

## DAY 2: Sessions in a Nutshell

Thursday, 18 May 2017

### **A.5 Tools, Data, and Instruments for Management of Environmental Resources**

Nexus decision makers need to be provided with clear, simple yet comprehensive answer. • Environment friendly applications in agriculture are believed to reduce energy inputs and resources pollution. • A single modelling approach for nexus is unrealistic and modelling approaches should be built case by case. • Web-Based Modelling Framework for Planning and Assessment of Managed Aquifer Recharge: the NEXUS tool to be. • Expansion of irrigated croplands could lead to conflicts between SDGs 2,6 and 15. • Water access is complicated by players with different objectives such as oil refineries and lobbyists, government and water institutions. • Living conditions and environmental impacts show differences and inequalities between industrialized countries, transition countries and developing countries.

### **X.3 A Systematic Approach to Map SDG Interactions for Practical Decision-Making**

Cross-sectoral mapping of interactions between individual SDGs and targets revealed 3 negative and 3 positive types of interactions. Discussion needs to start! • Bioenergy combined with carbon capturing storage might represent (a part of) a solution for negative CO2 emissions in 21st Century. • What is the safe and just operating space for humanity? It is our job to come up with good indicators - it is not our job to claim about it! • What make institutions effective in following and implementing connected goals? SDG strategies often ended up in niches mobilising very few people. • Germany is like all countries developing!



Image: Raphael Benning/TU Dresden

### **A.4 Water- and Soil-Related Ecosystem Services Provided by Forests and Agroforestry Systems**

Multifunctional land use might be the way to implement China's new policies to harmonise ecosystem services in dryland. • Agroforestry includes, increase evapotranspiration and reduce surface runoff, base flow and the total water yield and it a viable/compromise intervention. • A case study of responses related to runoff and sediment yields in light of highly dissected landforms in the Loess Plateau, China. • Three modes of relationships between ecosystem service and human well-being were presented using the Miyun Reservoir, Beijing, China as a case study. • A key questions is how we deal with different spatial and temporal scales.

### **B.4 Nature-Based Solutions for Resilient and Sustainable Cities**

German cities are green ( 80% urban population have access to urban green -1ha in 100 m & 90% to 10 ha in 1 km). We need to stay ground :) Youngest people (<30), big cities inhabitants and men give lower importance to the urban green areas functions (well-being, habitat, climate). • In Japan people is concerned about the aging of the population and the labor forces needed to manage the urban green areas. The analysis showed that private spaces need other stakeholders to take care of (citizens, neighbors),besides the landowner. • We need a proper land policy for nature based solutions (hinterland retention, river storage, resilient cities) for flood managing. The question Where to store the water? face issues of property, land policy, land use, etc. • Urban Ecosystem Services can both protect human health and increase the quality of live - The Economics of Ecosystems and Biodiversity initiative gives insight. • Green Infrastructure can be a means to deal with the Stormwater- Water- Soil Nexus in Semiarid Cities. • Nature-based solutions in Romania are rarely considered in local Environmental Action Plans EAP- A need for further analysis to evaluate the efficiency of EAPs.



Image: Vigh/IOER 2017

#### **A.6 Monitoring and Assessment of Resource Use in Multifunctional Land-Use Systems**

Monitoring has become an integral part of many environmental, economic and social programmes. • There is a need for a comprehensive monitoring to limit the damage of area and settlements in Vietnam. • Policies that allow landowners to capture the value of environmental services could provide powerful incentives for promoting environmental friendly land use. • Measures enhancing efficiency of mineral and organic fertilizers important for GHG emission. • Continuous land use take up leads to loss and degradation of soil, not enough brownfield recycling.



Image: Vigh/IOER 2017

#### **B.6 Monitoring and Assessment of Resource Use in Resilient Cities**

Rapid population increase and urbanisation, together with climate change will deteriorate the urban microbial water quality. • We should use underground space as another natural resource to increase the urban resilience as they can be used for parking, storing, transporting and living. • Biophysical processes interact with institutional factors (public choice theory, individual behaviour, nexus note, nexus thresholds, nexus critical mass). • We can optimize our urban food systems to a huge extent by consuming local/regional food, diversifying food production, reducing food waste, closing yield gaps. • Urban water supply and wastewater management have to be improved in all Vietnam's cities.



Image: Raphael Benning/TU Dresden

#### **X.4 Building Up Monitoring and Reporting on SDGs based on Sub-National and National Efforts**

Water quality indicators and indices needed to be developed according to area topography, type of use and financial needs (monitoring, analytics and computation). • 65% of the countries used in the study apply the proposed UN SDGs and 13% of the countries does not practice the UN SDGs, rather practice other indicators. • Question: if country does not know about some of the water quality indicators how to transfer knowledge and how to engaged stakeholders at different level. • Answer: capacity building is not yet done but exercise with the available water quality indicators and indices the only option and integration is difficult. • TALK HAS BEEN REPLACED • SDG Index enables development a common language and tools that can be used by a diverse range of disciplines. • The finish case on national follow-up & review in Agenda 2030, incl. the development of indicator baskets to link long-term goals with everyday decision-making. • Cherry picking of SDGs should be prevented.

#### **B.3 Water Scarcity and Urbanisation: Integrated Management of Water Supply and Sanitation**

The impact of climate change on urban water supply is low compared to urbanization, but can be high for some of the cities. Large cities shift their water scarcity problems to the source basins away from the city. Adaptation strategies: improve-enlargement of transfers & IWRM including urban and basin demands. • Mexico City water supplies come from surface (50%) & groundwater sources, and leakage/illegal connections lead to 40-50% losses. 90% energy consumed on the water supply process come from surface water (involves pumping). Water saving: leakage and harvesting. • Rise awareness about how aquifer recharge can be a suitable approach on climate change mitigation. Different case studies collected in the WebGIS MAR portal. Check it!! • A circular economy approach can be applied to tackle waste water issues because of increasing urban population. • A newly adopted framework on decentralised waste water management is laying the grounds for a better protection of Jordan's groundwater sources.

