Tshwane University of Technology

*We empower people*

# Science, Technology & Innovation for Development

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*African Science, Technology & Innovation Indicators Initiative (ASTII) : Harmonisation Workshop*

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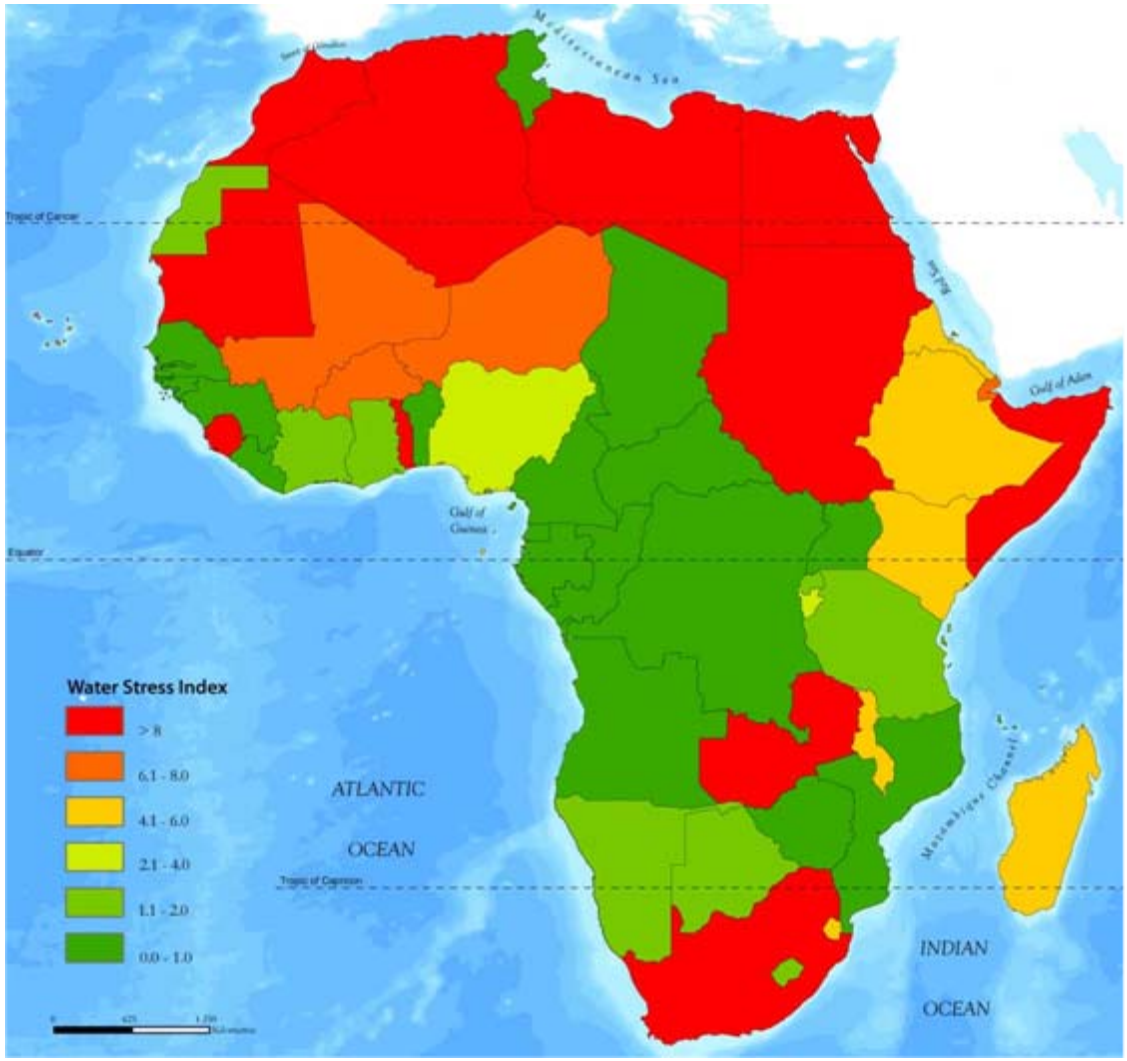
# Outline

1. Introduction
2. Innovation systems-based responses
3. Evidence-based Policies
4. Monitoring, Evaluating & Learning
5. Conclusion

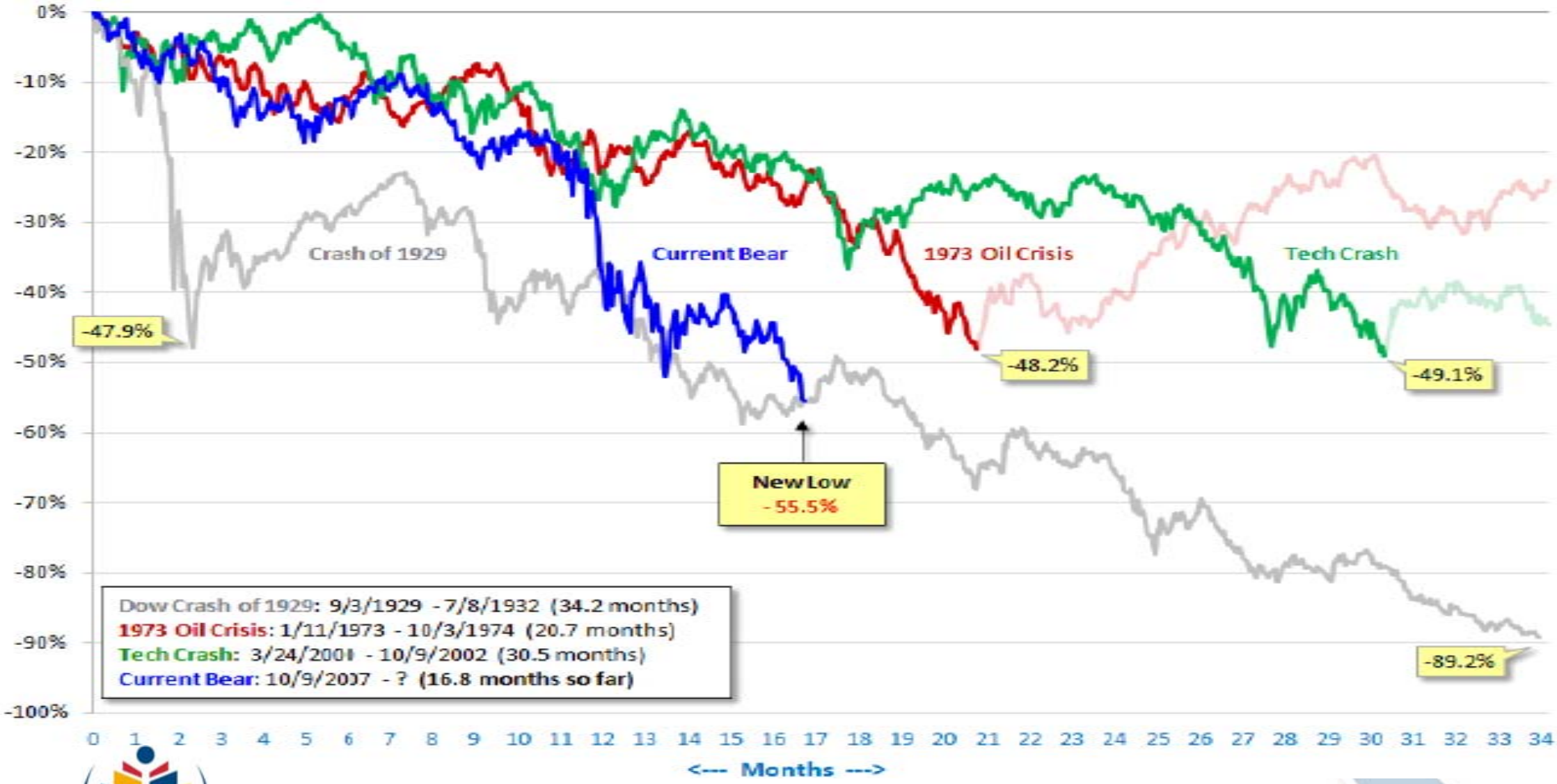
# Introduction

- Context setting
  - *global interconnected crisis*
  - Water
  - Food
  - Financial
  - Climate-change
- Increased vulnerability, volatility & pressure on resource allocations

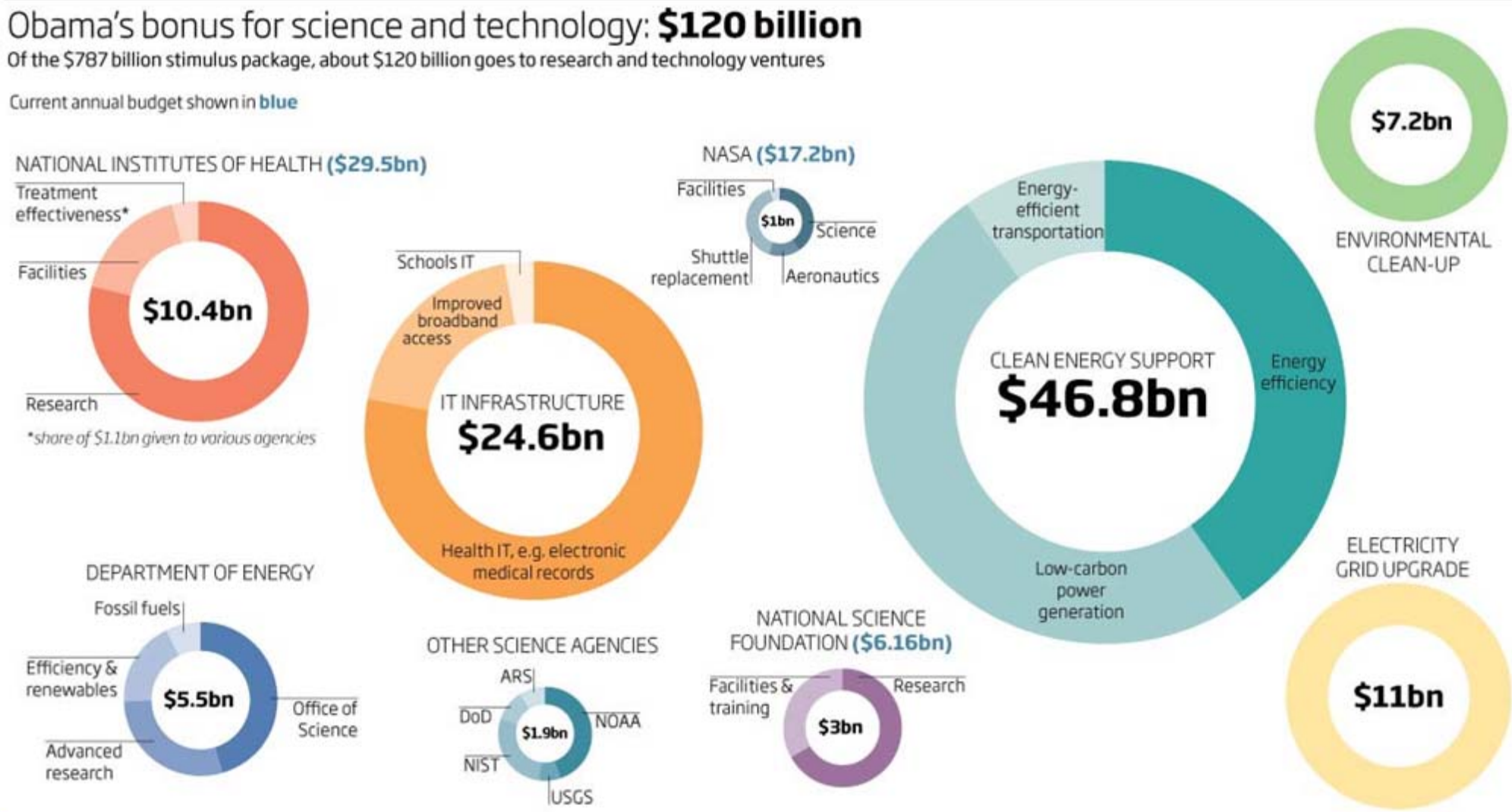
# Introduction: Water



# Introduction: Financial (p)



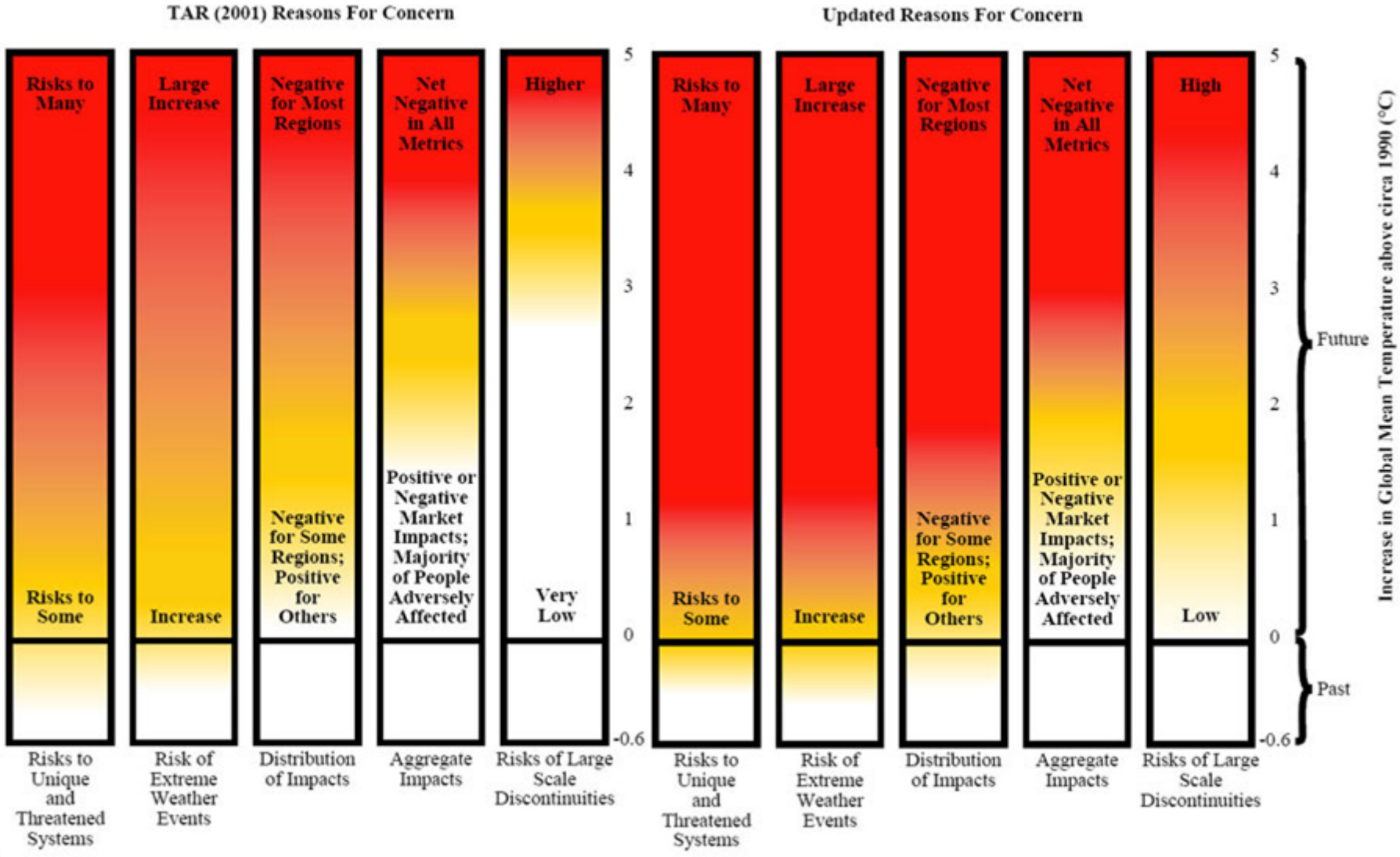
# Introduction: Financial (r)



# Introduction: Food

1. The combination of extreme weather and subsequent decline in yields and cereal stocks
2. A rapidly increasing share of non-food crops
3. High oil prices, affecting fertilizer use, food production, distribution and transport, and subsequently food prices
4. Speculation in the food markets
   - UNEP (2009)

# Introduction: Climate-change



# Proportion of all Scientific Papers published in 2001

Source: worldmaper data-ii-science research

# Innovation Systems

- Capacity, Capabilities and Competences
  - Country-level enterprise performance
- Flexible but resilient qualitative transformation of production, distribution and governance
- Living manuals/ growing literature from Practice

# Learning from Innovation Systems

- Generation of innovation
  - Ability of an economy to generate 'new' technologies and innovate
- Acquisition and assimilation of foreign innovations
  - Requires a broad base of skills and a critical mass of technical expertise
- Diffusion of innovation
  - Institutions and intermediate agencies
- Enabling environment
  - Macroeconomic stability and microeconomic interventions
- Administrative management of innovation policies
  - Temporality & building competences beyond electoral terms
  - Monitoring, Evaluating & Learning by doing (policy and strategy experimentation)

# Evidence-based Policies

- Country-contexts Matter
  - History, Path Dependencies, Socio-economic & Cultural & Political Considerations matter
  - Dualities & disarticulation (informal & traditional sectors)
  - Technological learning & Capability formation
- Evidence-based policy, strategy, programme and project requires quality, comparable data!

# Are Innovations the same?

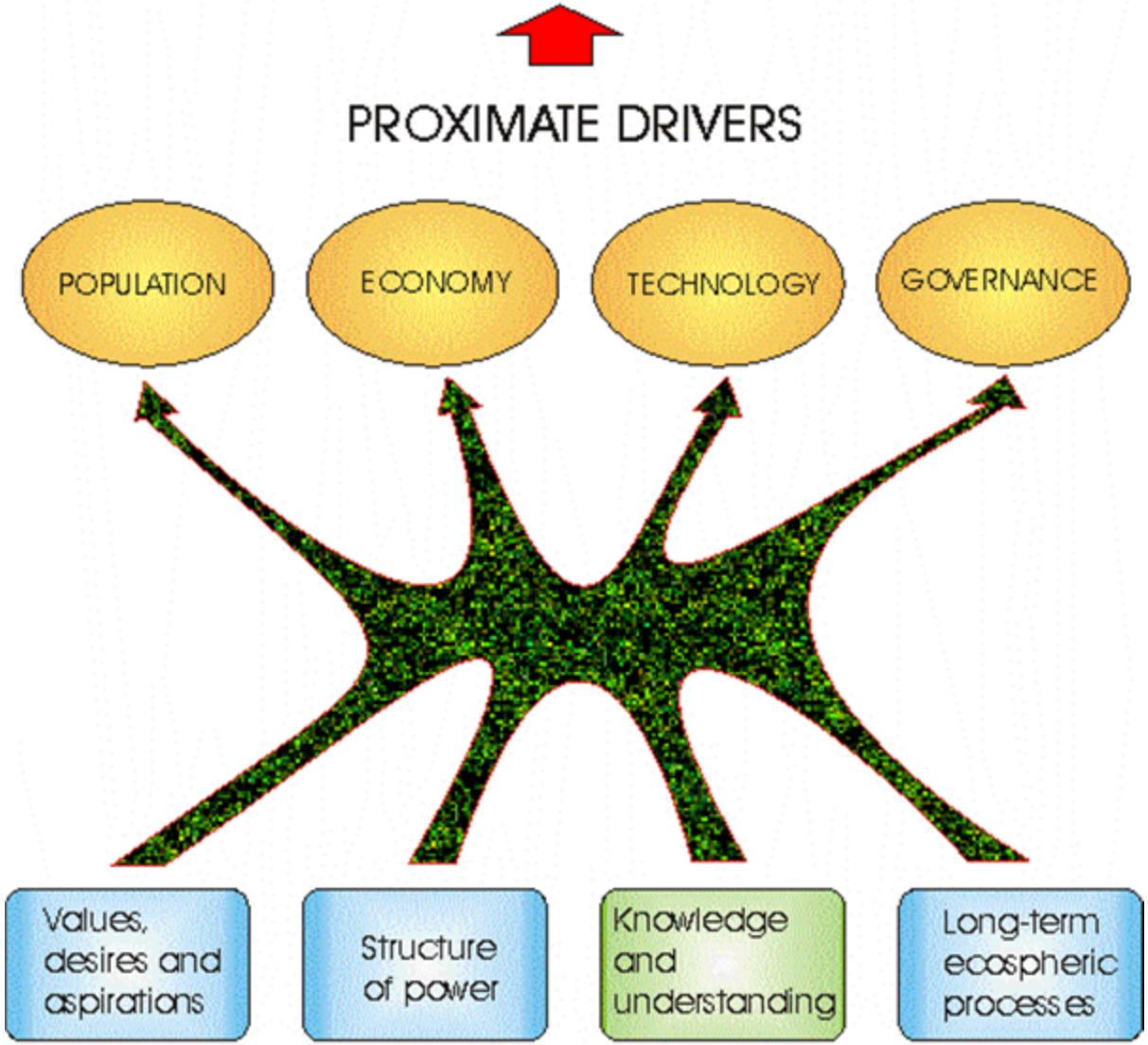
Innovation, although generically described, is not universal:

- Pervasive technological isolation of firms
- Existence of market failures
- Different nature of innovation (based on incremental innovations and learning)
- Larger presence of traditional sectors of production and the scale of the informal sector

# Monitoring, Evaluating & Learning

- Monitoring of Implementation & Performance
  - Short to Medium Term
- Evaluation of Impact & Outcomes
  - Medium to Long Term
- Learning feedback-loop to better allocation decisions
- Benchmarking Progress

# SUSTAINABILITY OF DEVELOPMENT





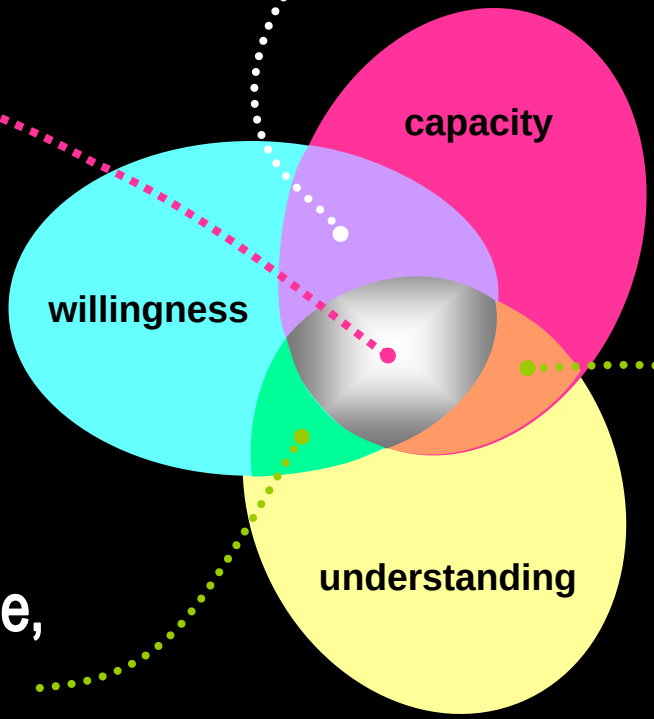

Source: Gilberto Gallopín, 2008

# Conclusion

- Build and Expand Empirical Research Competency across Africa
  - *Robust & Agile Strategic Planning*
  - support transitions & transformation
  - bridge temporal divide
  - span territorial variation
  - enhance progressive governance, equitable growth, sustainable development and social cohesion!

# wise, able, and willing: appropriate actions

willing and able,
but ignorant: wrong actions




willing and wise,
but unable:
thwarted actions

wise and able,
but unwilling:
inaction or only
cosmetic actions

# Thank You

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