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High Level Panel: Water, Food & Energy Nexus

Convenors

EDF

CGIAR-Challenge Program on Water and Food

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TIME FOR SOLUTIONS

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The views and opinions expressed in this report are those of the authors and do not necessarily reflect the position of the International Forum Committee or its member organisations

1. Introduction

The High Level Panel is a continuation of the dialogue initiated at the Bonn2011 Conference on the Water, Energy and Food Security Nexus¹ and also reflects the recent recommendations of the UN Secretary General's High Level Panel on Global Sustainability to work across fragmented 'silos' and strive for development within planetary boundaries.² The following background material and focus of this High Level Panel is based on the key messages and policy recommendations emerging from Bonn2011 and provides a next step in the discussions towards Rio+20.

The Water, Food and Energy Nexus (WFE) Panel brings together people with the highest level of experience across the three sectors in government, the private sector, international organisations and non-governmental organisations. It offers stimulating discussion and interaction with the audience on success stories of joined-up thinking that leads to broader benefits and of the enabling environment necessary to replicate this experience in other areas.

Convenors of the Panel are the CGIAR Challenge Program on Water and Food (CPWF) and the EDF Group. CPWF is the world's largest research activity for development on water and food. While developing solutions to increase and better share the benefits from water in river basins, CPWF addresses the potential of the water-food-energy nexus to improve livelihoods and enhance food security. The EDF group, a leading energy player active in all major electricity businesses, is committed to a sustainable development strategy, rising to the challenge of climate change, protecting biodiversity, ensuring energy access and implementing integrated local solutions. It has always had a close relationship with water, in order to generate hydroelectricity and as a heat sink for its conventional and nuclear plants. EDF has long recognised that a coordinated approach is needed as water is also required for other, equally important purposes such as human consumption, industry, agriculture and tourism.

Based on their experience, CPWF and EDF acknowledge that the Nexus challenge requires the attention of high level decision makers and therefore have a particular interest in jointly convening and making a success of this High Level Panel covering the inter-dependencies of water, food and energy.

2. Background: the nexus challenge

Moving the water, food and energy nexus forward with an ecosystem services perspective for sustainable political decisions.

Development pressures on natural resources have grown to such an extent over the past 50 years that they are challenging the effectiveness of conventional planning and decision-making. Trying to meet demand through single sector approaches in response to what are inherently inter-linked and inter-dependant processes, is limiting our ability to provide basic water, food and energy services to the poorest. Concurrently, there are signs of constrained growth, raised social and geopolitical tensions and irreversible environmental damage.

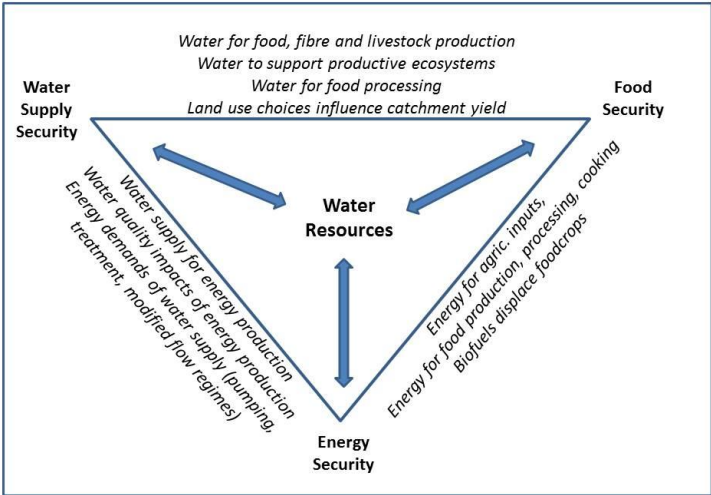
Failing to recognise the consequences of one sector on another can lead to serious imbalances in the system (see Figure). For example, decisions taken on the type of energy generation can significantly influence water demand and in the case of biofuels, displace food production; the

¹ <http://www.water-energy-food.org/en/conference.html>

² <http://www.un.org/gsp/report>

way water is sourced, treated, priced and distributed can raise or lower energy requirements; and the choices made on food and diet influence both water and energy needs.

Weak governance systems, limited awareness, distortions from perverse subsidies and lack of commitment can exacerbate a set of unintended consequences from decisions in one area on another. The result is inequitable allocation of resources and an inability to meet accepted norms of water, energy and food security, plus harmful consequences on water-related health issues, domestic water supplies and sanitation. We are reaching, and in some cases have already exceeded the limit of resource availability and therefore need to build on more innovative and sustainable solutions.



Despite significant progress, security of water, energy and food supplies remain far from being achieved globally. Basic services are not available to the “bottom billion” who are deprived of their human rights and trapped in poverty: about 1.1 billion are without adequate access to safe water, close to 1 billion are undernourished and 1.5 billion are without access to electricity. And for many others who do have access to a very basic level of service, the system does not yet offer the resources needed to raise their livelihoods and emerge from poverty.

With 70% of the global population of 9.2 billion people living in cities by 2050, demands for water, energy and food will increase exponentially; there are projections of a 70% increase in agricultural demand by 2050 and energy demand increase of 40% by 2030. Water demand projections to satisfy agriculture and energy production are a similar order of magnitude.

Many commitments have been made including the Millennium Development Goals, a drive towards renewable energies, adoption of the broad concept of ecosystem services including water, food and energy supplies³, and moves towards more sustainable and efficient agricultural practices. Much is also being done by governments, within communities and in business to achieve more productive, resource efficient equitable and sustainable outcomes. Providing a global impetus to build further on these trends is the subject of preparatory discussions for Rio+20.

To be successful, a new ‘Nexus’ oriented approach is needed; one that better understands the inter-dependencies across water, energy and food in an ecosystem services context, as well as

³ As from the Millennium Assessment, see <http://www.maweb.org/en/index.aspx>

the influence of trade, investment and climate policies. It is an approach that identifies mutually beneficial responses, provides an informed and transparent framework for determining benefits and risks in order to sustainably meet demand and helps to understand where the main trade-offs are on which political decisions are taken.

Earlier World Water Forums have focussed separately on Water and Food and Water and Energy. The Bonn2011 Conference has clearly demonstrated the need to go one step further and consider all three sectors together. A number of private sector and international organisations similarly see the imperative of moving towards a more interconnected approach to planning and management in response to the challenge of resource scarcity and also because it makes good business sense .

3. Objective

The Water-Food-Energy Nexus High Level Panel aims to transform a set of successful technical and institutional solutions into innovative and effective policy recommendations facilitating the transition to a greener economy and identifying the enabling conditions and incentives to trigger the desired changes. At its heart is a recognition that resource scarcity is not the limiting factor, but rather it is the institutional commitment and capacity to manage scarcity by sharing resources and enabling them to be used sustainably. Sharing resources means both innovating in search of mutually beneficial solutions for water, food and energy provision, but also being able to take political decisions to adapt models of development when trade-offs are unavoidable.

Through their commitment to change and their extensive networks, the high level of Panellists – Ministers, CEOs of private companies, Mayors of Local Authorities, Senior Executives of NGOs and international development agencies – will ensure that the target audience and their peers are aware of these recommendations and the pragmatism of implementation.

4. Organising Framework for the Panel and Key Questions

The concept for the Panel is to start with a focus on the **evidence** supporting a Nexus perspective and emerging **solutions**. Discussions will initially concentrate on specific interventions that address the inter-connectivity and inter-dependency of water, food and energy and the supporting ecosystems.

This discussion will then focus on **policies and strategies** to create the necessary enabling environment, responding to the evidence base and outlining a range of relevant initiatives.

- The Panel discussions will cut across two aspects:
 - **Balanced development that increases the productivity of water, food and energy production and provision (with respect to water, energy, land and other scarce resources) while recognizing the contribution of ecosystems services and the urgency to sustain them.**

Although scarcity of resources exists, productivity and efficiency in many areas are far below potential and prospects to improve do exist. But they require more effective governance, technological innovation and a proactive and balanced ‘nexus’ approach that accounts for the interdependencies and ensures that development in one area does not impede others or put ecosystems services at risk. River basins and landscapes support development through a diversity of ecosystem services, such as water for domestic or industrial supply, food, fibre

and fuel and hydropower, and perform essential regulating services to sustain vital processes. It is retaining a balance in the mix of ecosystem services that is often overlooked; a balance on which future well-being depends. New models of development and new business models are needed to expand access to basic services (water, food, and energy), enhance the productivity of scarce resources, lift people out of poverty and protect important ecosystems. The Panel will demonstrate how innovative thinking can lead to win-win outcomes and how innovative policy processes can address the question of balance in alternative development pathways.

- **The importance of collaborative behaviour to support the sharing of benefits and risks.**

Taking a broader view based on the sharing of benefits rather than strictly looking at the allocation of scarce resources can open up new solution spaces at various levels. These can be through negotiations within regional cooperation bodies, or within the hydrological boundaries of a shared river or aquifer, or a discussion on the distribution of benefits between project developer and local communities. Evaluating the impacts of one sectorial policy or strategy on the other two security objectives is a first step but needs to go further to trigger the search for mutually beneficial outcomes. A wide range of approaches and benefit sharing mechanisms are being tried and tested involving policy and legislative reforms, new business models and collaboration among multiple stakeholder groups. More open, transparent and accountable systems also limit adverse and risky individualistic behaviour. The Panel will enter into a discourse on the notion that the survival of all depends on a vision of shared and responsible use of natural resources within the Nexus and offer suggestions on how to formulate and implement related policies and processes for accountability once private sector strategies and public policies have been decided.

Panel members will illustrate their interventions through a range of examples and solutions related to stimulating multi-objective sub-regional development, promoting regional dialogue across sectorial approaches and between countries, partnering with communities to share development benefits, increasing productivity and turning waste into a resource. Specific initiatives include but are not limited to:

- Creating a balanced regional development model and policy process – the ECOWAS experience
- Building a sustainable rural and urban basin in the Andes
- Exploring new models to jointly address food, water, and energy provision in a rapidly growing urban environment
- Water for Food, Energy and Ecosystems in the Inner Niger Delta, Mali
- Breaking the WFE Nexus by expanding drip irrigation in India
- Multi-objective regional planning in Anatolia – the GAP project
- Back to a sustainable and multi-purpose future - drawing lessons from Serre-Ponçon to Nam Theun 2 hydropower schemes

The facilitator of the session will draw on experience from the audience to illustrate the opportunities and challenges inherent in the Nexus approach and stimulate interactions among Panel members.

5. Outcomes

The High Level Panel will demonstrate the imperative of taking a more coherent and synergistic approach to addressing water, food and energy security as set out in the Bonn2011 Conference. The case will be made through the lenses and experiences of Panel Members showing that new approaches can bring desired development results. It is not always going to be straightforward and the discussion will illustrate how barriers have been overcome. During their concluding remarks, the Panel Members will be requested to provide insight into their personal and corporate commitments for taking forward the Nexus challenge. Being part of the discussion will challenge the audience to look for new opportunities. The Panel will be one further step in taking forward solutions to Rio+20 and beyond.

6. Links to intergovernmental processes

The Output of the Panel will add to and support the Nexus case made by Bonn2011 and the High Level Panel on Global Sustainability. As the post-Rio discussions on sustainability development goals moves forward, momentum is expected to focus increasingly on Nexus considerations.

Key elements of the thematic priorities of WWF6 and their related targets can be informed by the Panel discussions, including:

- Priority 2.1: Balance Multiple Uses through IWRM
- Priority 2.2: Contribute to Food Security by the optimal use of water
- Priority 2.3: Harmonize water and energy
- Priority 3.2: Adjust pressures and footprints of human activities on water
- Priority CS2: Finance water for all

7. Follow-up

The Panel messages together with those of the related Ministerial Roundtable will be taken forward to Rio+20 and beyond. It is also expected that the advocacy work of the High Level Panel will continue beyond the Forum under the leadership of one of the Panellists. A press release will be prepared in advance of the Panel to attract media and public attention.

Documentation of the Panel will be completed with a session report including the case studies and discussions that can then be used as a reference for the Panel's further work to stimulate implementation of more Nexus oriented thinking and initiatives that can be implemented and reported in Daegu at the Seventh World Water Forum.

8. Annex

| High Level Panel – Water, Food and Energy Nexus | |
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| PROGRAMME – Friday 16 March 2012, 11.00 – 13.00 | |
| OPENING | |
| 11.00 -11.20 | <p>Opening Statement, Member of the World Water Council</p> <hr/> <p>Introducing the Water, Food and Energy Security Nexus and Outcome of the Ministerial Roundtable. Uschi Eid, Vice Chair, UN Secretary General’s Advisory Board on Water and Sanitation and Co-Chair of the Bonn2011 Conference on Water, Energy and Food Security Nexus</p> <hr/> <p>The emerging water, food and energy nexus – viewpoint of a global utility. Gérard Wolf, Senior Executive Vice President, International development, EDF Group</p> |
| PANEL DISCUSSION | |
| <p><i>Panel Members will draw on their extensive experience to illustrate the inter-connectivity and inter-dependency of water, food and energy through a diverse range of examples from project level to the scale of national or regional policies. They will be challenged to identify Nexus solutions, in particular how to create enabling policy environments, attract finance and build capacity for sustainable outcomes.</i></p> <p><i>Two themes will permeate the discussion: How to achieve balanced development that increases the productivity of water, food and energy provision, (with respect to water, energy, land and other scarce resources), while sustaining the contribution of ecosystems services. The importance of collaborative processes to support the sharing of benefits and risks.</i></p> <p><i>Participants from the audience will be able to question Panel Members on their evidence and policy recommendations. The outcome of the High Level Panel will demonstrate that a Nexus perspective makes business sense and yields results beyond those attainable from more conventional ‘silo’ thinking.</i></p> | |
| 11.20 – 12.40 | <p>Panel Facilitators: Jeremy Bird, Bonn2011 ‘Outcome Ambassador’ Anna Dupont, International Forum Committee, 6th World Water</p> <p>Panel members: Rodney Cooke, Director, Policy and Technical Advisory Division, International Fund for Agricultural Development Alain Vidal, Director, GGIAR Challenge Program on Water and Food Diego Bravo, Director, Acueducto y Alacantarillado de Bogota, Colombia Jane Madgwick, CEO, Wetlands International Dilip Kulkarni, Director, Jain Irrigation Systems, India Rhoda Tumusiime, Commissioner, Rural Economy and Agriculture, African Union Thomas Chiramba, Head Freshwater Branch, United Nations Environment Programme Yaşar Yakiş, Former Minister of Foreign Affairs, Turkey Gérard Wolf, Senior Executive Vice President, EDF Group, France</p> |

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| | <p><i>The Nexus will be illustrated through a range of examples and solutions related to stimulating multi-objective sub-regional development, promoting regional dialogue across sectoral approaches and between countries, partnering with communities to share development benefits, increasing productivity and turning waste into a resource. Specific initiatives that will be reflected in interventions from the panellists include:</i></p> <ul style="list-style-type: none"> • Creating a balanced regional development model and policy process – the ECOWAS experience • Building a sustainable rural and urban basin in the Andes • Exploring new models to jointly address food, water, and energy provision in a rapidly growing urban environment • Water for Food, Energy and Ecosystems in the Inner Niger Delta, Mali • Breaking the WFE Nexus by expanding drip irrigation in India • Multi-objective regional planning in Anatolia – the GAP project • Back to a sustainable and multi-purpose future - drawing lessons from Serre-Ponçon to Nam Theun 2 hydropower schemes |
| 12.40 - 12.45 | <p>Summary and implications of the Panel: Reflections on the Panel discussion by Uschi Eid, Vice Chair, UN Secretary General’s Advisory Board on Water and Sanitation <i>Key messages will be taken forward from the Panel to the Solutions space at the Forum and beyond to Rio+20.</i></p> |
| COMMITMENTS TO CHANGE | |
| 12.45 - 12.55 | <p>Commitments from Panel Members: <i>Panel members will present a ‘quick-fire’ round of concluding remarks including some ‘commitments to change’ for their own organisations: change that embraces nexus solutions for sustainable outcomes.</i></p> |
| FROM MARSEILLES TO DAEGU | |
| 12.55 – 13.00 | <p>Remarks by Mr. Lee Yangho, Deputy Minister for Planning & Coordination, Ministry of Food, Agriculture, Forestry and Fisheries, Republic of Korea, Host of the Seventh World Water Forum 2015 Closing Statement, Member of the World Water Council</p> |



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