

Science Guide Toward a Sustainable Energy Future

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INTER-AMERICAN NETWORK OF ACADEMIES OF SCIENCES

Science Academies working together to promote science and technology for development, prosperity and equity in the Americas

Energy Programme

Chapter of book:

WOMEN, ENERGY, AND WATER: THE EFFECTS OF GENDER AND CULTURE ON THE ROLES AND RESPONSIBILITIES OF WOMEN

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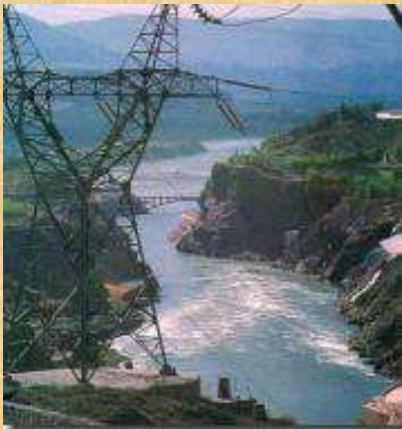
Collaboration between 3 IANAS Programmes Energy, Water and Gender

- Introduction
- The Link between Energy and Water
- Energy, Water and Gender-Case Study of Peru and the Andes Region
- Rural Women's Role in Energy Production and Use
- Firewood Use in Latin America and its Effects on Health
- Gender as a Component in Energy Planning

1. Introduction

- Definition of Terms: Gender, Culture: Importance of this Topic: How Women are Primary Users of Energy and Water

This intense concentration on maintaining, finding and exploiting sources of traditional and modern scientific energy largely overlooks the fact that many millions of people, **primarily women, live in circumstances off the electrical grid where even older sources of energy such as wood, and various forms of biomass are used primarily for domestic purposes.** (Taboada-Serrano, 2011)



2. The Link between Energy and Water

Water for Energy

Energy for Water

- Water is used in production of all types of energy.
- Energy is necessary for the provision of water and treatment of wastewater.

Water for Energy

Energy for Water

- The **use of water for energy is becoming a global challenge**. As the world economy grows at a faster pace the demand for water will increase and will accelerate more rapidly than population growth.
- Water and energy have crucial impacts on **poverty alleviation** both directly, as a number of the Millennium Development Goals depend on major improvements in access to water, sanitation, power and energy sources, and indirectly, as **water and energy can be binding constraints on economic growth – the ultimate hope for widespread poverty reduction**". (UN World Water Development Report, 2014a).
- **Renewable energy forms** such as hydroelectricity, wind, geothermal and solar **require little water** for the raw material production. Even better is that wind and solar use almost no water in the production stage of power except for washing activities

3. Energy, Water and Gender-Case

Study of Peru and the Andes Region

During the last two decades, **despite significant changes in access to drinking water and energy**, these changes have **not been matched in the sphere of gender equality**, on an urban or rural scale or by socioeconomic status and continent.

In subsistence economies, women spend much of the day carrying out domestic tasks such as **fetching water** or **collecting firewood** to use as fuel (Global Partners in Action, (2009))



4. Rural Women's Role in Energy Production and Use

- For many years, the role of women in energy production and use has focused mainly on the home, particularly the burning of biomass to cook food. Women today have expanded this role, **empowering themselves and their communities to use other sources of renewable energy**, participating in technical projects and assuming roles traditionally performed by men.



Solar cooker training program for rural women



Using a solar cooker in Nicaragua

4. Rural Women's Role in Energy Production and Use

- It is suggested that in order to perform their role in the home and society, women's needs and interest should be included in the energy policies of their respective countries.

5. Firewood Use in Latin America and its Effects on Health

- The census sample for living conditions and firewood use from the XII Mexican General Population Census 2000 revealed that over half of rural households and occupants (59%) **use firewood as cooking fuel** (XII censo de población y vivienda , 2000).
- In Central America, twenty million people cook with biomass on open fires or rudimentary stoves. **Approximately 86% or seventeen million of the people who consume firewood in both urban and rural areas within the region are concentrated in three countries: Guatemala, Honduras and Nicaragua.**

Chronic obstructive pulmonary disease (COPD) COPD, generally caused worldwide by tobacco use and air pollution, is now considered the fourth leading cause of death throughout the world, and is expected to become the third by 2020.

(Enfermedad Pulmonar Obstructiva Crònica - EPOC, 2013)

In most countries mostly female

6. Gender as a Component in Energy Planning

- What is called the **energy-poverty nexus** stems from the fact that the **poorest people in the world have access to the least efficient, lower-energy-density energy sources or lower fuels in the energy ladder**. (The World Bank, 2012) The energy ladder includes, from the lower to the higher fuels: (1) wood, dung and biomass; (2) charcoal, coal, kerosene; (3) electricity, liquefied petroleum gas; (4) modern biofuels, solar and wind. (Lambron & Piana, 2006)

Gender is a cross-cutting issue to water and energy use, since women are the main population group affected by underdevelopment, poverty and the water-energy nexus. **Women are among the leading users of energy and water yet they are still rarely integrated into the development and planning processes of many countries.**

Incorporating gender in energy planning