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KADI Stakeholder Meeting

15. October 24

Welcome and Introduction
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Director General of ICOS

kadi-project.eu

The background

- The increase of greenhouse gases in the atmosphere causes climate change with many negative side effects.
- Historically Africa is not responsible for many GHG emissions but the continent becomes more and more affected by climate change.
- During the past decade, Africa has turned from a GHG sink to a GHG source.

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The background

In this context, Africa needs two things:

- A strong voice at COPs.
- Climate services to support mitigation and adaptation.

Both need support from science and scientific observations.

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The vision behind KADI

- It’s about science
- It’s a concept study for scientific observations
- It’s inter-disciplinary
- It’s an African-European cooperation.
- It’s pan-African

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Let’s talk science

- GHG in the atmosphere have many sources and sinks.
- These sources and sinks are affected by weather and climate.
- They are affected by human activities.
- They are complex.
- And we don’t know enough.

We need to empower African scientists to produce the necessary knowledge for Africa

Check for updates

AGU ADVANCING EARTH AND SPACE SCIENCES

Global Biogeochemical Cycles

RESEARCH ARTICLE
10.1029/2023GB008016

Special Section:
Regional Carbon Cycle Assessment and Processes-2

Key Points:
- Estimates of termite, herbivore, and fire emissions from novel methods
- Global woody biomass products constrained with high quality local data
- Africa a net source (approximately carbon neutral) between 2010 and 2019, sink capacity decreasing

Supporting Information:
Supporting Information may be found in the online version of this article.

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The African Regional Greenhouse Gases Budget (2010–2019)

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Abstract As part of the REgional Carbon Cycle Assessment and Processes Phase 2 (RECCAP2) project, we developed a comprehensive African Greenhouse gases (GHG) budget covering 2000 to 2019 (RECCAP1 and RECCAP2 time periods), and assessed uncertainties and trends over time. We compared bottom-up process-based models, data-driven remotely sensed products, and national GHG inventories with top-down atmospheric inversions, accounting also for lateral fluxes. We incorporated emission estimates derived from novel methodologies for termites, herbivores, and fire, which are particularly important in Africa. We further constrained global woody biomass change products with high-quality regional observations. During the RECCAP2 period, Africa's carbon sink capacity is decreasing, with net ecosystem exchange switching from a small sink of -0.61 ± 0.58 PgC yr^{-1} in RECCAP1 to a small source in RECCAP2 at 0.16 (−0.52/1.36) PgC yr^{-1}. Net CO_2 emissions estimated from bottom-up approaches were 1.6 (−0.9/5.8) $PgCO_2$ yr^{-1}, net CH_4 were 77 (56.4/93.9) $TgCH_4$ yr^{-1} and net N_2O were 2.9 (1.4/4.9) TgN_2O yr^{-1}. Top-down atmospheric inversions showed similar trends. Land Use Change emissions increased, representing one of the largest contributions at

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Recommendations for climate science (D3.3)

https://www.womeninscience.africa/

Support pan-African cooperation climate science

- Common research projects
- Develop common curricula
- Promote exchange
- Regular conferences in Africa
- E-Learning

Take ownership!

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What is the necessary science?

- How to define what is the necessary science?
- What guides investments into expensive infrastructure for science?
- How to measure the impact of science?

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Top-down definition of services and research needs (D1.1)

In case of climate research, you can define research needs based on services you want to provide.

Scientific analysis in different sectors

Mapping available infrastructure, gaps and needs.

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How to provide science for the people?
How to get the science to the people?

- First: listen to the people (Stakeholder events)
- Find out their scientific and observational needs

The challenge:

- There are many stakeholders
- They have different needs

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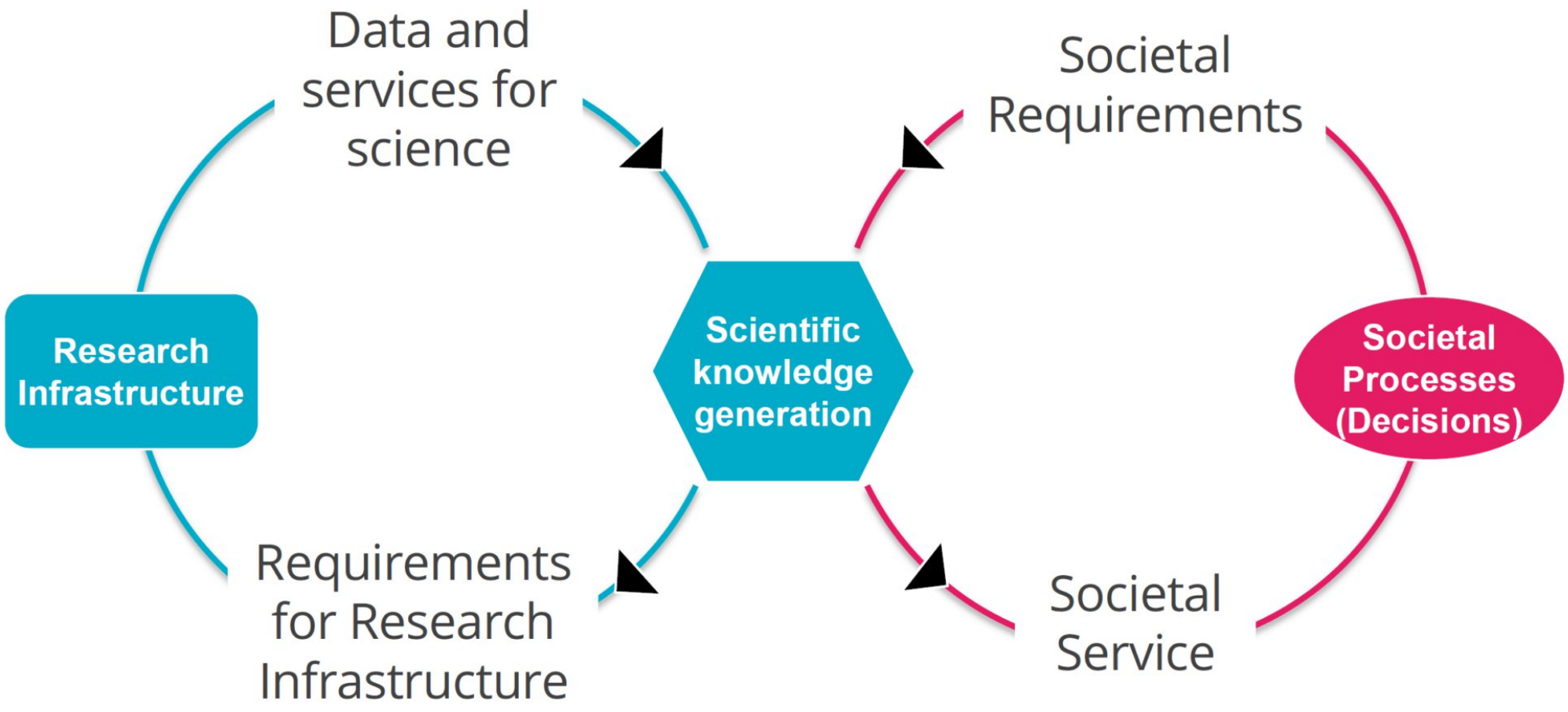
Our first idea to integrate



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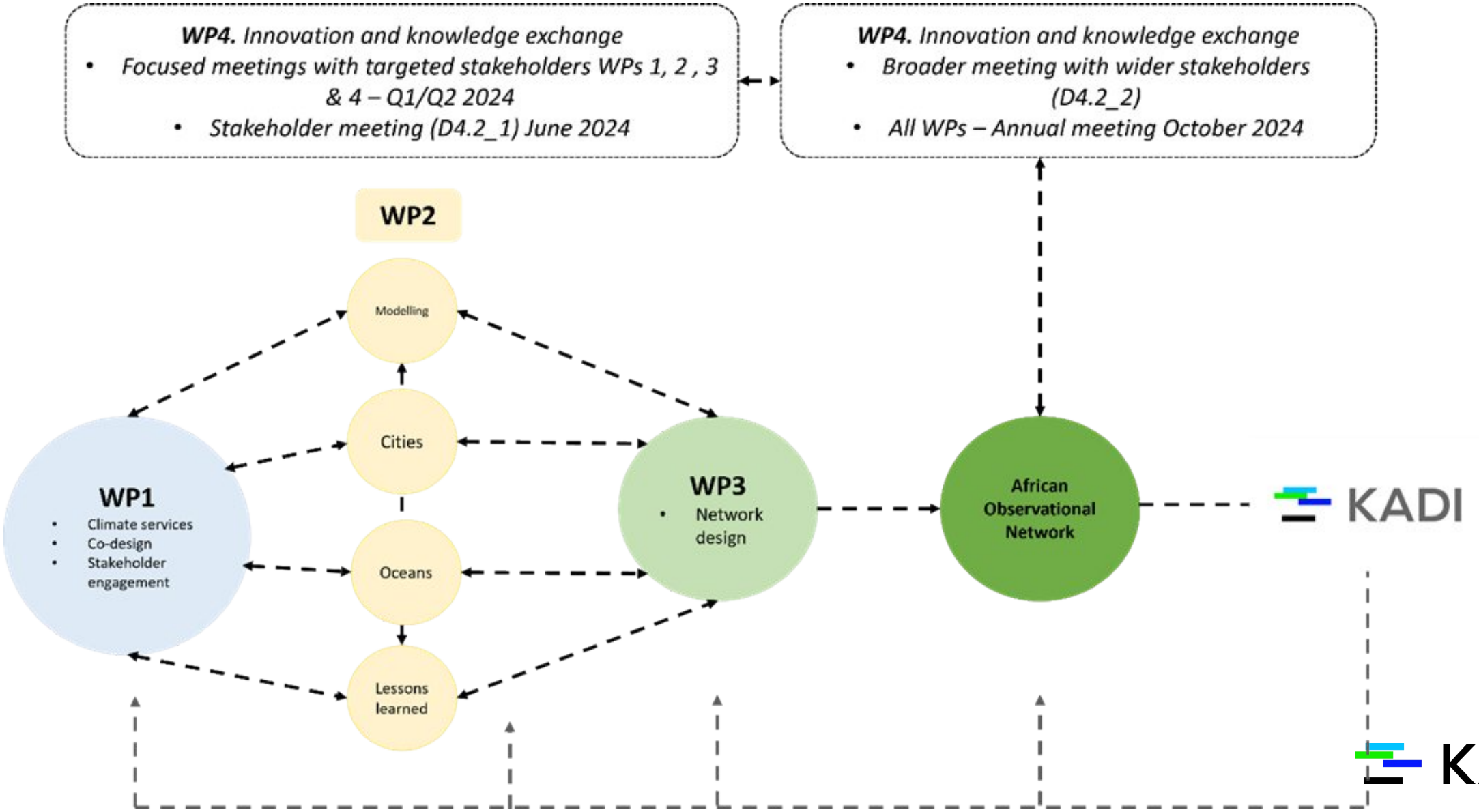
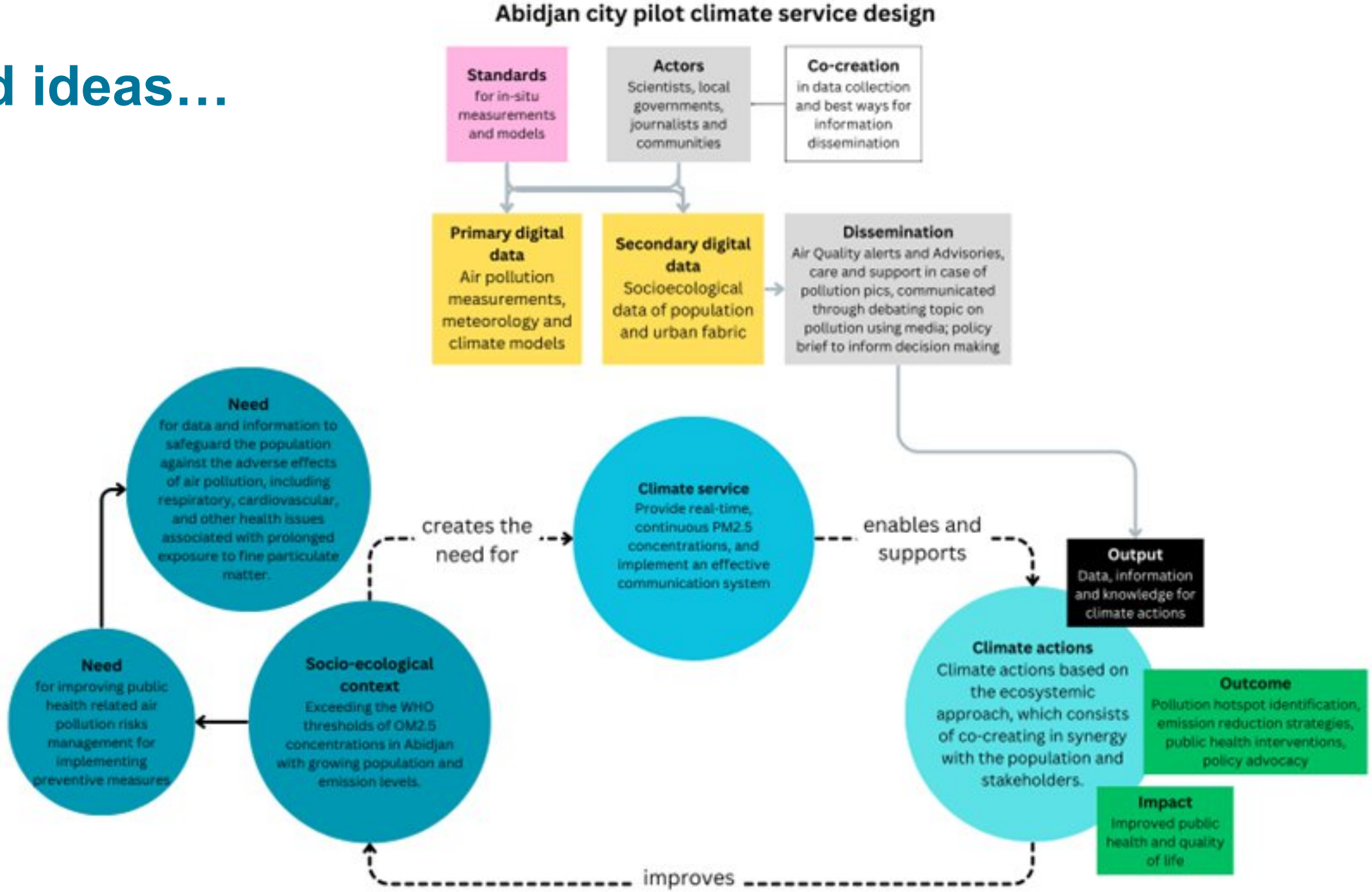
Get practical!



Second ideas…



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The next steps towards a pan-African research infrastructure.

Mount Kenia Atmosphere Observatory (Source: WMO)

- Network design
- Find resources
- Build a community
- Get out there!

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The vision behind KADI

- To support the development **pan-African climate observation system**
- A broad **information exchange network** as basis for a successful and sustainable cooperation that connects infrastructure operators, scientists, data and knowledge users, a community of practice in climate services, agencies and funding bodies
- A solid **strategy for implementation** and operation of the climate observation system in close connection to future actors and users

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Thanks for your attention

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