

# The Economics of Climate Change in the United Republic of Tanzania



THE UNITED REPUBLIC OF TANZANIA



Development Partners Group on Environment and Climate Change

# Tanzania is already vulnerable to the current climate

## Current major weather events in Tanzania often cost > 1% of GDP

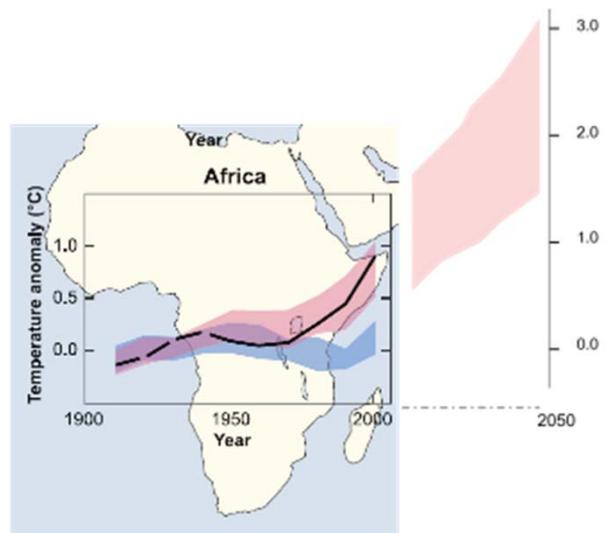
- Tanzania's economy is very dependent on its climate. A large proportion of GDP is associated with climate sensitive activities, particularly agriculture.
- Extreme events, such as the periodic droughts and floods that affect the country, lead to economic costs, reduce long-term growth and affect millions of livelihoods
- Tanzania is not adequately adapted to the current climate, i.e. it has an existing adaptation deficit

## ... and the climate is changing

Historic warming is already nearly 1°C

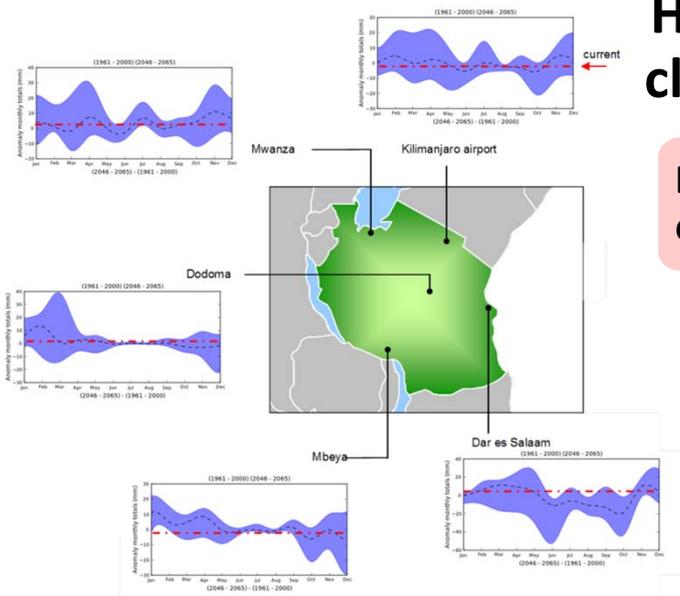
...and could reach 3°C by 2050

- The black line shows historic temperature observations. The blue band shows model results without GHG emissions; the pink with GHGs.
- The extended pink band shows future projections of temperature in the future
- Source: IPCC AR4, WGI.



## However, the future effects of climate change are uncertain..

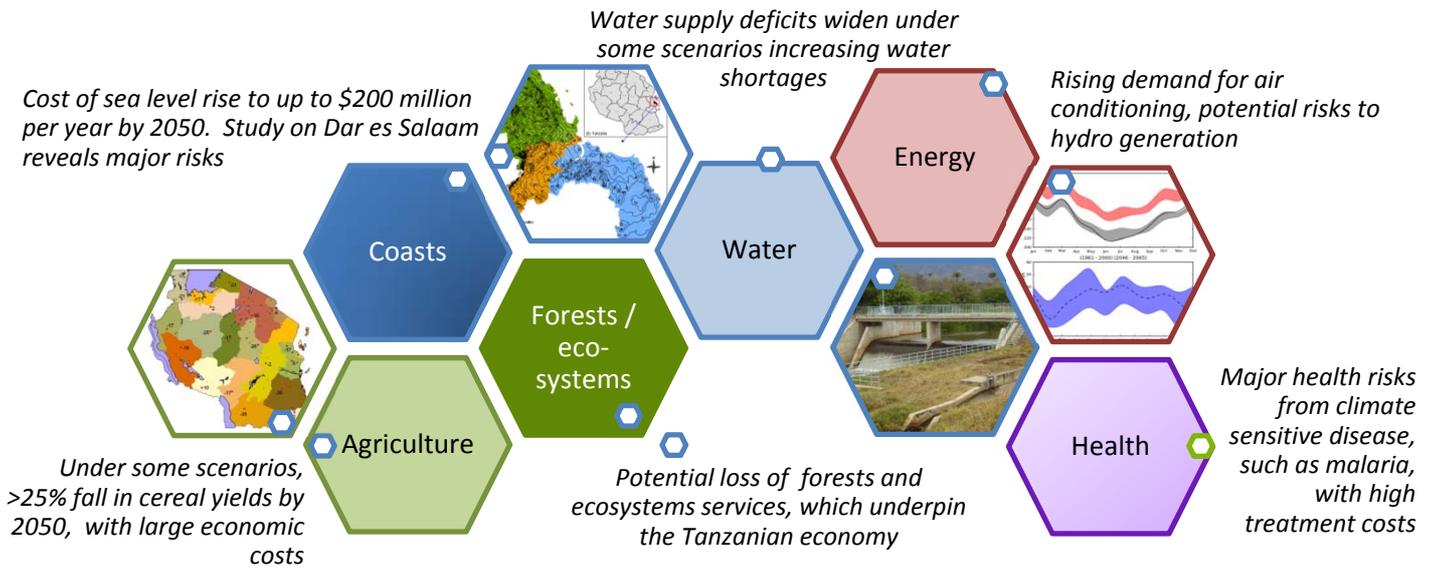
Future climate model projections vary, especially for rainfall & extreme events



- Climate model envelopes, showing the range of projections across months of the year (in blue) for the change in rainfall in the 2050s, from current levels (shown as the red lines).
- The outputs of different models vary with region and season – with even differences (+/-) in the sign of the projected change.
- Source: University of Cape Town (CSAG)

...although uncertainty is not a reason for inaction

# Climate change will lead to impacts & economic costs



**By the 2030s, climate change could lead to costs of 1-2% of GDP per year**

**Climate impacts could prevent Tanzania from achieving key economic and development targets, and delaying progress towards middle-income status**

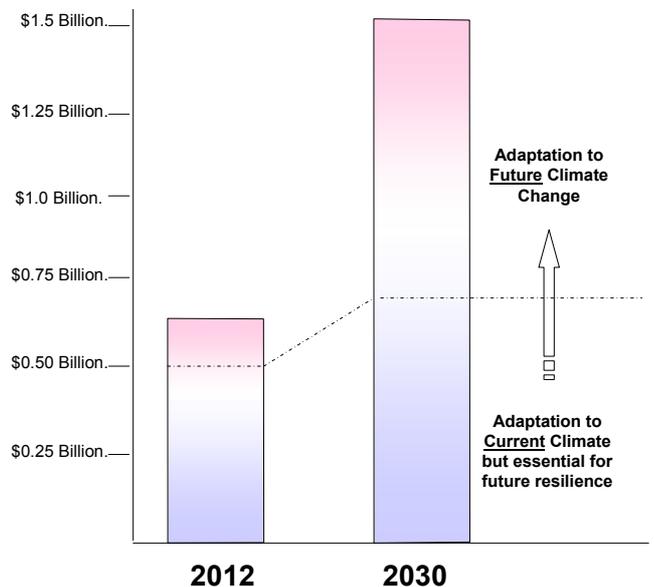
## Adaptation can reduce these impacts – but major funding is required to prepare and adapt

### Immediate needs

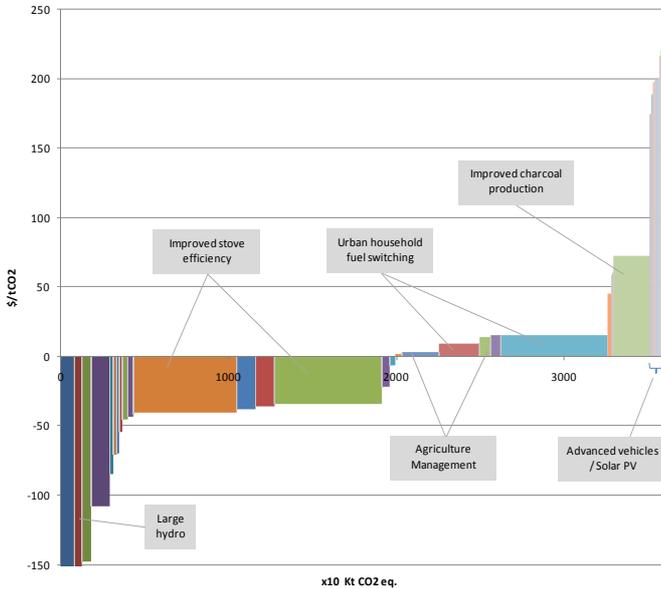
- \$500 million/year to reduce current vulnerability
- Further \$100-150 million/year to build capacity and enhance resilience to future climate change

### By 2030

- Requirements will increase rapidly to address CC
- Investment > \$1 billion/year is reasonable
- Accessing adaptation funds will require effective policy, and institutions



# A Sustainable and Low Carbon Growth Path is in Tanzania's self-interest



Each bar represents a specific measure. The vertical axis indicates the costs of reducing a tonne of CO<sub>2</sub>. The width of the bar shows the national emission reductions the measure could achieve.

## Tanzania is currently using energy unsustainably

- This includes unsustainable wood fuel/charcoal and increasing fossil fuels, with economic and environmental impacts.

## Achieving future growth will require a change of direction

- Under current plans, the impacts of energy use will increase, and GHG emissions could double by 2030
- Carbon finance could help fund a transition
- A marginal abatement cost curve for Tanzania shows the large number of no regret low carbon options that are available

# Tanzania needs to get ready and act now !

## Impacts and Adaptation

- Climate change should be mainstreamed into the Vision , growth path & sectors
- Tanzania should further develop the national climate change strategy
- There is a need to build capacity, institutions and governance

## Low Carbon Growth

- Low carbon growth should be built into policy, from the vision to sector level
- The national strategy should also include national level low carbon paths
- Tanzania should gear up to maximise opportunities from carbon investment



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Full study reports available at: [www.economics-of-cc-in-tanzania.org/](http://www.economics-of-cc-in-tanzania.org/)

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