

WATER, ENERGY, FOOD (The Nexus approach)

Milan EXPO, Cascina Triulza
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Panel 2

Pippo Ranci - Univ.Catt.Milan, EUI Florence, project WAME
(moderator)

John Anthony Allan - King's College, London

Harish Hande - co-founder of SELCO INDIA

Rosario Lembo - Comitato italiano, Contratto Mondiale sull'Acqua

Hiromi Sugiura - Team leader, Climate Policy and Network Unit for
nexus issues, UNIDO

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Introduction

Pippo Ranci - Univ.Catt.Milan, EUI Florence, project WAME

My starting point: IRENA Report, Jan. 2015

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1. Water for energy

Water is required for extracting and processing fossil fuels as well as for generating electricity from various sources.

Energy supply presently accounts for nearly 15% of global freshwater withdrawals annually.

As a consequence, the availability and accessibility of water resources for fuel extraction, processing and power generation represent a key determinant for energy security.

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2. Energy for water

Energy services are essential for water treatment, production and distribution.

Disruptions in the provision of energy services have direct implications for water security.

3. Energy and water for food

The agri-food supply chain accounts for 30% of the world's energy consumption and is the largest consumer of water resources, accounting for approximately 70% of all freshwater use.

Vulnerabilities in water and energy supply pose critical risks for food security: severe droughts and fluctuations in energy prices can affect the availability, affordability, accessibility and utilisation of food over time.

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The issue: search for a comprehensive (simultaneous equations) solution

There is a need to explore integrated solutions to ease the pressures and formulate development pathways based on **sustainable** and **efficient** use of limited resources.

IRENA's recommendation for sustainability and efficiency

Renewable energy technologies could address **some** of the trade-offs between water, energy and food, bringing substantial benefits in all three sectors.

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A powerful analytical tool for reaching efficient solutions:

the “**virtual water**” concept which measures how water is embedded in the production and trade of food and consumer products.

The concept was introduced in 1993 by **John Anthony Allan**, King’s College London and the School of Oriental and African Studies. For this he was awarded the Stockholm Water Prize in 2008.

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To design a sustainable and efficient solution is not enough, it has to be implemented.

Harish Hande was awarded various prizes for "his pragmatic efforts to **put solar power technology in the hands of the poor**, through his social enterprise SELCO India"

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Advocacy and constitutionalisation.

A world **Exhibition** provides an opportunity for sending out positive **messages**. This is why this Milan EXPO has launched a “Milan Charter” dealing with the right to food.

A similar message regarding water was issued in Lisbon, Valencia, and Brussels in 1998. The Water Manifesto states that “**the right to water is an inalienable individual and collective right**”.

From that initiative the “Comitato Italiano per il Contratto Mondiale sull’acqua” derives. It is an Italian nonprofit working towards an **International Protocol for the human right to water and sanitation**. **Rosario Lembo** is its president.

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the UN Agency for Industrial Development

has a Climate Policy and Network Unit dealing with
nexus issues

The team leader is **Hiromi Sugiura**.

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Finally, a few provocative questions:

- Given the cost of transporting water and energy, how far can we go with general (one-size-fits-all) solutions?
- Would you advise a greater use of market mechanisms (to promote water savings in industry and agriculture, or to displace water-intensive crops from areas of water scarcity to areas where water is abundant)?
- Hydro generation means renewable energy. Yet where water is scarce, generation from fossil fuels would reduce water scarcity. Would you recommend it?