

Regional Policy Dialogue for the Levant: Iraq, Jordan, Lebanon and Palestine

Session 2: Beirut November 21-23,
2017
NARRATIVE REPORT

Issam Fares Institute for Public Policy and
International Affairs



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OVERVIEW

The Netherlands' Ministry of Foreign Affairs in partnership with the Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut has been holding sub-regional policy dialogues on the Water – Energy – Food (WEF) Security Nexus for countries of the Levant as part of the Planetary Security Initiative Middle East and North Africa chapter activities. The policy dialogue brought together senior representatives from Ministries of Water, Energy and Agriculture from Iraq, Lebanon, Jordan and Palestine.

The aim of the policy dialogue is to identify modalities for regional cooperation or collaboration using the WEF Nexus Approach as a vehicle. The first step in achieving this aim would be through:

1. Proposing policy recommendations that can be adopted on both national and regional levels based on shared experiences of existing challenges, opportunities, and initiatives.
2. Identifying scalable pilot projects that could be replicated in all participating Levant countries and that could inform national and regional policy on the benefits of a WEF approach to planning.

The dialogue provides a space for interactive discussion and exchange of ideas, challenges and lessons learned towards mainstreaming the WEF nexus approach into policy and projects in countries of the Levant in order to move from theory towards practice and actual implementation.

The first session of the policy dialogue took place on 5 October 2017 at the Embassy of the Netherlands in Amman city, Jordan. The meeting was preceded on 4 October, 2017 by a coordination meeting of an expert group steering the policy dialogue.

The second session of the policy dialogue took place on 23 November 2017 at the Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut. As with the Amman meeting, the Beirut meeting was preceded on November 21 by a coordination meeting of the expert steering group. This report describes and summarizes the outcomes of the Beirut meeting the agenda of the Beirut meeting is available in *Annex 1*.

BEIRUT MEETING

The policy dialogue on the 23 was attended by 21 participants including policy makers representing the concerned ministries from Iraq, Jordan, Lebanon and Palestine as well as experts working on WEF nexus related issues. (*Annex 2, List of Participants and Experts*)

The Policy Dialogue was opened by H.E Cesar Abi Khalil, Minister of Energy and Water Lebanon as well as Dr. Tarek Mitri, Director of IFI (see Figure 1).

Experts Group Meeting

The experts' group meeting took place on 21 November (see Figure 2). During the meeting the experts' focus was mainly on logistical issues as well as the draft WEF tool. The key comments on the tool included:

- Discussion on the name "Aide Memoire"; "Rapid Pre-Assessment tool"; "Checklist"; "Guide"; "Self-conscious Tool"
- Need to incorporate more questions related to the social aspect of the WEF
- The guidelines need further elaboration/explanation of rationale and point behind questions
- The approach needs to be flexible
- Having an automated results report that brings forward "point of attention" is one suggestion
- There is a potential to have this on a Forum for community of users

Figure 1. Opening of the 2nd Policy Dialogue by H.E. Minister Cesar Abi Khalil



Figure 2. Experts' Group Meeting



POLICY DIALOGUE MEETING SUMMARY

Opening Remarks

The meeting started with **Dr. Tarek Mitri** welcoming the participants and explaining the role that IFI plays in bridging the gap between research and policy/decision makers. Accordingly this policy dialogue is “at the heart of the mission”. Mitri went on to suggest that the traditional silo approach in managing our resources has proved not to work. Many challenges such as climate change, increased urbanisation, and resource scarcity as well as reaching the 17 Sustainable Development goals call for optimal management of natural resources.

After welcoming the participants, **HE Cesare Abi Khalil** pointed out the interlinkages and interconnectedness between the water, energy and food sector and accordingly the importance of having comprehensive policies for the three sectors together. Abi Khalil highlighted the significance of rationalization of energy consumption through the rationalization of water consumption due to the importance of natural resource conservation in Lebanon. Abi Khalil also stressed the importance of collaboration between neighboring countries where it is a mutually beneficial relationship with countries benefiting from each other’s strengths to supplement the existing scarcities. He concluded by further stressing the importance of readiness and preparedness for a change in behavior towards a different approach towards the interlinkages between water, energy and food for a better future.

The opening was followed with a discussion with the minister in which he answered many of the enquiries regarding the water and energy sector in Lebanon and the willingness to and opportunities for adopting a more integrated approach in planning and management as well as the potential for regional cooperation on the topic.

Presentation

Gabor Szanto from RVO set the framework and context of the session by presenting on the Dutch Policy of Aid and Trade and partnership: From Concept to Bankable Proposal. Szanto explained to the participants on what is aid and Trade, its global scope of activities and its water and nexus projects. He further explained the role of the Netherlands Enterprise Agency and gave examples of Aid and Trade in practice such as the Sustainable Water Fund.

Szanto walked the participants through what would make a project idea a bankable proposal for the government of the Netherlands. Starting with basic considerations, the framework of designing a project, the context, the rationale of the idea, objectives, implementation and project management, sustainability and risks and their mitigation.

Afterwards Szanto talked about partnerships and role allocation including Public-Private Partnerships (PPP) their relevance and capacity. Finally, he concluded with some discussion on business cases and revenue models.

Discussion:

After the presentation there was a brief discussion with a lot of focus and further interest in PPP and what its status is and what it implies for countries in the region. For example in Lebanon the impression of the Lebanese representatives is that PPP is well formulated in Lebanon even though it is very complex. "We are living and operating in a PPP". Mr. Hammou Laamarani proposed that the vision is not the same across different sectors or between countries of the region. In some sectors PPP is very well regulated because after all it is about regulation. There was agreement that renewable energy is a better business case than water which is heavily subsidized. ; Renewable energy is viewed as a creator of jobs among other things while water "...is limited to water service delivery". It was pointed out that water utilities are 100% may function very well as a PPP if the regulatory framework is present. A successful case of a 10,000 ha land used for irrigation from treated wastewater within a PPP framework was mentioned suggesting that there are bright spots and expected failures when it comes to PPP. Szanto emphasized that when it comes to PPPs regulation and contract setting are very important.

Some highlights from the discussion:

- The Palestinian context is much different than the others. The private sector is not mature enough in Palestine. "We are going to PPP in services but in terms of resources there is an issue".
- Jordan has a good experience in privatization, in some sectors it is more successful than others. So the government is trying to use it whenever possible.
- Lebanon: "In the region there is potential for private sector to be involved in wastewater treatment as there is high potential for re-use. The problem in the region is that the proper framework is missing".

Break Out Session:

The participants then broke out into smaller working groups according national affiliation to further elaborate and develop their project concept ideas that they had proposed during the first policy dialogue session in Amman.

Reporting back on group work the concept ideas shown in the sections below were presented.

After the discussion Mr. Santzo explored funding opportunities with the participants through the available water and nexus programs that the Netherlands has and that is relevant to the MENA region in order to guide the participants towards funding opportunities for their proposed ideas.

Closing Presentation:

Rana El Hajj presented the new Water, Energy and Food Security rapid pre-assessment tool that is being developed by IFI. The draft tool and supporting documents, as were presented at the time of the dialogue, may be found in Annex 3.

Jordan concept idea:

The idea is for a large scale hydroponic system powered by renewable energy (RE) which is up scaling an already existing project. Hydroponics are already available in Jordan but the idea is to integrate the RE component. The water source depends on the area. Jordan is mostly degraded land and in order to sustain, but not increase agriculture in Jordan, this idea could present a solution (up-scaling the hydroponics). Such a project is expected to reduce the risks of over-pumping. For example in the North there is increased drilling of wells. This project will allow for more sustainable use of water resources by offering farmers with an alternative water source. It is believed that the quantity and quality of the products from hydroponics would be much better than those grown in green houses. PPP can benefit from this, such as hydroponics companies as well as the public as it goes with the government's policy of saving water while producing good quality products. This project is ready to be implemented directly. RE will be used to run the system as well as for conditioning (climate control). Even though wastewater is "not very useful" for hydroponics using hydroponics for green fodder production for dairy farms could be an option.

Lebanon concept idea:

The problem in existing Zahle wastewater treatment plant is the high energy requirement and the common use of untreated wastewater by locals in the vicinity of the plant. The idea is to use solar energy and maximize the use of treated wastewater for irrigation or industry. The treated wastewater could be distributed to local farmers and industry. Funding sources are plentiful. Operation and maintenance cost could be provided by the water establishment.

Water in the Bekaa is more and more scarce, and we have the structure already existing, the added value is to have Renewable Energy (RE). The funding part could be a mix of governmental (central government) and international donors with room for municipalities to join in. The main beneficiary would be the local authority along with the farmer as well as the electricity authority as they will reduce cost from electricity and make it more available for public use. The main problem is the operation and maintenance of the RE and plant. By 2020 subscribers fee should cover Operation and Maintenance of these wastewater treatment plants. Subscription fees will be increased each year until cost recovery is achieved for the wastewater treatment plant. Currently, the water authority contracts private contractors to run the facility. Ownership, mandate etc. remain with public sector but management is with private contractors. The policy is moving forward but there are no well-established PPP laws. This type of private involvement is similar to other countries.

Iraqi concept idea:

Iraq is facing many challenges in regards to water, at the same time there is a problem in governance in terms of equity in distribution. There is also a problem in in terms of funding as well the war with ISIS which impacted the infrastructure. The proposed project is to implement green belts around cities to be irrigated from irrigation schemes as well as greenbelts on border of the desert to be irrigated from groundwater. The use of renewable energy to operate pumps was proposed. Financing is not available yet but options for one or both of them are being looked at.

Palestine concept idea:

The proposed project entails the re-use of water available from the operations in wastewater treatment plant by conveying it to Jordan valley where it can produce energy along the way which will then be used to power the treatment facility as renewable energy to treat the wastewater. Water would be used for agricultural production. Land (12,000 dunums) is currently not being used (left fallow) due to the shortage of water this can change if irrigated. The modality would be private –public partnership to operate irrigation scheme. The energy goes back to treatment facility by grid line.

Outcomes of and Recommendations from the Dialogue Meeting

- The participants agreed that they will further develop their concept ideas into bankable projects making use of the tips and information discussed during the project. The developed proposals would be shared and circulated by end of January for monitoring and guidance by the experts in preparation for submittal to one of the available funding programs of the Netherlands or other funding opportunities such as a private –public partnership.
- The way forward for the WEF nexus and the policy dialogue was discussed with suggestions that included:
 - **More work on the level of decision makers/policymakers** as there is a “Need for policy support beyond this level”.
 - **Task force from three institutions** in the countries, to be responsible for all projects under the nexus pillar could be an option.
 - Bringing together different sectors through **trainings** on tools for improved integrated planning as well as informing them of the other sectors priorities.
 - **Action** is needed that “can make a difference”; and/or have a “Simple but clear impact”.
 - Many **other areas could be addressed and explored through studies** not just mega technology for example: Rain fed agriculture comes with lots of opportunities; strengthening value chains is another opportunity. There is more room in what can be done in energy and food in terms of using a nexus approach when looking at the food waste. The 30% food loss when looking at value chain which is a water and energy loss.
 - **Some questions still need to be looked into such as the socio-economic repercussions or impact** of WEF nexus related policy. For example it is important to understand the right approach to move communities out of agriculture and get them into other sectors if agriculture is such a huge consumer of water with little economic return.
 - **Innovative lessons** of how to find synergies is needed; “thinking out of the box”.

MENA Workshop at the Planetary Security Conference (2017)

The MENA WEF policy dialogue group convened a workshop session at the Planetary Security Conference 2017 at The Hague. The aim of the workshop was to report back on the MENA WEF policy dialogue process, validate conclusions and recommendations, and exchange lessons learnt with international experts and other dialogue processes.

The workshop started with introductory remarks by Ms. Tessa Terpstra, Rana EL Hajj set the stage by presenting some cases of a nexus or integrated approach in

projects and policies from the MENA region. Nadim Farajalla reported back on the policy dialogue sessions that took place in Amman and Beirut, their results and main recommendations.

The attendees then heard back from country representatives involved in the MENA WEF nexus policy dialogue.

H. E Mr. Janabi, Minister of Water resources in Iraq, highlighted the following points:

- Iraq is a country in transition and as such might not be amenable to successfully implement an integrated approach in new policies and regulations. “Would be difficult to bring everyone on board with new integrated approach”.
- The concept of water security has different meaning and significance for different countries.
- For Iraq the concept of water security is closely linked to their high reliance on transboundary water. Food security however has a common understanding in different countries of the region.
- Important consideration regarding the WEF linkages and applicability in Iraq: the Transboundary water, Climate Change Impacts, War and agriculture.
- Iraq’s agriculture
 - Is mostly irrigated and cannot be dependent on rainfall due to the variability and uncertainty that this would bring to the sector.
- Climate Change Impacts:
 - A radical shift in the season has become very evident in Iraq
 - This has changed agricultural activities such as the irrigation needs and seasonality which puts pressure on the release of the water from the dams.
 - Augmentation of water storages in Iraq.
 - Created pressure on the Ministry of Water to provide the needed water after the huge reduction in their water resources.
- War:
 - The war against Terrorism is making it hard to focus on other priorities besides fighting corruption.
 - the war has also affected availability of oil resulting in lack of electricity significantly affecting agricultural production and food security
 - Solar energy is being considered at the Iraqi water ministry, to pump groundwater, and has been a successful option.
- Transboundary water and associated tensions:
 - The amount of water that used to be delivered to Iraq from Turkey is not being delivered due to problems at the borders, therefore Iraq is getting it as virtual water in imported food from neighboring countries.

Minister Janabi's highlighted that he agrees with the conclusions and the recommendations resulting from the policy dialogue, which reflected well the Iraqi obstacles and priorities when it comes to mainstreaming a WEF nexus approach to planning and policy in Iraq. However, Minister Janabi stressed that implementing such an approach is faced with difficulties arising from the socio-economic context of Iraq but also from the inability of the political set up to develop such a framework.

Eng. Mohammad Dwairi, from the Ministry of water and Irrigation, Jordan highlighted the interlinkages between water, energy and food in his country and the progress made on accounting for those linkages:

- On Water and Energy Security:
 - As 15% of the total power produced in Jordan is consumed by the water sector the electricity bill from the water sector is high. Approximately 160 million JOD for the year 2016 was the electricity bill for the water sector, accounting for the subsidy paid by the government the total bill would be 400 million JOD.
 - Accordingly one of the aims of the national water strategy is to reduce energy consumption in the public sector and increase the share of renewable energy for the water sector by 10%.
 - Jordan has since witnessed an increase in Renewable energy projects in Jordan: Photovoltaic, biogas and bio-solid, and hydropower plants in dams (still not operational).

- On Water and Food Security:
 - Most of the water budget (54%) in Jordan is allocated for agriculture. However, the agricultural sector is only contributing with 3 % to the GDP.
 - New policies, and frameworks in the Water and Irrigation Ministry are pushing for increased usage of treated wastewater in agriculture.
 - Introduction of economic incentives is important tool: Reducing subsidies to promote efficient use of water in irrigation rather than increase consumption.

- Mapping of Water, energy and food Nexus in local institutions, the following are the main stakeholders that are cooperating to introduce the WEF approach in Jordan:
 - Ministry of water and irrigation
 - Ministry of planning
 - Ministry of municipal affairs
 - Royal Scientific Society
 - Ministry of energy and Mineral resources

- Ministry of Environment
- Sectoral planning and national planning processes that have an integrated aspect and showcase the progress on the WEF nexus approach made in Jordan :
 - Jordan 2025 Resource security and management in which it introduces an integrated water management approach that uses the WEF approach as a vehicle.
 - Mainstreaming the Nexus within the exiting coordination mechanisms:
 - Introducing Technical committees at the ministries for specific need such as national committee for water scarcity.
 - Inter-sectoral mechanisms: Such as Higher national committee for sustainable development.
- Capacity need assessment to integrate the Nexus approach successfully at the institutional, public and private levels:
 - Enhancing the monitoring and evaluation system in all ministries.
 - Linking the Nexus approach with the SDGs, while using targets and indicators to maintain constant implementation and improvement.
 - Establishing a unified Information system to manage all the Data through developing a platform for information sharing.
 - Develop Centralized database for the water system, all institutions private and public are linked to this database
 - Working on Strengthening communication and outreach as a pillar to raise awareness with policy makers on the benefits of interlinkages of future policies with the WEF approach.

Ms. Randa Nemr was not able to attend the session due to the weather conditions, as such Dr. Nadim Farajalla briefly presented on Lebanon's outlook on mainstreaming a WEF nexus approach in Lebanon:

- The WEF nexus approach has not made his way through policies in Lebanon. One of the Challenges in introducing this approach in Lebanon is the lack of coordination between ministries (energy, water and agricultural) when developing a new policy or strategy, as a coordination is needed at the beginning of the formulation rather than at the commissioning phase.
- The framework to introducing a WEF nexus approach should be comprehensive as some actions considered integrated might have negative side effects for example: The constant stress on solar energy

when using it for pumping in groundwater is risky, as it will increase the possibility of over-exploitation of groundwater, and dropping of water table.

The representative of the Palestinian participants in the dialogue explained that Palestine situation is very critical especially with regards to the lack of access to water making it their main concern. As such priority might be given to water provision at the expense of other sectors presenting a setback to nexus implementation. Example of a nexus approach implemented in Palestine is through the use of wastewater reduction in agriculture in the highlands. Using the land inclination between the high and lower parts of the land to produce hydropower.

The workshop continued with experts from the region presenting their outlook on moving the WEF nexus approach forward in the MENA region and the Levant in particular:

- Mr. Hammou Laamrani (Senior Expert-League of Arab States) pointed that initiatives on the strategic thinking were presented to high level policy makers at the League of Arab states. Laamarani explains that the main question asked by the ministers when presented with the policy briefs was “How do we do it?”. What was learned is that there are already different forms for coordination at the regional level however coordination is still lacking. There are multiple actors but limited coordination. There is a need to focus on the integration and introduction of a familiar vocabulary for all the sectors. Laamarani further emphasized that nexus is an approach and not a product. Monetary figures of added value of nexus that also look at the environmental benefits are still missing. The key driver in moving from theory based WEF approach to implementation phase, is the sustainable development goals, presenting an opportunity for a nexus approach in the region. The work on the nexus should be on two parallel tracks: Policy and implementation. A good example to learn from is the energy sector that made of renewable energy a business case.
- Dr. Theib Oweis elaborated on the importance of looking at the human security perspective of the WEF approach which focuses on the call of water for food as a human right.
- Sussane Schmeier from GIZ explained the Nexus approach as preventing conflict between sectors and promoting synergy between them, which ensures that all synergies are harvested to serve the people. Experiences and Lessons learnt can be and should be shared between different countries around the world regardless of the regions.

Summary of important points made during the discussion:

- There are four important elements of the Nexus not just three Water, food, energy and ecosystem
- Over utilization of solar energy is one of the biggest fears that are faced in the region, therefore incentives, regulations and new policies are needed to maintain a sustainable record. Over exploitation of water resources especially groundwater can be solved through monitoring.
- Introduce a new direction for the ministries and policy makers with new technologies and innovations that are nexus-ed.
- Moving subsidies from encouraging water over-exploitation to encouraging effective/ efficient use.
- Increasing of water productivity can be a key in the Nexus approach.
- Moving towards newer technologies is a requirement, but it is a complicated concept that should include different factors such as (sustainability, and efficiency)
- Trade-off and cost- effective are two core aspects that should be considered when considering the WEF approach.

ANNEX 1: WORKSHOP AGENDA

November 21, 2017

12.30 – 13.30 Welcome lunch

13.30 – 16.30 Experts' meeting

November 22, 2017

Lebanese Independence Day – optional field trip to Byblos and Jeita Grotto

November 23, 2017 - Governmental Officials and Experts

09.00 - 09.30 Welcoming and Introductions

Dr Tarek Mitri, Director Issam Fares Institute for Public Policy (tbc) His Excellency Cesar Abi Khalil, Minister of Energy and Water, Lebanon

09:30 - 09.40 Re-cap Presentation of the Workshop in Amman

Dr Nadim Farajalla, Director Climate Change and Environment Program American University of Beirut
Tessa Terpstra, Regional Envoy Water and Energy, Embassy of the Kingdom the Netherlands, Amman

09:40 - 10.30 Presentation Aid & Trade & Partnerships - from concepts to bankable projects Dr Gabor Szanto, Sr Adviser Global Public Goods, Netherlands Enterprise Agency

10.30 – 10.45 introducing the WEF toolkit Rana El Hajj, Program Manager Climate Change and Environment, American University Beirut

10.45 - 11.15 Coffee Break

11.15 - 12.30 Group work on drafting WEF concept notes

12.30 - 01:00 Facilitated discussion on concept notes

01.00 - 02.00 Lunch Break

02.00 - 03.00 Discussion of WEF Nexus toolkit

03:00 - 03:30 Presentation on funding opportunities with the Netherlands government for public private partnerships Thirza Bronner, Programme Director Energy Transition Facility, Netherlands Enterprise Agency

03.30 – 04.00 Coffee break

04:00 - 04:30 Wrap up, recommendations on way forward and closing

ANNEX 2: LIST OF PARTICIPANTS AND EXPERTS

Participants			
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EXPERTS	
Lara Nassar	WANA Institute Jordan
Habib El Andaloussi	EU Funded Project, Jordan
Nadim Farajalla	Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut, Lebanon
Rana El Hajj	Issam Fares Institute for Public Policy and International Affairs at the American University of Beirut, Lebanon
Tessa Terpstra	Netherlands Embassy, Jordan
Thirza Bonner	RVO
Gabor Szanto	RVO
Patricia Cleophas	RVO
Tobias VonLossow	Clingendael

Annex 3: WEF Nexus Tool Framework

Water - Energy - Food Nexus Approach : Mainstreaming "Tool"							
Action Fields :	Innovation Action Field						
	Governance Action Field						
	Finance Action Field						
Three Guiding principles of a nexus approach :	Creating more with less						
	Accelerate Access						
	Investing to sustain ecosystem services						
WEF Entry Point	Interactions of WEF resources	Applicable	non Applicable	Nexus Key questions	Addressed	No sufficient Info to address	Not relevant
Water	Energy as input into Water	✓	☒	Does Your Policy/ Project : Explore reducing use of Energy in water life cycle? Explore renewable energy sources for use in water life cycle ? Explore energy efficient technology for use in water life cycle? Consider water harvesting and local storage practices? Consider using water conservation practices? Account for cost of energy use at all scales and stages of relevant water life cycle ? Consider Existing Policy in Energy Sector? Consider communication channels with Energy Stakeholders?			
	Land as input into Water	✓	☒	Consider impacts on ecosystem services? Consider watershed management approach? Consider lost opportunity (cost or productivity) for Energy and Food for land used? Consider Communication channels with land use stakeholders?			
	Energy as an output	✓	☒	Explore energy production as one of the outputs?			
Wastewater	Energy as input into WasteWater treatment	✓	☒	Explore renewable energy sources for use in wastewater treatment?			
	Land as input into wastewater treatment	✓	☒	Consider nature-based solutions?			
	Energy as an output	✓	☒	Explore energy production as one of the outputs?			
Energy	Water as input into Energy	✓	☒	Explore reducing use of water in energy? Explore alternative or renewable sources of water for use in Energy? Explore water efficient technology for use in energy? Account for cost of water use at all scales and stages of energy production? Consider communication channels with Water Stakeholders? Consider existing policy in water Sector?			
	Land as input into Energy	✓	☒	Consider impacts on ecosystem services? Consider lost opportunity (cost or productivity t) for Water and Food for land used? Consider existing policy in land management			
	Food as input into Energy	✓	☒	Consider lost opportunity for food production for other uses (food security)? Consider using agricultural waste as energy source? Consider food waste as energy source? Consider existing policy in agriculture sector? Consider communication channels with food production Stakeholders?			
Food	Energy as input into Food	✓	☒	Explore reducing use of energy in food production life cycle? Explore alternative or renewable energy sources in food production life cycle? Explore energy efficient technology in food production life cycle? Account for cost of energy use at all scales and stages of food production ? Consider existing policy in energy sector? Consider communication channels with energy Stakeholders?			
	Water as input into Food	✓	☒	Explore reducing use of water in food production life cycle? Explore alternative or renewable sources of water in food production ? Consider agricultural practices that reduce water use?(crop type) Consider water harvesting and local storage practices? Explore water efficient technology in food production? Account for cost of water use at all scales and stages of food production? Consider existing policy in Water sector? Consider communication channels with Water Stakeholders?			
	Land as input into Food	✓	☒	Consider lost opportunity (cost and productivity) for water and energy for land used? Consider landscape approach? Consider communication channels with land use stakeholders?			

Guidelines to using the Water – Energy- Food Nexus mainstreaming tool

A. Why a WEF nexus mainstreaming tool?

The water, energy and food (WEF) nexus approach is an integrated approach to management and planning that reduces trade-offs and builds synergies across sectors in order to achieve water security, energy security and food security. Such an approach is considered as a vehicle for achieving climate change adaptation and mitigation as well as the sustainable development goals.

For policy makers and planners, working in sectors related to water, energy and food, planning and management of the relevant WEF resources and sectors is mostly done in a sectoral “silo” approach. Even though the theory related to WEF nexus approach has gained significant attention during the last years, the concept remains elusive to policy makers and planners. If and when an integrated approach within policy and planning is adopted, it remains un-systematic and not comprehensive. Accordingly, and based on the recommendations of the first session of the WEF policy dialogue for the Levant region, organized by the Ministry of Foreign affairs of the Netherlands represented by RVO and American University of Beirut’s Issam Fares Institute for Public Policy and International affairs, a practical, hands-on tool, for mainstreaming a WEF nexus approach in policy and planning is proposed.

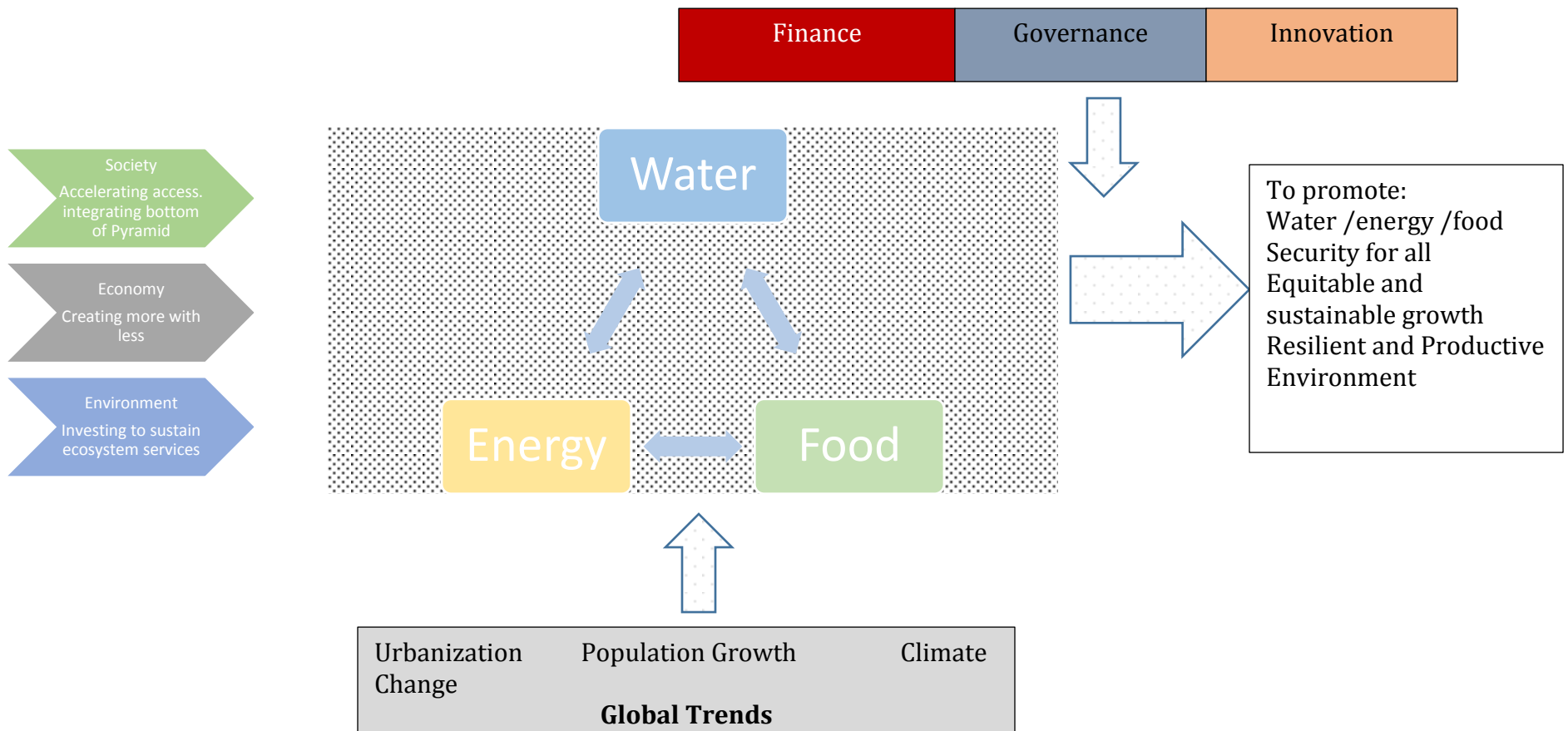
B. About the WEF nexus mainstreaming tool:

This tool is based on the WEF nexus framework proposed by Hoff et al (2011), as it identifies action fields that could be the basis for “actionable” steps to be follow when planning in an integrated or “nexused” approach. Furthermore, this framework presents Guiding principles that are central to the nexus approach and that address all sustainable development pillars.

The guiding principles are:

- investing to sustain ecosystem services
- creating more with less
- accelerating access, integrating the poorest

However, unlike the adopted WEF framework, this tool is not water centric but looks all possible interlinkages between resources from any entry point (sector). As such, figure 1, adapts the WEF framework to serve the purposes of this tool.



C. Aims of the WEF mainstreaming tool:

The tool aims to assist policy makers and planners to mainstream a WEF nexus approach into their policy or project at the early conceptual stages.

The tool seeks to do that by stimulating the users to reflect on the potentially existing linkages between the different Water, Energy and Food components of their concept policy or project prior to embarking on a design stage and accordingly explore all possible aspects of mainstreaming an integrated approach into their design, taking into consideration all necessary action fields and associated stressors.

A checklist of “considerations” associated with the identified possible linkages will help the users to mainstream a comprehensive integrated approach, when applicable, to the utmost potential for integration in their proposal.

The co-benefit of utilizing this WEF mainstreaming tool is that the early realization of a low potential of a nexus or integration in the proposed concept could lead the users, policy makers or project designers, to explore other ideas with more integration potential, broaden their vision and enhance innovative thinking.

D. How to use the Tool:

This tool should be read from left to right, starting from the “**WEF Entry points**” column.

Step 1: User should first identify the entry point or points of the proposed policy or project looking at the different WEF components (restricted in this tool to Water and Wastewater, Energy, and Food).

Step 2: Once the user identifies the entry point or points under the WEF components column, the user moves to the second column titled “**Interactions of WEF resources**”. The user must consider the rows associated with the identified “**WEF entry point/s**” of his proposal components, ignoring the other content.

Step 3: The User identifies the potentially existing inter-linkages with the other WEF components defined in this tool as an input or output within the framework of the proposed project or policy.

Step 4: If a certain inter-linkage/action was found applicable or relevant then the user moves to the “**key questions**” column to address the associated questions. The rationale behind the key questions is explained in section B.

Step 5: The aim is for the user to reconsider the concept or certain aspects of it to be able to tick all applicable key questions as addressed or taken into “consideration”.

E. Rationale behind the key questions

The key questions constituting the checklist pertain to the WEF nexus approach action fields, directly or indirectly, as defined within the WEF framework (Hoff 2011). However, unlike the original framework that it is water centric this tool considers any or all WEF components as an entry point.

Set 1. Does your policy or project explore reducing: Use of energy in water life cycle? Use of water in energy? Use of water or energy in the food production cycle?

This set of questions addresses the concept of reduction and thus pertains to the idea of “creating more with less”. Reduction, should always be one of the aims of adopting an integrated approach as it addresses the issue of tradeoffs between resources.

Set 2. Does your policy or project explore: Renewable energy sources for use in water life cycle? Alternative or renewable sources of water for use in energy? Renewable energy sources for use in food production? Alternative or renewable sources of water for use in food production? Renewable energy sources for use in wastewater treatment?

This set of questions addresses the concept of the use of renewables. A nexus approach is not only about tradeoffs and efficiencies but also has guiding principles of sustainability including environment, economic and social. The use of renewable resources pertains to environmental aspect of sustainability directly as well as social aspect i.e conserving resources which would support population growth and climate change trends.

Set 3. Does your policy or project explore: Energy efficient technology for use in water life cycle? Water efficient technology for use in energy? Energy or water efficient technology for use in food production?

This set of questions pertains to the innovation action field of the WEF framework in particular technology aspect. This addresses the issue of efficiency which is a main concept of a nexus or integrated approach.

Set 4. Does your policy or project consider: Existing Policy in Energy Sector? Existing policy in water and wastewater sector? Existing policy in food production sector?

This set of questions pertains to the governance action field of a WEF nexus framework. It addresses the issue of policy alignment and available opportunities for reduction, tradeoffs and enhancing efficiency within the existing policy of the interlinked sectors.

Set 5. Does your policy or project consider: communication channels with Energy Stakeholders? Water stakeholders? Food production stakeholders?

This set of questions similarly pertains to the governance action field of the WEF nexus framework. It guides the user towards the importance of communication between institutions and stakeholders, which is an important vehicle for mainstreaming an integrated approach.

Set 6. Does your policy or project consider: Lost opportunity cost for ...

This set of questions pertains to the economic aspect of sustainability as well as the tradeoffs. This is mainly addressed in relation to land, which is an important issue for consideration in some countries of the Levant.

Set 7. Consider water harvesting and local storage practices? Consider using water conservation practices?

This set of questions is related to water management practices that have the potential to decrease demand on energy and at the same time have the potential to improve water availability in some areas such as rural areas.

Set 8. Account for cost of energy use at all scales and stages of relevant water life cycle? Account for cost of water use at all scales and stages of energy production? Account for cost of energy use at all scales and stages of food production? Account for cost of water use at all scales and stages of food production?

This set of questions aims to insure that cost of externalities is taken into account which is an important recommendation towards a successful integration.

Set 9. Consider impacts on ecosystem services? Consider watershed management approach? Consider nature-based solutions? Consider landscape approach?

This set of questions seeks to guide the user towards innovative approaches that are not necessarily technology based but that could serve the purpose in many cases while ensuring ecosystems are conserved.

Set 10. Explore energy production as one of the outputs? Consider food waste as energy source?

This set seeks to guide users to contemplating opportunities to create more with less, provide new and alternative sources that could improve access in some places and as such pertain to the social aspect of sustainability.