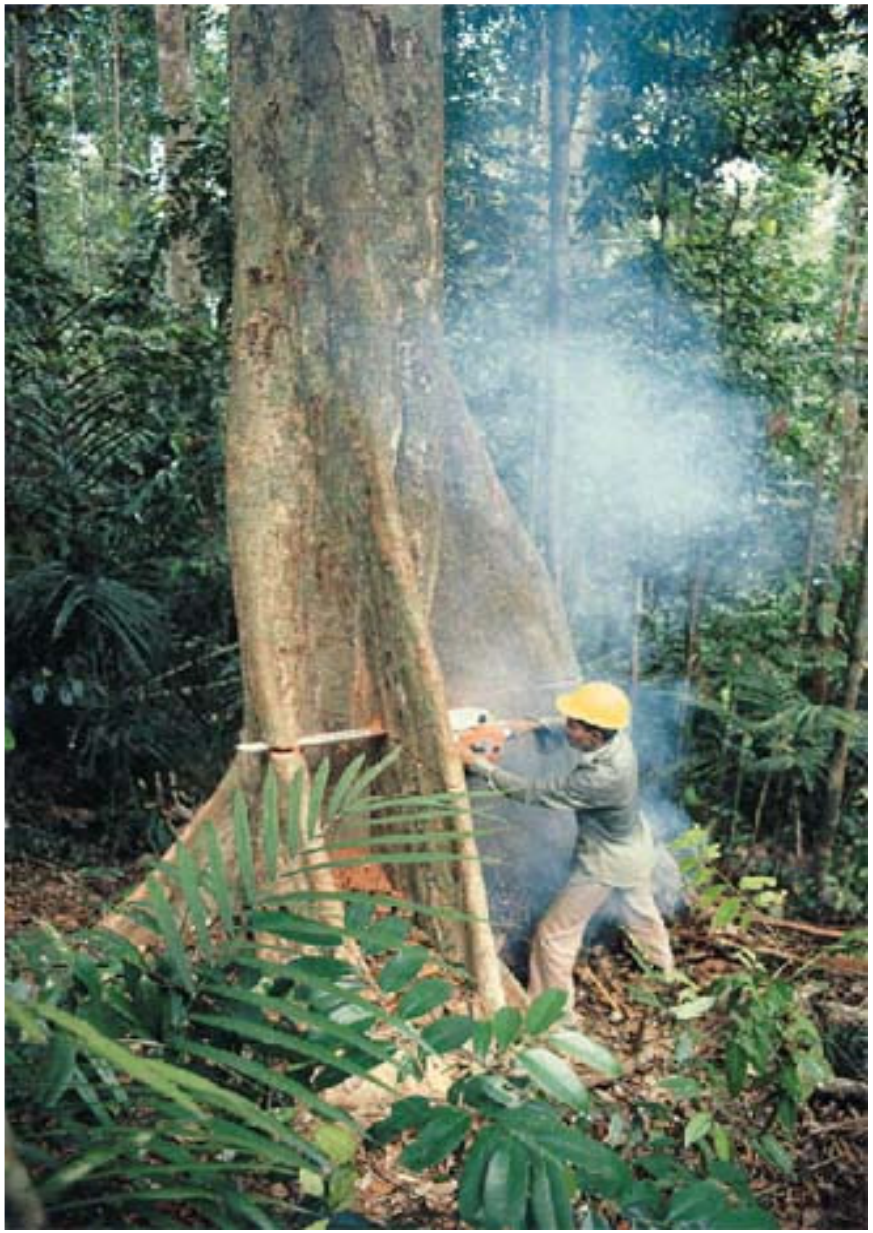
- Impacts are worse **- already more flood and drought prone and a large share of the economy is in climate sensitive sectors**
- Lower capacity to adapt **because of a lack of financial, institutional and technological capacity and access to knowledge**
- Climate change is likely to impact disproportionately upon the poorest countries and the poorest persons within countries, **exacerbating inequities in health status and access to adequate food, clean water and other resources.**
- Net market sector effects are expected to be negative in most developing countries

Food production needs to double to meet the needs of an additional 3 billion people in the next 30 years Africa already feeling food crisis

Climate change is projected to decrease agricultural productivity in the tropics and sub-tropics for almost any amount of warming

Food and fiber Production
Provision of Clean and Sufficient Water
Maintenance of Biodiversity
Maintenance of Human Health
Storage and cycling of Carbon, Nitrogen, Phosphorus

Climate change will affect the ability of ecological systems to provide a range of essential ecological goods and services



Wood fuel is the only source of fuel for one third of the world's population

Wood demand will double in the next 50 years

Forest management will become more difficult due to an increase in pests and fires

Climate change is projected will decrease water availability in many arid- and semi-arid regions

**One third of the world's population is now subject to water scarcity**

Population facing water scarcity will more than double over the next 30 years

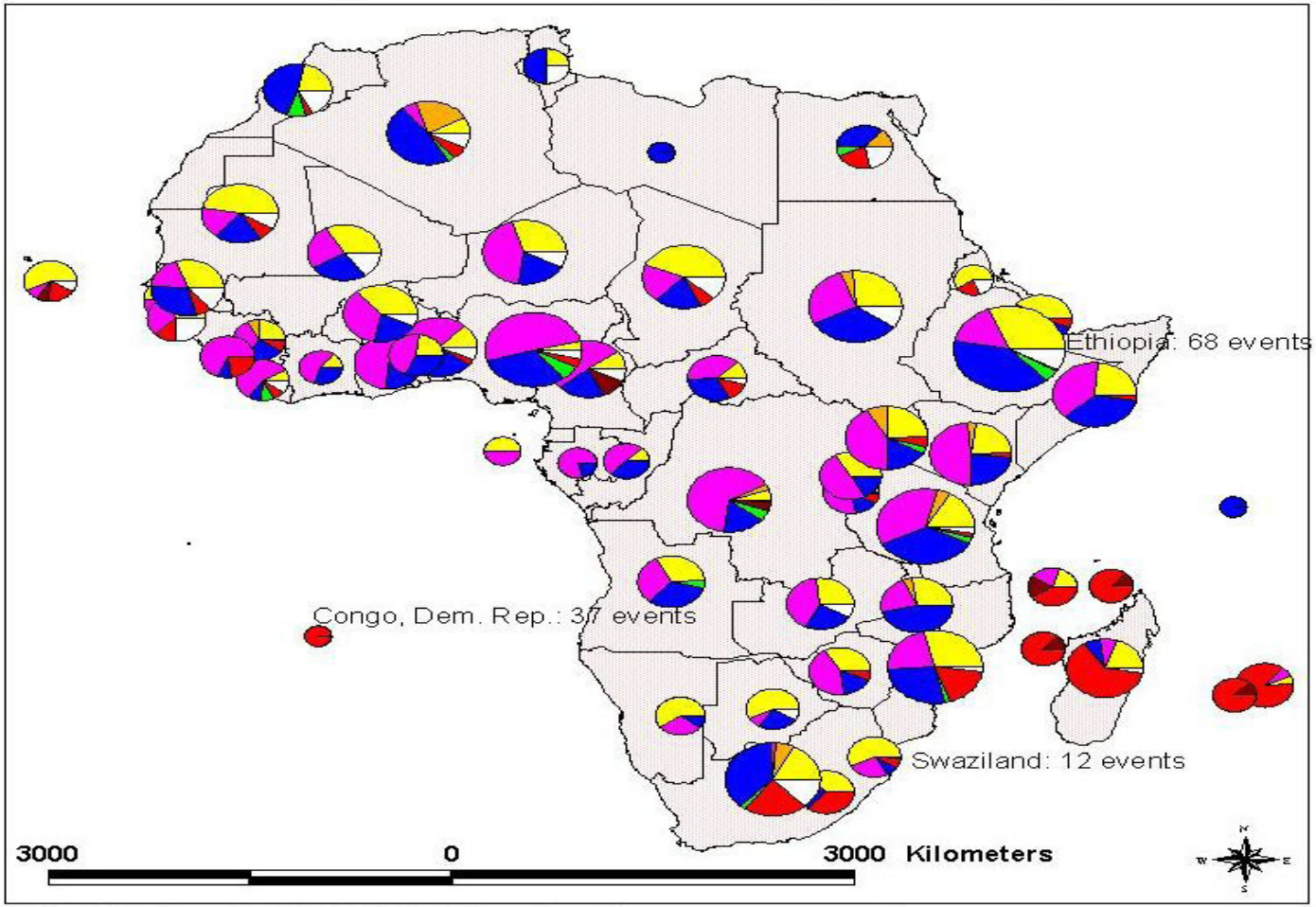
**Biodiversity underlies all ecological goods and services**

Climate change will exacerbate the loss of biodiversity

## In Summary Potential Climate Change Impacts are:

- **Health**
  - Air quality, weather-related mortality, infectious diseases (for example malaria)
- **Agriculture**
  - Crop yields, irrigation demands
- **Forests**
  - Forest composition, geographic range, forest productivity
- **Water resources**
  - Water supply, water quality, competition for water resources
- **Coastal areas**
  - Beach erosion, inundation of coast wetlands, costs to
- protect coastal communities
  - **Species and natural areas**
  - Loss of habitat and species

# Distribution of natural disasters, by country and type of phenomena, in Africa (1975-2001)




EM-DAT: The OFDA/CRED International Disaster Database
(http://www.cred.be ; email: cred@epid.ucl.ac.be)

# What is emerging form studies on gender

- CC and gender inequalities are inextricably linked
- By the impacts that exacerbate further inequality this impedes progress to sustainable development
- Gender inequality can worsen the impact of CC
- Women than men became more vulnerable to gender-based vulnerability of CC impacts
- It is also found that vulnerability and peoples capacity to cope depend on their assets thus poverty is a key variable in vulnerability assessment

# Conceptual overview - BIOFUELS

- Biofuels – organic primary and/or secondary fuels derived from biomass which can be used for the generation of thermal energy by combustion or other technologies
- They comprise both purpose-grown energy crops as well as multipurpose and byproducts (residue & wastes) FAO, 2000
- Focus: 2 types of liquid biofuels produced from purpose-grown crops
- (bioethanol & Biodiesel)

# Conceptual overview

Many definitions- this came from fieldwork

**Common understanding by women**

Biofuels –

"purpose-grown crop with high market potential that can produce fuel to power cars and machines"

(translated from women from the field work)

# Biofuels trends and development

- Biofuels have generated vigorous debates. The trend is that there has been a rise and waning in interests around:
  - Economic
  - Social
  - Environmental grounds
- The issue of biofuels is with us to stay
- The potential is large:
  - Employment opportunities
  - Wider growth multipliers & Energy price effects

❖Yet it is also fragile

# Fragility of Biofuels development

- However, it is also being argued that capturing the full potential would require:
  - overcoming potential conflicts between bio-energy production and the protection of the environment,
  - will impact on sustainable development, and food security of the rural poor (WEC, 2007)
  - Food is the key argument for many quarters

# Studies point to

## Studies are illustrating:

- Track inputs at global or national level
- Distributional impacts are complex and point to need for In-depth understanding of country by country analysis or context specific analysis
- Need to especially understand the challenges and opportunities
- Gender is still yet to be explored
- Resources will be the main issue in biofuels debate

# We need

- More research on the context-specific gender differentiated socio-economic risks and opportunities of Liquid Biofuels Production (LBP).
- Generation of reliable sex-disaggregated data on the socio-economic effects of LBP discussed in this paper.
- Evaluation of the employment opportunities and working conditions on biofuels feedstock plantations.

# Challenges in Biofuels development

- Large-scale production of biofuel feedstocks is land-, resource- and capital-intensive.
- Smallholder farmers (particularly women) have limited access to land, formal credit schemes and markets for purchasing external inputs.
- → LBP might benefit men and male-headed households more than women and female-headed households

# challenges

- BP might divert land and other resources/inputs away from food crops.
- Plantations may be established on high-quality lands, leaving subsistence crops to the low-quality lands.
- BP may negatively impact livestock production.
- Increased risk of food insecurity for people who depend on forests for their livelihoods

# Gender and biofuels

- ► Increasing pressure on (and conversion of) “marginal lands”, which:
- provide key subsistence functions, particularly to the most vulnerable; and are particularly important to women’s activities and livelihoods.

# WHY GENDER AND BIOFUELS?

- Lack of understanding of the gender-differentiated socioeconomic effects of LBP.
- BP might affect women and men differently.
- Understanding the gender-differentiated effects of BP is essential for identifying real “winners” and “losers”.

# Biofuels and gender

► Women and men (and female- and male-headed households) usually face different risks due to:

- their access to and control of land and other productive assets;
- their level of participation in socio-economic activities and associated decision-making processes;
- employment opportunities and conditions; and
- food security/insecurity

# Opportunities

- New employment opportunities in rural areas, with positive effects on income generation/rural development.
- Number of agricultural jobs associated with LBP likely to decrease with increasing mechanization agriculture.

# Challenges

- Cultivation of biofuel feedstocks linked to unfair conditions of employment, health and safety risks, child labour and forced labour.
- Gender-differentiated working conditions on plantations.
- Women disadvantaged in terms of employment benefits and exposure to occupational safety and health risks.

# Conclusions

- Climate Change and Liquid Biofuels Production have clear impacts on gender
- The most vulnerable groups that will be affected by climate change are the poorest of the world and in most cases, these are women and female-headed households
- Land and productive assets are essential in LBP – these are unequally distributed assets that most women in rural low-income areas do not have access to.

# Thanks for listening

NB: Acknowledgment of IPCC and others for the pictures