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WATER, FOOD AND ENERGY SECURITY IN A CHANGING CLIMATE

FACT SHEET

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INTRODUCTION

- Population growth, economic sector developments and changes in livelihoods and lifestyles, have led to increased demand for food and water, with price spikes in many parts of the world. Nile Basin is highly vulnerable, with a Nile Basin population of 160 million and a large percentage of the population is unable to meet the higher prices. Urbanization, with over 85% of city residents in Africa below 30 years of age, creates additional impetus.
- In most of these countries infrastructure needed to increase food production and distribution continues to lag far behind demand. Creating infrastructure will be part of the long term measures to redress the situation, but in itself may not solve the problems.
- Climate variability, a problem in the Nile Basin, is increasing. Urgent solutions are needed to address the water-food-climate crisis. As the Intergovernmental Panel on Climate Change (IPCC) Report makes clear, good water management is critical for climate change resilience.
- Many of the solutions need better cooperation and discussion between the Nile Basin riparian countries. These may include options such as irrigation using transboundary waters and reducing vulnerability through regional trade. Policy makers and planners need to be informed on the impacts of bio-fuels development on water and food security as well as the issues of land fragmentation on one side and major land acquisition on the other.

JUSTIFICATION

- Achieving water, energy and food security, and consequently reducing hunger and eradicating poverty, is a central future challenge that is possible even under difficult and challenging global economic conditions.
- Global demand and supply assessments predict significant shortfalls in water and food in the future, but this should not mask the reality that universal access to minimum standards of water, energy and food can be achieved and sustained within planetary boundaries provided there is political commitment and an appropriate enabling environment.
- Basic services are not available to a large proportion of the world's population; about 0.9 billion are without adequate access to water for their basic needs and for many more the water is not safe for consumption, 2.6 million lack access to safe sanitation, close to 1 billion are undernourished, and at least 1.5 billion are without access to modern forms of energy.
- With 70% of the expected global population of 9.2 billion people living in cities by 2050 and with economic growth continuing on current paths, 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.
- Less than 10% of the Nile Basin residents have access to electricity and 74% of the rural residents of the Nile Basin lack access to clean drinking water.
- People thereby remain deprived of their human rights and are constrained in their opportunities for development. And for many others, the system does not yet offer the conditions needed to raise their livelihoods and emerge from poverty.
- Failing to recognize the consequences of one sector on another can lead to notable inefficiencies in the system. For example, decisions on the type of energy generation can significantly influence water demand and in the case of biofuels, compete over land for food production; the 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.

- Therefore there is a need to build on more innovative solutions to achieve sustainable growth.
- A new nexus oriented approach is needed to address unsustainable patterns of growth and impending resource constraints and, in doing so, promote security of access to basic services. It is an approach that better understands the interlinkages between water, energy and food sectors as well as the influence of trade, investment and climate policies.
- A nexus perspective helps to identify mutually beneficial responses and provides an informed and transparent framework for determining trade-offs to meet demand without compromising sustainability and exceeding environmental tipping points. It aims to bring economic benefits through more efficient utilization of resources, productivity gains and reduced waste.
- The three dimensions of sustainable development – social, economic and environmental – provide entry points from which opportunities to apply the nexus were subsequently identified.

Their relevance is characterized by:

1. **Access to basic services:** Meeting minimum standards of access to safe water, adequate sanitation, healthy food and clean sustainable energy is a pre-requisite for human development and dignity. Embedding a gender perspective will further accelerate achievement of these gains.

2. **Productivity of resource use:** There is a growing recognition that reducing waste, limiting over-use and increasing overall economic productivity is not only essential as demand on the world's resources increase, but also makes sound economic and business sense.

3. **The value of ecosystem services and biodiversity:** The contribution of ecosystems and biodiversity to human wellbeing and the economy is considerable. The services provided by ecosystems include freshwater, food including crops, fish and other aquatic products, timber and fibre production, biofuels, climate regulation and tourism. Conservation of biodiversity has long been an objective and is central to the provision of ecosystem services. Most ecosystem services beyond food and biofuel production have not been well monetized, regulation is weak and hence investments to sustain them have been limited resulting in deforestation, loss of wetlands, over-exploited rivers and degraded soils. Sufficient evidence exists to justify the use of innovative financing and regulatory tools to protect and sustain ecosystems taking into account their local, regional and global importance.

The 'Nexus Opportunity Areas' for the Nile Basin are:

1. **Increase policy coherence:** by ensuring that synergies and trade-offs among water, energy and food are identified both in design and implementation of policies, plans and investments. And by incentivizing cooperation and coordination for mutually beneficial approaches, multiple benefits and fewer unintended or adverse consequences.

2. **Accelerate access:** by progressively realizing – in a more coordinated way – the human rights obligations related to water, sanitation, energy and food to reap the resulting health, productivity and development benefits. And by prioritizing access for the poor and the marginalized in sector strategies, planning and investments.

3. **Create more with less:** by increasing resource productivity establishing mechanisms to identify the optimal allocation of scarce resources for productive purposes and sustainably intensifying the use of land and water to achieve equitable social, economic and environmentally sound development.

4. **End waste and minimize losses:** by reducing waste and losses along supply chains to capture significant economic and environmental gains within and across sectors and reduce demands on water, land and energy. And by changing mindsets and incentivizing technological development to turn waste into a resource and manage it for multiple uses.

5. **Value natural infrastructure:** by investing to secure, improve and restore the considerable multi-functional value of biodiversity and ecosystems to provide food and energy, conserve water, sustain livelihoods and contribute to a green economy while strengthening the basic role that nature plays in supporting life, well-being and cultures.

6. **Mobilize consumer influence:** by acknowledging and actively utilizing the catalyzing role that individuals have in choosing consumption patterns on water, energy and other resource footprints and improving efficiency of resource use both through their direct actions and in influencing the way business is done.

There is no single approach or blueprint for nexus considerations. Regional, national and local diversity requires that these recommendations are viewed as a generic framework that can be moulded and adapted to suit local circumstances.

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