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Some Key Challenges of Governance and Management for the Nexus in a Southern African context

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Key messages

- The Southern African region is ex… unprecedented dynamics of… and on a variety of aspe…
- Organisational and i… …s / disparities are hi…
- Knowledge…
- Nexus is an … …also pushes into a highly politice… …d debate
- All the … …ve is … …a scale that is not comparable to … …regions in the world
- Sustainable living and well-being needs a localised view, and context specific governance

Therefore, an urgent need for innovations in government, management and governance beyond what we know!

In the Region Global Change Dynamics and Disparities are Incomparably High

- A region under-going rapid anthropogenic [illegible]ven change; urban migration and land-use [illegible] are dominating.
- The effects are often express[illegible]ghly localized impacts.
- “The reality of a hi[illegible]ainfall and water supplies, frequent flood[illegible]s, soils which require careful nurturing t[illegible]ir ability to produce and a popul[illegible]lnerable to disease and poverty imply th[illegible]eaching a threshold [...] high.” (Ngcobo *et a*[illegible])
- Gove[illegible]nments, some of them relatively newly formed, are struggling with these aspects.

Puts huge strain on policy making, adaptation and mitigation planning

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Individual and Organisational Vulnerability and Disparity Levels are High

- … due to partially extremely high pov… …els
- … due to very high climate vari… countries of the region
- … due to human and … …acity constraints
- … due to lacki… …rastructure
- … due to … …parities between rural and urba…
- … …any countries in the region having a… …or even re-designed laws in the past few de…ades
- … due to implementation lagging

Democracies, governments and management not robust yet

Summary of global nexus risks and vulnerabilities (Wakeford *et al.* 2015)

RISKS TO: / ARISING FROM:	ENERGY SYSTEM DRIVERS AND LINKAGES	FOOD SYSTEM DRIVERS AND LINKAGES	WATER SYSTEM DRIVERS AND LINKAGES
ENERGY SECURITY	▪ Energy (oil) price shocks, arising from: – Geopolitical disruptions to energy supply (e.g. oil, gas or electricity). – Depletion of conventional fossil fuel resources, especially oil. – Rising costs to produce oil and gas. – Financial market commodity speculation. – Ageing infrastructure and lack of investment in new capacity. – Rapid demand growth in emerging markets. ▪ Climate mitigation could impose restrictions on fossil fuel combustion.	▪ Dependence on bioenergy sources derived from food crops raises energy access and affordability risks. ▪ Low net energy yield of many bioenergy sources, implying higher energy prices. ▪ Increasing demand for energy from food systems to meet growing global food demand. ▪ Limits on land and water availability for growing bioenergy. ▪ Climate change impacts on biofuel production.	▪ Water scarcity and impaired quality could constrain energy supplies, including hydropower and thermal power. ▪ Increasing demand for energy from water systems, and growing competition for water supplies with other sectors. ▪ Rising water temperatures threaten thermal power stations. ▪ Possible increases in water prices due to water scarcity and demand growth would raise energy production costs. ▪ Possible stricter regulations on water use for energy.
FOOD SECURITY	▪ Energy price shocks can raise food prices. ▪ Energy supply disruptions can negatively affect food production, storage and distribution, and increase food waste. ▪ Increasing competition for biomass waste. ▪ Biofuels may threaten food security via competition for land and water.	▪ Rising food demand driven by growing population and rising incomes. ▪ Constraints on arable land; eroding soils. ▪ Global warming can affect crop yields. ▪ Food prices are subject to financial speculation and price shocks are transmitted globally.	▪ Water scarcity and impaired quality could constrain food production and processing. ▪ Competition from other water uses could drive up water prices for agriculture. ▪ Droughts and floods driven by climate change can impair food production.
WATER SECURITY	▪ Energy supply shocks can disturb water extraction, treatment and distribution. ▪ Increasing demand for water from energy systems, possibly exacerbated by climate mitigation (e.g. expansion of biofuels). ▪ Threat of rising energy costs feeding through to water prices. ▪ Pollution of water resources from energy extraction and processing. ▪ Spatial mismatch between energy and water systems.	▪ Increasing demand for water from food systems and to meet food security goals. ▪ Water demand competition arising from foreign leasing of land for agriculture. ▪ Degradation of water resources from agriculture (e.g. fertilisers and pesticides) and food processing. ▪ Disruption of water-related ecosystem services from conversion of wetlands & forests to farmland.	▪ Population and economic growth place additional strain on water supplies. ▪ Geopolitical conflict over access to transboundary water resources. ▪ Financial constraints on water infrastructure development. ▪ Impacts of climate change (e.g. changing rainfall patterns, more frequent droughts and floods, melting glaciers, etc.). ▪ Degradation of water quality from economic activities.

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Knowledge systems are weak

- Limited monitoring networks and fu… …asing (including theft as a major issu…
- Data processing and pa… …tic
- Learning and ada… …to governance p…
- Localise… …quality and soci… …missing

Responsive management and governance is hardly possible, also because of limited organisational robustness

Nexus pushes into a highly politiced arena and debate

- The region has a history of colonisation [illegible] uthoritarian governance
  - Levels of democracy are ba[illegible]
  - Discremination and st[illegible] are still prevailing
- Energy + Wat[illegible]h and Development
- Food + [illegible]y and Poverty Reduction
- Of[illegible] for electricity production is a strategic use [illegible]es priority for allocation
- The right to water stands for empowerment and overcoming oppression

Understanding power relations becomes crucial and mainstreaming is hindered

WEF Nexus as a Window of Opportunity for the Region

- Water is an integrator and tou… f our lives and well-being
- … thus it enables us …
  - Engage
  - Facili…
  - …
- C… …comic development in the reg… …tion
- … or… …t specific and not one size fits all

If coupled with adequate governance systems it has the potential to mature democracy and enable empowerment (sustainable development?)

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The SDGs: A New Agenda for Sustainable Development

- A people centric vision, including aims such as dignitiy, prosperity and well-being on the backdrop of environmental protection and respectful use thereof.
- Such sustainable living and well-being needs a localised view, and thus, context specific governance.

Energy, food and water security are basic elements for **livelihoods**,

BUT well-being goes beyond this and requires a localies view to **capture local phenomena and context**.

Innovations in government, management and governance beyond what we know…

- Come and join us in having some great ideas!

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