

Governing the Nexus – What and How

Joachim von Braun

Center for Development Research (ZEF)

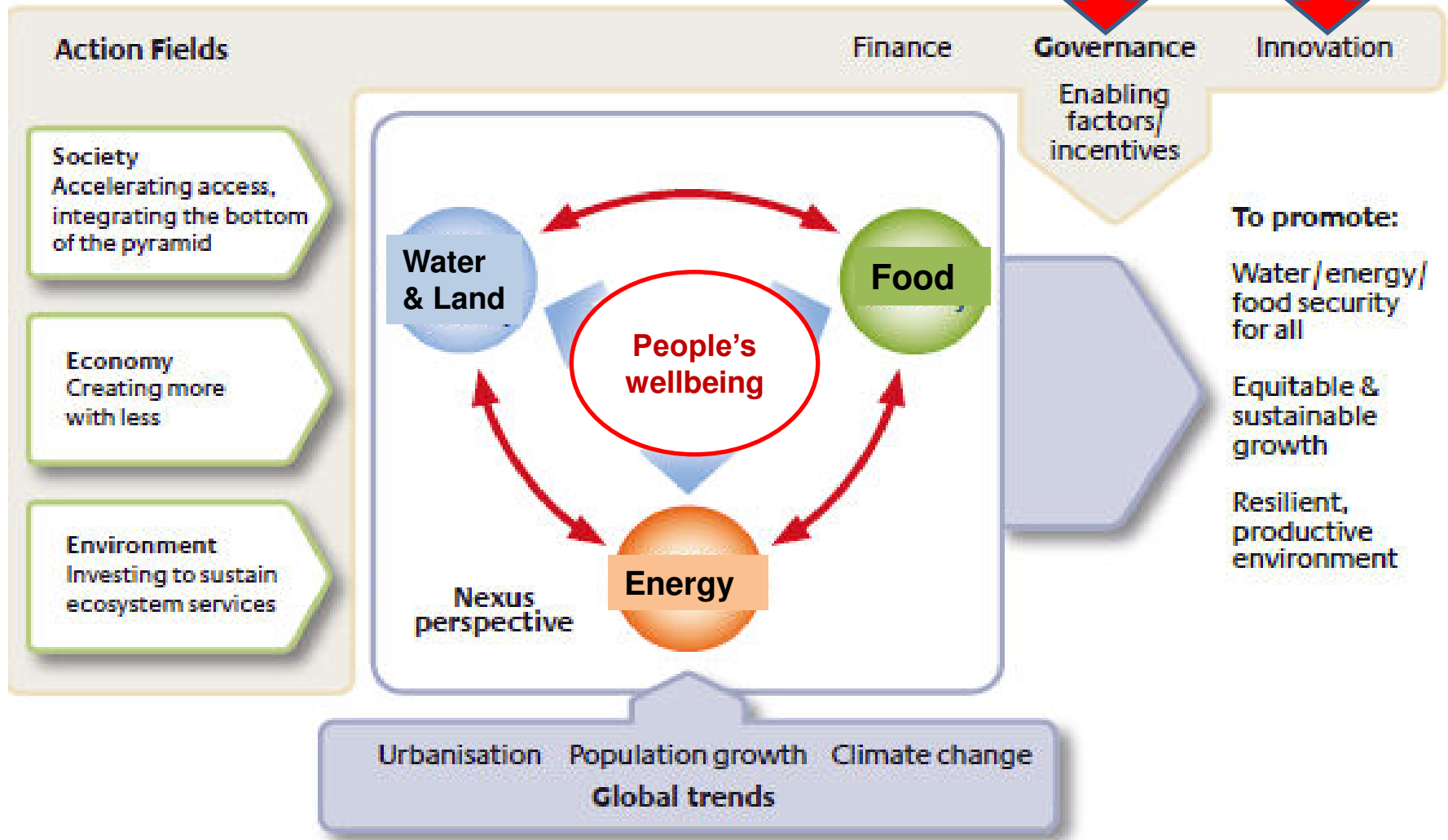
University of Bonn

International Conference: “Sustainability in the Water-Energy-Food Nexus -
Synergies and Tradeoffs: Governance and Tools at various Scales”

Plenary session: “Governing the Nexus for Transformations towards a
Sustainable Future”

19-20 May 2014 in Bonn

Nexus Approach: Governance, and Innovation facilitating impact



Nexus goals

What?

1. Accelerate access to water, food, energy services for all
2. Produce more with less / end waste, minimize losses
3. Protect nature / sustainably manage natural resources & ecosystems

How to?

Through overcoming sector silos / tapping synergies / getting policy coherence / mobilize consumers & citizens

Principles and How To

Principles:

1. Serving people (at the center of the Nexus)
2. Serving ecology and nature (for sust. dev.)
and governing the trade offs between 1. and 2.

How to?

- 1) Establish legal bases for Nexus (good gov., accountability against corruption),
- 2) Establish administrative arrangements for Nexus
- 3) Facilitate collective action (Nexus for local public goods)

through incentives, information, investment, regulation, education, research, empowerment

Big challenge 1

The complexity of and dynamics in the interconnected systems of water, energy, food

- Mega trends of scarcities and inequalities
- Risks, uncertainty of extreme events and tipping points of each sub-systems
- Externalities (+ / -)

How to address?

1. Integration of Nexus with resilience approach
2. Capture critical functionalities of the system of systems

Big challenge 2

The hard economics of Nexus

How to address?

- Optimizing not maximizing investments in Nexus and resilience
- Optimal balance between Nexus and sector actions
- Assessing transactions costs of Nexus governance
- Realism regarding Nexus' political economy

Three Nexus Governance Hotspots

1. Governance accross scales
(global & decentralized)
2. Governance accross sectors
(bioeconomy and systems)
3. Governance of water, energy,
food innovation (R&D, public
and private)

Hotspot No. 1: The Nexus governance across scales

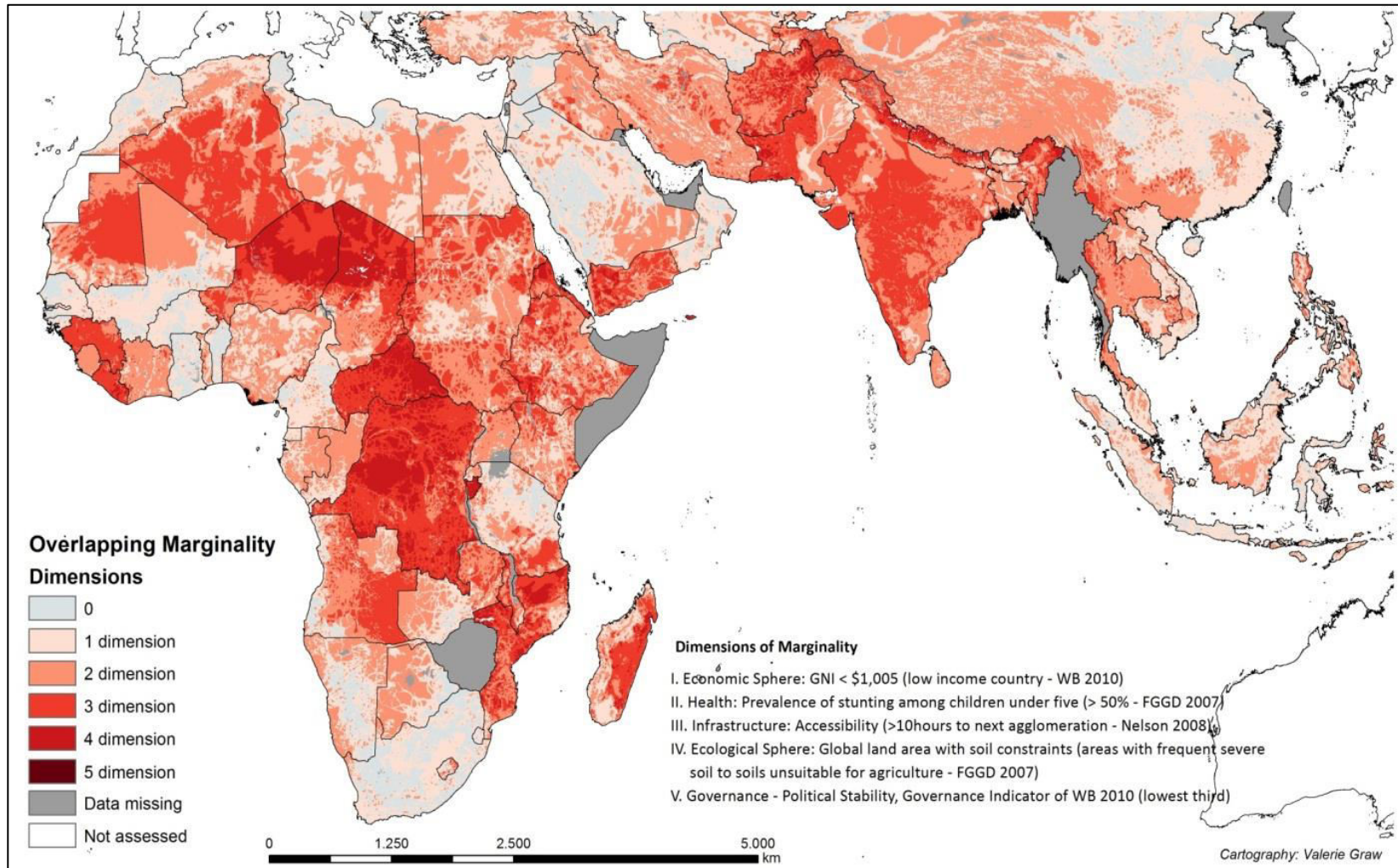
Each Nexus subsystem operates at different scales:

- Water: local, national, trans-national; public, private, and regulated
- Food: local, national, global; private and public
- Energy: local, national, global; public, private and regulated
- Climate: global; ungoverned

How?

Integrated implementation of Nexus following subsidiarity principles: decentralized, national, global

Governance quality and other marginality patterns in ecology context (food, soil, water, etc.)



Source: von Braun, Gatzweiler, 2014 An online book, free down load at:

<http://www.springer.com/environment/book/978-94-007-7060-7>

Global - Example: Food related public goods that need global Nexus governance

1. Natural resource management related to biodiversity, water, and soils
2. Climate change adaptation and mitigation
3. Trade and food reserves
4. Sound competition policy and standards for foreign direct investment
5. International research and innovation in food and agriculture
6. Responding to and preventing food and nutrition emergencies
7. Trans-boundary food safety and health related investments and standards

Hot spot No. 2. Larger transformation through 'biologizing' the economy

Water, energy, food Nexus is at the core of Bioeconomy

Definition: Bioeconomy is the production and use of biological resources to provide products, processes and services in all economic sectors within the frame of a sustainable economic system

Draws on biomass, industrial biotechnology, utilization of carbon generated from CO₂ or other non-fossil C sources

How to of Bioeconomy

Substitute fossil fuels and innovate (products, resources, processes)

Nexus cuts across multiple bioeconomic sub-sectors: agriculture, food, forestry, fisheries, large parts of chemical and pharmaceutical industries, fiber and textiles, bio-based construction materials, water, and energy sector components

Hot Spot No 3: Innovations for Nexus governance

Governance depends on innovations to tap Nexus opportunities

How to? Examples:

1. Comprehensive foot-print analyses (aggregation of scarce water foot prints, land use, energy/CO2)
2. Comprehensive food security – climate change assessment (currently: 85% focused on production effects; neglecting access, volatility, extreme events, nutrition)
3. In adverse Nexus environments :Combining investment in infrastructure, information and behavioral change (e.g. water-sanitation- agriculture linkages)

The way forward with Nexus governance

Constraints: sectoral forces and line-ministries are strong and defensive; They will try to capture their piece of Nexus or fight for their special interest domains

Opportunities:

The SDG implementation will not function without sound Nexus governance, guiding choices of instruments and investments;

With Nexus the chances are much better