



Discussion Minutes

A3 – The Nexus Approach in Land-Water-Energy Interactions

(In this session the intent was to learn something more about operationalization of the Land-Water-Energy Nexus.)

Chair: Holger Hoff

Speakers: Beatrice Mayor Rodriguez, Gül Özerol, Maria Ubierna, Daniel van Rooijen, Lennart Woltering

Minutes: Caroline van Bers

Discussions after each presentation

Beatrice Mayor Rodriguez - WEF Nexus: Bringing Perspective Over the Role of large and small scale hydropower in the Duero Basin, Spain

Q: What is the source of the figure with the circle of knowledge gaps ?

A: This is mine and based on existing literature.

Gül Özerol - Using solar power for water desalination in middle east and North Africa: A comparative assessment of governance implications for the WEF nexus

Q: what is the cost compared to standard salinization and when does solar become cheaper than fossil?

A: it is a complicated calculation depending on the technology. Solar is still one of the most expensive options and the breakeven point is not there yet. You also need to consider storage and so the reliance on solar power for desalination is not commonly continuous. The cost of clean systems is going down. Israel and Saudi Arabia are using solar energy for desalination of brackish water. As the price of fossil fuels is going down, it is not affecting the trend oil-rich countries.

Q: Are aging facilities being replaced with solar-powered or conventional?

A: If old facilities are replaced they usually do not invest in solar because the cost is still too high.

Maria Ubierna – The WEF Nexus in the Omo River Basin, Ethiopia

Q: is the lake the terminus of the river?

A: yes, the lake is the terminus. There is no outflow. So this makes simulation easier.



Daniel van Rooijen - Drivers of land degradation and its impacts on water and food security in the Bale Eco-Region, Ethiopia

No questions

Lennart Woltering – Rapid appraisal of the WEF Nexus in Zambia

Q: At what level did you focus your assessment?

A: We did it on a country level because the strategies and policies we analysed were made at country level. It is important to realize that there is a mismatch between local realities and country wide strategies/policies. In addition, even though at country level resources may be abundant, it might not be the area where they are needed. It is therefore important to also focus on case studies.

Q: You said the mining companies are not involved as a stakeholder. Could you try to involve them more by inviting them to your meetings/workshops?

A: We spoke to them and we invited them but they did not show up. (Note from the presentation: Mining companies use 80% of the energy and are the main polluter of water in Zambia but never engage in the discussions).

Q: At which stage of your plans will you involve universities in Zambia\

A: we have already had talks with University of Zambia. We asked for representatives from W-E-F sectors. We then linked to European and other universities.

Q: (Comment) - Mandela University in Tanzania has a Centre of excellence for all three sectors. This could be a model for other universities.

General Discussion

(Please check below who has been assigned to these statements)

Is the Nexus really driven mainly from the water side?

Gül: Water scarcity/shortage is certainly the main driver in solar-powered desalinization. In the longer term food will also be a driver.

Maria: An additional reason why water prevails is that a lot of research has been done on water.

Lennart: Also, the nexus was born from IWRM. And there is the issue of substitutability – for energy there are alternative sources, but not for water.

Holger: We did a study for GIZ and asked how the nexus would add value and they grouped the projects. The energy projects were well defined and bounded but water and food had more openness and links to other sectors.

Beatrice: water and food are more a public good whereas energy is more private sector driven. There is evidence that the energy sector will advance in the near future.



It seems that the nexus balance can be found at the regional or local level. What is your perspective?

Lennart: Yes, problems exist at the local level but policies are developed at the national level. As an order of magnitude: 80% of the work has to be done at the local level.

Maria: In Ethiopia policies are also made at the national level and there is a huge power imbalance and this plays a big role. Managing water and energy has to take into account local level but diff to bring this across.

Gül: Technologically and economically it is more efficient to build at the larger scale and this restricts local level input to decision making. Community needs are not taken into account.

To Maria and Beatrice - Did your studies result in a change the management of hydropower

Maria: It was just a preliminary study. We are starting a new project where we can draw attention to the local impacts.

Beatrice: It did not change anything in our basin but it has not yet reached the local level. I am involved in a project now where the river basin authorities have actually asked for an opinion before the hydroelectric plans are developed.

Closing statements of presenters

Holger (Chair): Where can your work be put into practice? Where would you like it to be operationalized?

Daniel: There are opportunities through eco-tourism, and [energy] consumers could be charged a fee to pay for conservation.

Gül: The social science element in Nexus is missing in the MENA region. And this could be part of our mission, and also how to bring the nexus thinking into the curriculum.

Beatrice: There is a need to bring this to the population in localities that are water scarce. We also need to convey the need for long term thinking.

Maria: The nexus adds a lot of value to the process of optimizing the use of the resources. You can get a lot of synergies between sectors. The nexus helps us to assess the potential impacts of a project in advance.

Lennart: In the Nexus, which emerged from IWRM you look at human aspirations. In some countries IWRM is just being implemented now, so awareness raising of the importance of the nexus needs to be pushed. There is still a long way to go, but the nexus perspective- looking at what people need, rather than looking at what “we have” is important for the development of countries.