Adaptation and key risks for Africa

Prof. Shadrack Mwakalila,
Lead Author, IPCC Working Group II
University of Dar es Salaam-TANZANIA
The core concepts of the WGII AR5
## Risks and Potential for Adaptation in Africa

<table>
<thead>
<tr>
<th>Key risk</th>
<th>Potential for Adaptation</th>
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<tbody>
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<td>Compounded stress on water resources at present and increased demand in the future</td>
<td>• Strengthening institutional capacities for demand management and IWRM</td>
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| Reduced crop productivity, with strong adverse effects on household livelihood and food security, | • Technological adaptation responses.  
• Strengthening institutions to support agriculture  
• Agronomic adaptation responses.                                                                 |
| Changes in the incidence and geographic range of vector- and water-borne diseases. | • Improved access to safe water and improved sanitation, and enhancement of public health functions. |
The water-energy-food nexus as related to climate change

Water for energy
- Cooling of thermal power plants
- Hydropower
- Irrigation of bioenergy crops
- Extraction and refining

Energy for water
- Extraction and transportation
- Water treatment/desalination
- Wastewater, drainage, treatment and disposal

Energy for food/feed/fiber
- Crop and livestock production
- Processing and transport
- Food consumption
- Energy for irrigated crops
- Food/feed/fiber for energy production
- Competition between (bio) energy and food/fiber production for water and land

Water for food/feed/fiber
- Irrigation
- Livestock water use
- Water use for food processing

Impact of food/feed/fiber production on water quality and runoff generation

Nutritionally appropriate low meat diet or low water consuming vegetarian diet generally reduces water and energy demand as well as GHG emissions per person.

Use of agricultural, livestock and food waste may reduce conventional energy use and GHG emissions.

Climate change tends to increase energy demand for cooling as well as water demand.
Principles for Effective Adaptation

• Adaptation is place- and context-specific, with no single approach for reducing risks appropriate across all settings.

• Adaptation planning and implementation can be enhanced through complementary actions across levels, from individuals to governments.

• A first step towards adaptation to future climate change is reducing vulnerability and exposure to present climate variability.

• Existing and emerging economic instruments can foster adaptation by providing incentives for anticipating and reducing impacts.
CONCLUSION

- Water in Africa is key for many sectors, systems and users.
- Water is discussed in IPCC WGII report, both as a source of risks and as a means for adaptation.
- To achieve water security in a changing climate, the well-established approach of adaptive IWRM needs to be extended with respect to the risks of climate change.
- Managing the risks of climate change means that the uncertainty of future climate and its impacts are fully embraced in decision making.