

ASIA CLEAN ENERGY FORUM 2019

PARTNERING FOR IMPACT

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Deep Dive Workshop

Food-Energy-Water Nexus

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Background

Energy is vital to economic development. It is a critical input to water resources management—from pumping, transportation, treatment and desalination. Energy powers agriculture—from farm equipment to food processing. Similarly, the water sector underpins energy production—from extraction of raw materials, cooling of thermal power plants, cleaning processes, crop production for biofuels, and fuel for turbines. Water, of course, breathes life into agriculture.

Unfortunately, the push for inclusive but fragmented policy development in these sectors can lead to inadvertent adverse consequences. Farmlands are being converted to solar farms or crop production is diverted to biofuels, which threaten food security. In some cases, water-intensive biomass feedstocks are planted in water-stressed areas. The crucial interplay among these three sectors—water, energy and food—requires a well-coordinated and delicate balancing of government policies, particularly in cases of resource scarcity.

RTI International has developed and applied a systems-based framework for evaluating the complex interactions of the food, energy and water nexus. By quantifying water resource availability and competing demands, including agriculture, energy, industry, and municipalities, hydro economic modeling can simulate and explore future conditions under alternative policy, growth, and climate scenarios. RTI International implemented the Building Low Emission Alternatives to Develop Economic Resilience and Sustainability (B-LEADERS) project in the Philippines, which ended January 2019. B-LEADERS completed a water, energy and food nexus study with a focus in Mindanao, the agricultural basket of the Philippines. The study culminated with the production of surface water resource maps and a hydro-economic framework toolkit that evaluates the impact of water resources allocation among competing uses.

Objective

The DDW aims to:

1. Understand the complex interactions between energy production, food production and urban water supply, which is critical for effective decision-making.
2. Discuss science-based frameworks for navigating the water, energy and food nexus from technical and policy perspectives, including case studies from around the globe.
3. Explore the hydro-economic framework toolkit that simulates economic trade-offs and provide options given alternative scenarios.
4. Define policy options to efficiently allocate water resources among competing uses.

Moderator

Ms. Lily Gutierrez, Energy Policy Specialist, Environment Office, USAID Philippines

Agenda

8: 30 to 9:00 am	Registration
9:00 am	Know Your Resources: The Role of Hydrologic Modelling in the Food-Energy-Water Nexus Ben Lord, PE, RTI International
	Role of Local Government Units in Efficient Allocation of Scarce Resources Danilo Villas, Executive Director Philippine League of Local Environment and Natural Resource Officers, Inc. (PLENRO)
	Water, Energy and Food Nexus: The Mindanao Case Study Mindanao Development Authority (TBC)
	A Global Challenge: Water, Energy and Food Nexus Case Studies from an International Perspective RTI International
10:30 to 11:00 am	Coffee Break
11:00 to 11:40 am	Analytics Made Accessible: Demonstration of our interactive Hydro-Economic Dashboard to bridge the gap between science and decision makers through accessible and engaging information interfaces
11:40 to 12 noon	Q & A, Discussion