Avoiding a Zero-Sum Water-Energy End Game: Bring It to Rio+20

https://www.e-ir.info/2011/11/01/avoiding-a-zero-sum-water-energy-end-game-bring-it-to-rio20/

OLIMAR E. MAISONET-GUZMAN, NOV 1 2011

In June of 2012, world leaders and civil society representatives will meet in Rio de Janeiro to determine the future of sustainable development. The UN Rio+20 Conference on Sustainable Development, better known as the Earth Summit, will seek to secure renewed political commitment for sustainable development, and to assess the progress and implementation gaps of previous Earth Summits. The conference will also address emerging challenges such as the nexus of water and energy, which will re-conceptualize sustainability to promote an integrated understanding of natural resources.

It is expected that global demand for energy will increase 30 percent by 2030, but, in regions that are experiencing rapid economic growth, the increasing demand for energy will also translate to an increase in demand for water. For example, in Latin America, which is largely dependent on hydropower, the demand for energy will increase by 56 percent, increasing the pressure on existing water resources. In China, 66 percent of coal production, a water-intensive process that is key to meeting China's growing energy needs, occurs in one of the driest inhabited regions on earth (see the Wilson Center/Circle of Blue project Choke Point: China for more on this particular water-energy nexus).

Solving energy challenges cannot come at the cost of achieving water security goals. The conflicts inherent in achieving both goals are exacerbated by a lack of institutional policy frameworks that integrate both concepts and the fragmentation of the concept of sustainability itself.

Breaking Down Sustainability

Sustainability as a concept emerged with the Brundtland Commission Report. The report not only defined sustainable development, but also proposed the idea of limits. The Earth is a vast, but limited source of materials and energy; consequently, development must be tied to the understanding that natural resources are finite. After the report, processes of international agreements incorporated the term "sustainability" in documents such as the Rio Declaration, which proposed the principles of sustainable development and its subsequent action plan, Agenda 21, which deals with the economic components of sustainability.

Despite its emerging importance as an international relations concept, sustainability has been fragmented to reflect different economic, environmental, social, and cultural agendas. The lack of a common framework for sustainability is reflected in the disjointed understanding of the water and energy nexus. More often than not, water-basin committees are only consulted when energy decisions are related to hydropower, and they are left out of consultations about alternative energy sources and land planning, even though such decisions have a direct impact on water resources and can diminish a country's water security. Examples include petroleum from the Canadian oil sands extracted via techniques that can consume 20 times more water than conventional oil drilling; irrigated first-generation soy and corn-based biofuels consume thousands times more water than traditional oil drilling; and solar thermal electricity, as opposed to photovoltaic electricity, consumes twice as much water as a coal power plant.

The intricate relationship between water and energy is further complicated at the interstate level, especially for

regions that suffer from both water and energy scarcity. States will inevitably compete for access to energy and water sources. This relationship may turn violent if the required cooperation agreements that define a sustainable use of water are not in place. If any single state uses too much water, it can have devastating effects in the energy production of one of its neighbors, increasing tensions between them.

Examples of regions already affected by these types of tensions are the Lower Mekong and the Nile River basins. In the Lower Mekong, China's aggressive hydroelectric development in the Upper Mekong continues to increase the perceived threat to its downstream neighbors –Thailand, Laos, Cambodia and Vietnam. These countries argue that the construction of dams is robbing them of critical water resources. In the Nile River Basin, the growing energy and agricultural demands of the region have increased tensions between Egypt, Sudan, and Ethiopia. These states have publicly stated that their share of the water is insufficient and are demanding the right to use the water as they see fit. This will inevitably over allocate water and affect other riparian countries' water rights.

Bring It to Rio

It seems that there is an inverse relationship between water and energy security, but is this Kobayashi Maru scenario real or imagined? It doesn't have to be if we expand our understanding of sustainability.

A holistic understanding of the water-energy nexus is already present in regional documents such as the Organization of American States' Declaration of Santa Cruz+10. The declaration recognizes that to be sustainable, every aspect of a nation – its energy matrix, water resource management, emergency planning, forest management, and governance – needs to be addressed to reach sustainability. The nexus is also discussed in other documents such as the Stockholm Statement, but what is truly needed to firmly establish the nexus' role in sustainability, is a place on the agenda of the UN sustainable development conference next year in Rio de Janeiro.

Five of the nine "Major Groups" of the UN Division for Sustainable Development have released statements supporting the incorporation of the water-energy nexus within the Rio+20 discussions. The European Union has already established the water and energy nexus as one of the main challenges for the green economy. However, many of the key players within the negotiation process—including the United States, Brazil, India, and China—have not included the nexus in their official position papers.

To gather the support of the remaining key actors, representatives of the Major Groups must advocate for the proposal at the national level. For example, the United States Senate is reviewing the Water and Energy Integration Act of 2011 (S.1343). If this bill were to be approved, it would be easier to push for the inclusion of the nexus approach in the official U.S. position paper for Rio+20. Civil society must aim to build domestic support for the inclusion of the water-energy nexus and a whole system approach before the third UNCSD Preparatory Committee Meeting, where the agenda for Rio+20 will be set. The inclusion of the nexus in the final agenda will only be possible if effective engagement and dialogue between state and non-state actors is developed prior to the conference

Although it is only one step, the incorporation of the water-energy nexus into the Rio+20 agenda would help to improve our understanding of sustainability. Given the importance that the previous Earth Summit had for developing sustainable development goals, global leaders need to take this opportunity to incorporate the nexus of water and energy into their discussions, therefore validating its importance as a sustainability concept. This is essential to promote and deliver comprehensive frameworks at a local and regional level that account for the interconnected nature of water and energy.

Olimar Maisonet-Guzman *is a 2011 Boren Fellow to Brazil and a member of the SustainUS Youth Delegation that will participate in the Rio+20 Earth Summit.*