

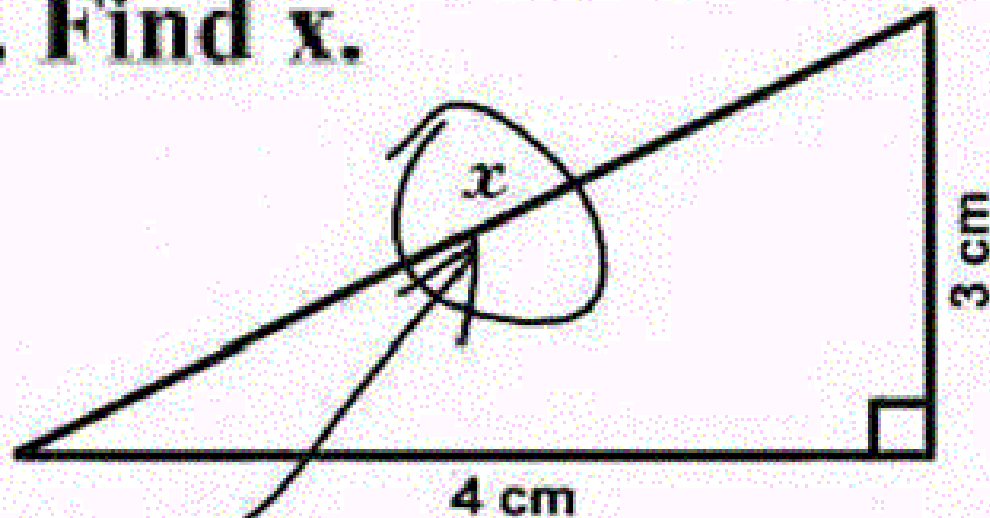
INTEGRATING CLIMATE
CHANGE ADAPTATION INTO
INTERNATIONAL RIVER BASIN
MANAGEMENT IN SOUTHERN
AFRICA

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3. Find x .



Here it is

SIMPLICITY

The simplest solutions are often the cleverest
They are also usually wrong

Projections

- GCMs and local downscaling suggest by 2050:
 - 1 – 3 °C rise in mean temperature, particularly during the summer months (D, J, F)
 - Variable rainfall impacts, with reduced rainfall in some areas (S W) and increased in others
 - Increased crop water demand and reduced soil moisture in many areas
 - Increased intensity of events (dry and wet)

Water Resource Impacts

- Great uncertainty still exists, given the complex relationships between changing parameters under future climates
- Sudden, extreme events and gradual, persistent change
 - Floods, droughts
 - MAR change, habitat change, groundwater recharge change
 - Changes in onset and duration of rains (and flow in ephemeral systems)

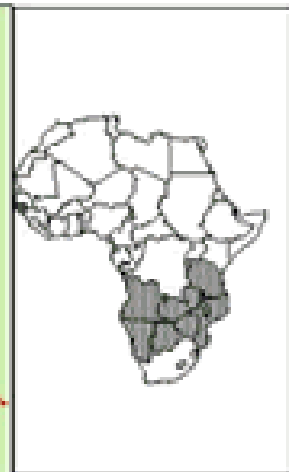
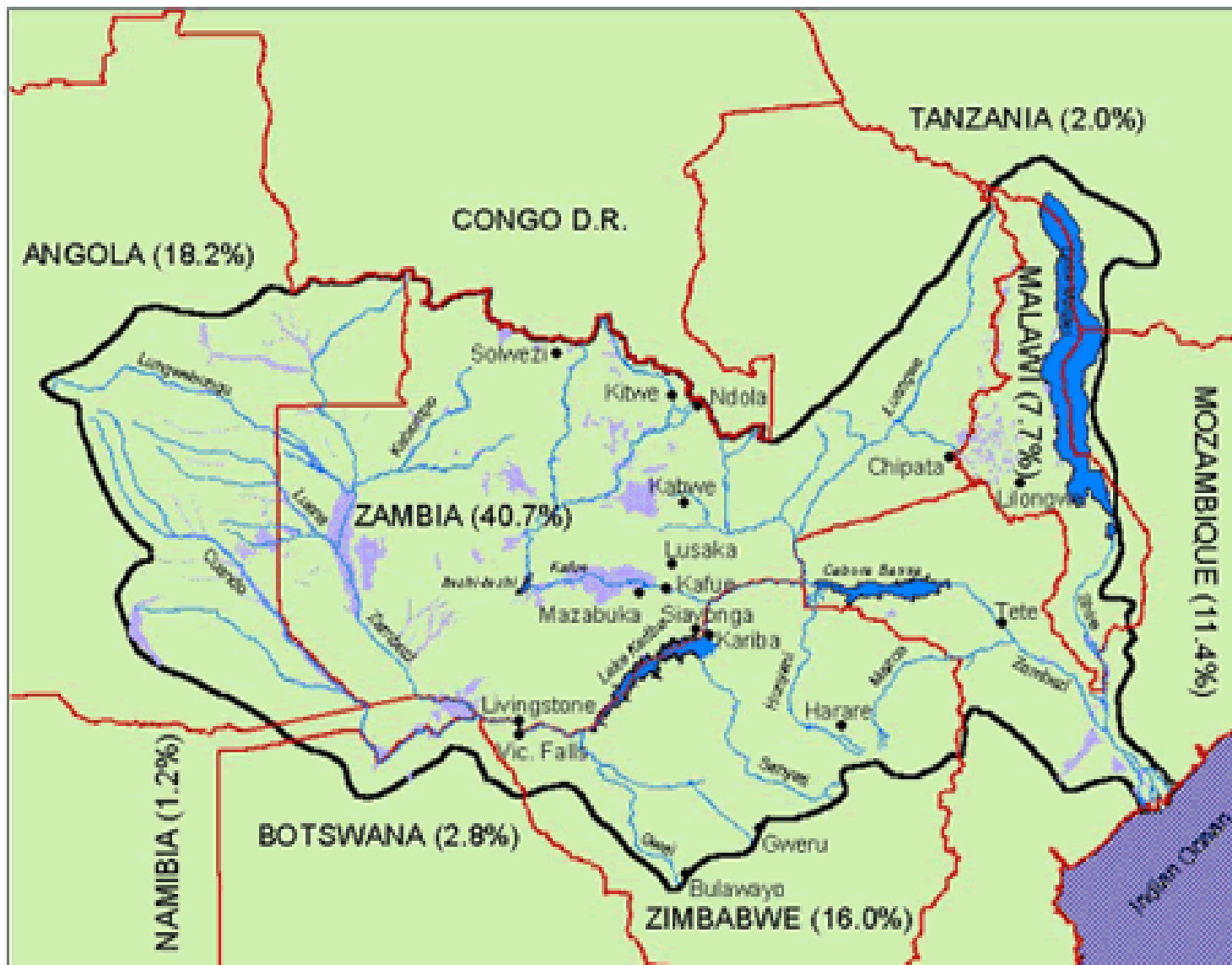
Socio-Economic Impacts

- Southern Africa is widely recognised as amongst the most vulnerable regions of the world
 - High degree of poverty, low levels of infrastructure and social investment, HIV /AIDS pandemic
 - Livelihoods centre on small-scale agricultural production
 - Extensive land degradation
- Amongst the most vulnerable are small-scale dry-land producers in the rural and peri-urban environments

Transboundary Water Management

- A common adaptive management approach involving several sovereign states introduces significant complexity
 - Different levels of information and knowledge
 - Different approaches to diversity, and different drivers of water use and different developmental level and needs (all of which informs diversity)
 - Variable (and sometimes conflicting) institutional frameworks
 - Cost, benefit and risk sharing for “shared” infrastructure

ZAMBEZI RIVER BASIN



- Industrial Towns
- Rivers
- International Borders
- Lakes
- Flood Plain/Inamp
- Zambezi River Basin
- Ocean
- Nation

Note:
Percentages in brackets refer to the area of the basin in each country

Map created by
ZRA's GIS-office
Lusaka, 14/6/2000

0 200 400 Kilometers

Zambezi Basin Approach

- Key impact is flooding in Mozambique
 - Opportunity for information sharing through ZAMCOM as floods originate in Zambia
 - Opportunity for management of impoundments (Kariba and Cahorra Bassa) to reduce the flood peak, facilitated by ZAMCOM
 - Opportunity to engage land-use in the upper catchment (Zambia, Angola, Malawi) to reduce flashy run-off, facilitated through the IWRM strategy of ZAMCOM (ZACPRO 6).

ambezi Basin Approach

- A further key impact is small-scale, dry-land agriculture in Southern Zambia
 - Opportunity for storage infrastructure to capture rainy-season run-off
 - Financing and development could be facilitated through ZAMCOM
 - Larger schemes could be developed collaboratively, facilitated by ZAMCOM
 - Linked into a basin approach for improved infrastructure and system management

Thank-you

