

## The UNU-FLORES Nexus Observatory and the Post- 2015 Monitoring Agenda

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### INTRODUCTION

Recent debates within the UN system, which are also reflected in the Prototype Sustainable Development Report, have called for policy-making that is supported by a strong evidence-base. Making research relevant, timely, accessible and instructive, thus, strengthening science-policy interfaces is one of the key challenges of the 21<sup>st</sup> century. As much as humans must adapt to a changing world and build resilience (in economic, political, social and environmental terms), transformation and innovation of methods and approaches that are suited to address current and future challenges need to form an integral part if sustainable outcomes are to be achieved.

Scientists who have made important contributions towards articulating an analytical framework for sustainable management of environmental resources have emphasized the role of property rights for resources, such as forests, rivers and livestock pasture (Ostrom, 1990). The literature on institutions has highlighted the challenge of fragmented decision-making processes and structures that lead to the creation of silos across disciplines, regions, government departments and ministries. This in turn hinders inclusive and comprehensive approaches founded on improved understanding of trade-offs and synergies that is necessary for integrated management of environmental resources to occur.

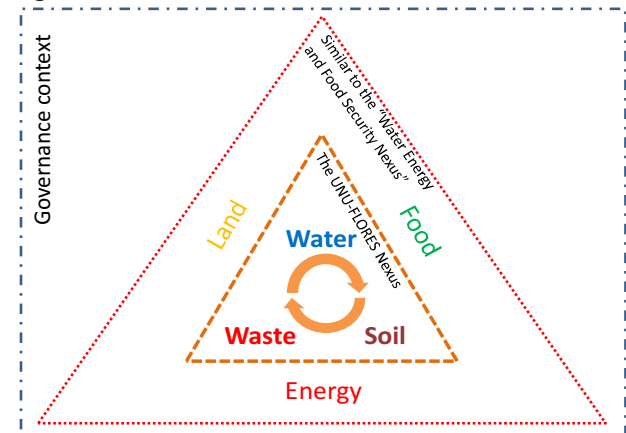
### TOWARDS A NEXUS APPROACH

The first appearance of nexus concepts in the field of the environment, highlighting interlinkages between natural resources usage, occurred in 1983 (Scott, Kurian, & Wescoat Jr., 2015). What started with the Food-Energy Nexus soon resulted in questions of whether other aspects, such as agricultural practices, water resources management or climate change impacts, to name a few, should also be taken into consideration. In 2011, the Water-Energy-Food (WEF)

Nexus became the focus of the Bonn Nexus Conference, which made strong connections between various sectors and the need for increasing synergies and reducing trade-offs (Hoff, 2011).

However, synergies between natural resources usage does not automatically consider effects on environmental resources, such as water, soil and waste, and the interactions and trade-offs involved. Furthermore, it may neglect issues of monitoring, governance and accountability, in particular where non-rival, non-excludable public goods are concerned (Veiga, Kurian, & Ardakanian, 2015). It follows that, although environmental and to some extent economic aspects have gained importance, social and institutional considerations have not received the necessary attention, leading to an incomplete analysis of synergies and trade-offs.

**Figure 1:** The resources nexus in the context of WEF



Source: (Bernhofer & Leidel, 2014)

To overcome fragmentation and silo-thinking, UNU-FLORES focusses on improving the understanding of the nexus between water, soil and waste resources and its underlying interconnections, impacts on planning and management and subsequent trade-offs (Figure 1). By taking a resources perspective to the already substantially researched water-energy-food

security nexus, while also considering forces of global change, a more complete and holistic depiction of science-policy relations becomes possible. Policy-relevant research on the nexus approach will provide stakeholders, especially decision-makers and practitioners, with the necessary information and evidence-base to make decisions that promote sustainable development.

### ISSUES OF DATA, MONITORING AND GOVERNANCE

In order to make scientific research on the nexus approach to the sustainable management of water, soil and waste relevant and accessible, a number of policy-related issues need to be addressed. The review of the Millennium Development Goals (MDGs) highlighted several shortcomings, including those concerning the comparability, availability and reliability of data, the lack of political buy-in and cooperation across sectors as well as the absence of a unified monitoring framework that would enable greater donor coordination.

**Lessons from monitoring of Millennium Development Goals:**

- Lack of available, reliable and comparable data
- Lack of political buy-in
- Lack of cooperation across sectors
- Absence of a unified monitoring framework

Guided by the post-2015 debates on the monitoring of development, discussions about data, including the collection of novel data, and considerations of accountability related to governance processes and frameworks, UNU-FLORES seeks to build an evidence-base for decision-makers through the Nexus Observatory Platform (Figure 2). The Nexus Observatory is guided by the assumption that “evidence is a global public good”. The mandate of UNU-FLORES is to promote the effective translation of knowledge into generalizable principles that can guide implementation of programmes, projects and policies across a wide range of regions and institutional settings.

With the above vision in mind, the Nexus Observatory promotes five broad goals that advance evidence-

based decision-making for management of environmental resources: (a) cross-fertilisation of ideas, (b) piloting of innovative planning approaches, (c) capacity development, (d) dissemination of policy advice and (e) impact monitoring and evaluation.

**Figure 2:** Functions of the Nexus Observatory

	Data (Classification)	Knowledge (Consolidation)	Information (Conveyance)
3 levels of engagement	UN Agencies	Scale / Boundary Conditions / Feedback Loops	Trade-offs/ Synergies/ Resource Optimisation
	Member States	Scale / Boundary Conditions / Feedback Loops	Trade-offs/ Synergies/ Resource Optimisation
	Private Data Sets	Scale / Boundary Conditions / Feedback Loops	Trade-offs/ Synergies/ Resource Optimisation

Source: (Kurian & Meyer, forthcoming)

The goals of the Nexus Observatory are strengthened by building effective partnerships with stakeholders: (a) UN agencies, (b) member states and (c) individual resource users/citizens. The Nexus Observatory advances seamless interactions between research, capacity development and policy advocacy by promoting classification of data from multiple sources, knowledge consolidation and translation. Towards this end, the Nexus Observatory is organised into four windows:

- (a) **Linked databases:** that promotes the knowledge consolidation function by supporting data hosting, links to data sets of partner organisations using a variety of mediums (including mobile and GPS) and a collection of tools including data visualisation, modelling and scenario analysis.
- (b) **Blended learning platform:** that promotes the data classification and knowledge consolidation function by supporting blended learning programmes that are supported by online courses and PhD level research.
- (c) **Nexus repository:** that promotes the data classification and knowledge consolidation function by organisation of data sets and analysis of regional consultations, pilot initiatives and presentations at biennial Dresden Nexus Conference.

(d) **Nexus laboratory:** that promotes the data classification and knowledge translation function by supporting the application of tools (window 1) to data sets (windows 2 and 3).

**Figure 3:** Expected outcomes for science

Instruments	Outcomes
Data Proxies	Indicators
Index	Planning Approaches
Scenario Analysis	Local Fiscal Systems
Visualisation	Decision Support Tools for Delivery of Peri-Urban Services
Benchmarking	Impact Monitoring Framework

Source: (Kurian & Meyer, forthcoming)

### POLITICAL BUY-IN FOR A UNIFIED MONITORING FRAMEWORK

The Nexus Observatory initiative promotes science-based policy advice. The scientific element of the Nexus Observatory focusses on consolidating the use of instruments (data proxies, indices, scenario analysis, data visualisation and benchmarking) to promote evidence-based decision-making (see figure). The policy element of the Nexus Observatory focusses on providing clarity with regards to indicators, planning approaches, local fiscal systems and an impact monitoring framework that advances the nexus approach to management of environmental resources. Towards this end, the Nexus Observatory follows three programmatic steps:

1. **Proposal writing workshop:** that brings together scientists to identify themes and priorities for policy-relevant research using a regional approach.
2. **Regional consultations:** that brings key decision-makers and political figures together to discuss and agree on science-based priorities to address key policy priorities in a region.
3. **Regional consortium:** conclusion of cooperation agreements with relevant ministries/departments and regional think tanks and universities to

support policy-relevant research identified by regional consortium partners.

### References

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