

Overview

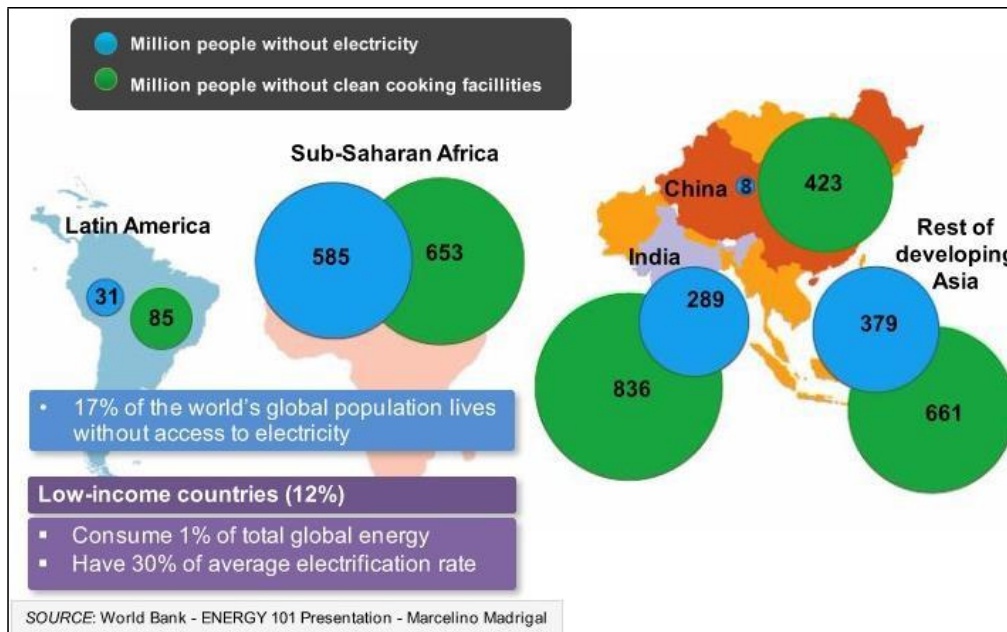
Welcome to Topic 3 of the e-module on Gender and Energy.

We have already discussed how increased access to electricity improves men's and women's lives.



Topic Three will cover key issues related to gender and electricity infrastructure. These are crucial when we consider that about 17 percent of the world's global population lives without access to electricity. But we need to look beyond access issues. Globally, low-income countries, with 12 percent of the world's population, consume one percent of total global energy and have an average electrification rate of 30 percent.

Great efforts are needed to expand electricity infrastructure if the goals of ending poverty and building shared prosperity are to be attained – but this expansion will be most effective, efficient and sustainable if gender equality issues are taken into account in a timely manner, as these infrastructure projects are planned, developed, and implemented.



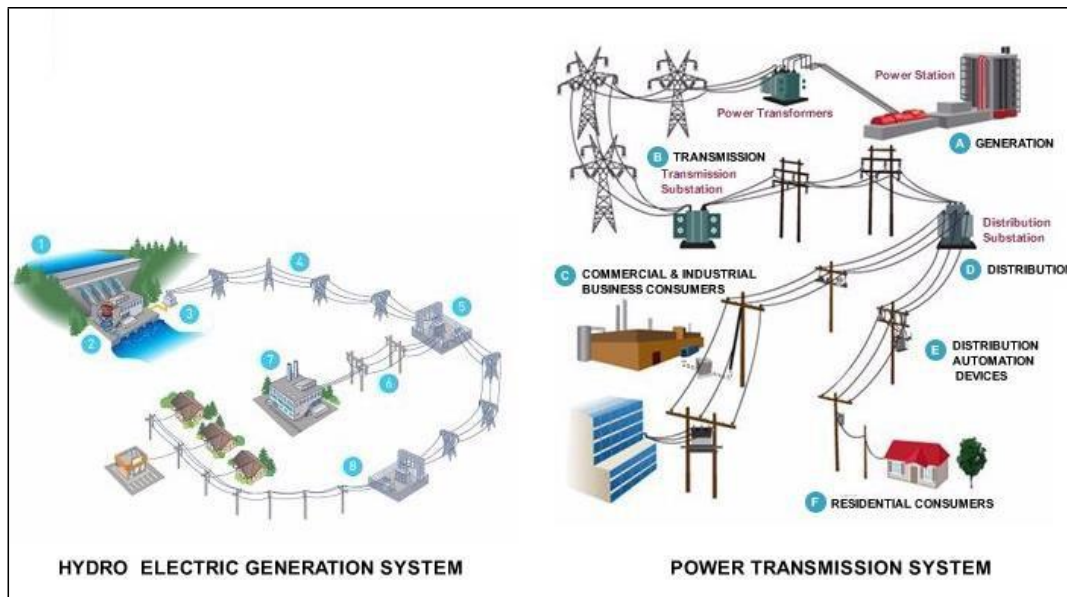
Electricity infrastructure

Think of the electricity system as one interconnected machine, from generating electricity through its use in services.

Electricity is generated at a power generation plant. It is sent through a transformer onto high-voltage transmission lines, similar to highways, and are needed for electricity to travel long distances to switching stations and voltage reduction substations, before it is distributed to customers, whether commercial and industrial, or residential consumers.

Gender issues are relevant in electricity generation, transmission and distribution:

- Generation, includes both conventional generation plants and renewable energy generation, such as hydro power, geothermal, wind power, and solar,
- Transmission, includes high-voltage lines to carry power across long distances, and
- Distribution, which includes lines to carry power to individual consumers, as well as tariff-setting and metering units for households.



Social and gender impacts of electricity infrastructure development

Expansion of electricity supply can have considerable positive and negative impacts on gender equality in the communities where the necessary infrastructure is built, such as population displacement and resettlement, disruptions in natural ecosystems, social and economic changes.

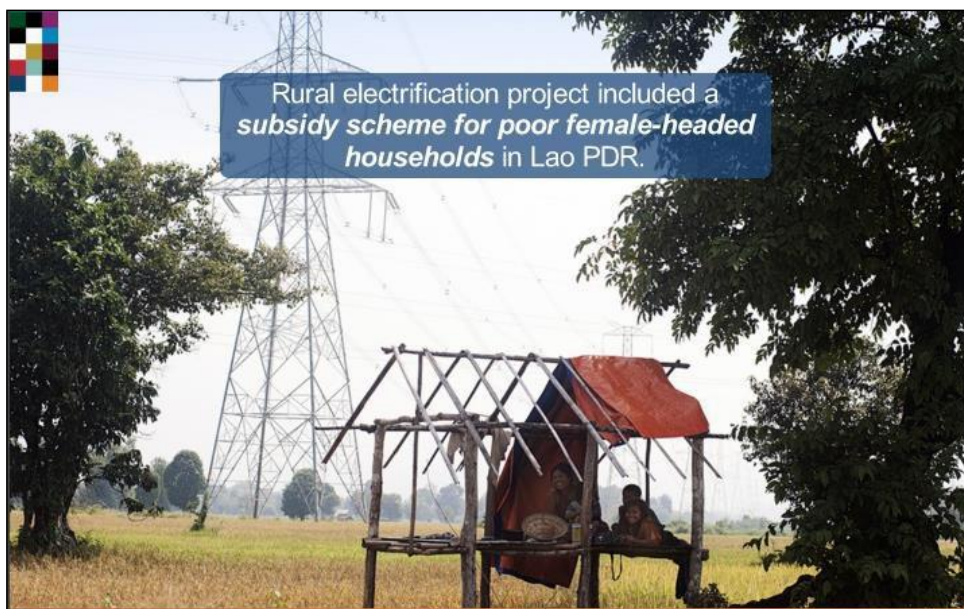
It can bring about positive economic changes through better job opportunities for men and women. For women in particular, provision of food and services to migrant workers during construction presents an opportunity for entrepreneurship. However, an influx of migrant workers may also increase the risks of gender-based violence in the community.

Improved education and health services resulting from infrastructure development may help close gender gaps in land and labor markets and improve health outcomes such as maternal health.

Relocation can lead to new opportunities for land registration and titling for men and women. However, it also has the potential to create economic, social and environmental problems for men and women in the affected communities, for example, when ecosystems are disrupted or when communities are relocated to make way for the new facilities.

These impacts exist not only in electricity generation, but also in transmission and distribution activities. For example, in Uganda, several gender issues and potential entry points were identified for electricity transmission and distribution. These included land ownership, resettlement and compensation; environmental impacts on men's and women's livelihoods, especially when men and women cultivate different crops; local employment in the project; as well as the need to include both men and women in stakeholder consultations.

When it comes to electricity distribution, gender issues include affordability of the connection rate and the monthly tariffs. For example, in Lao PDR, a mid-term review of a rural electrification project showed that poor households, many of which were female-headed households, were not able to pay the connection fee, which led to a subsidy scheme targeted to poor households within the project.



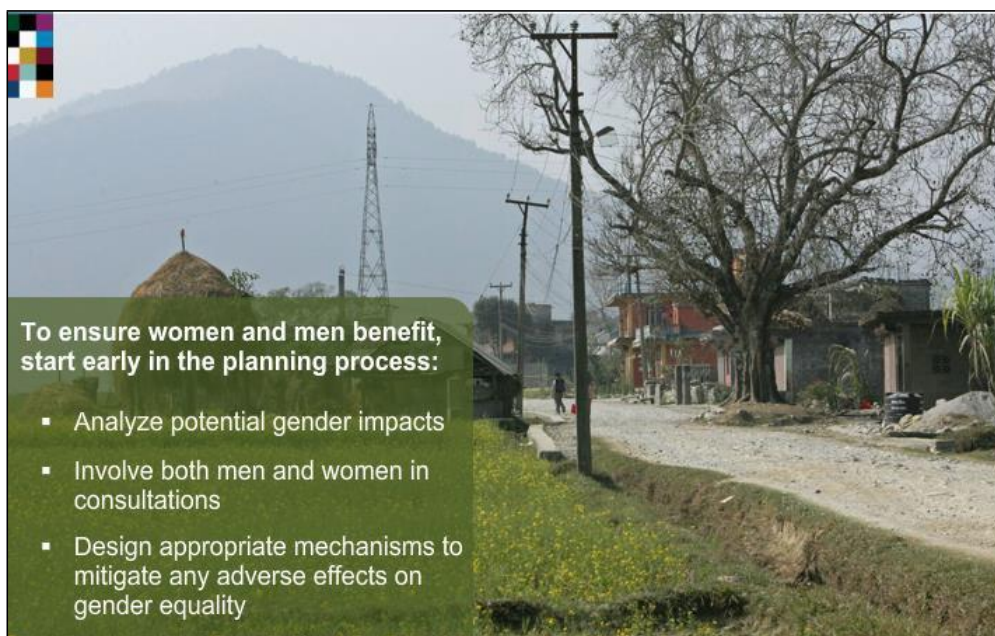
Making electricity infrastructure projects gender-responsive

For large electricity infrastructure projects to have positive impacts on women, project design needs to incorporate gender analysis, consultations, and identify and mitigate any potential negative impacts on women early on.

For example, in Sierra Leone, the Bumbuna hydroelectric dam project required the resettlement of 5 villages, and livelihood restoration of nearly one thousand people. Consultations were held for project preparation, and women were included in all public consultations. Consultations were held with women farmers and their suggestions were incorporated in project design, which included gender-sensitive interventions such as:

- Integrated women's needs in the construction of community infrastructure, including access roads, water and sanitation, health, and school facilities;
- Compensation was paid directly to women without men's intermediation;
- Established savings groups for women and enabled them to access a revolving loan facility and skill training; and
- Granted joint titles of land, houses and assets in the names of both the wife and the husband.

As a result of this gender-sensitive project design, women are playing key roles as community leaders and have gained in social status, economic empowerment, and welfare.



Electricity infrastructure: impacts on assets and land

Women in developing countries tend to have less access to land ownership due to inheritance laws or social norms. Women who own land sometimes experience legal and practical barriers to registration and land titling. With the planning and construction of large energy infrastructure, there will be changes in land values and land uses which may have different effects for men and for women.

Special attention is needed to protect the rights and livelihoods of men and women when populations are displaced to make way for new facilities such as dams or power plants. It is very difficult to relocate people without damaging their livelihoods, as their production systems may be affected, their social networks may be disrupted, and jobs may be lost. Compensation is usually paid to the property owner, and, in many countries, men usually have title to the land, and are the ones who receive the compensation, even if women are the ones who work the land, and will be seriously impacted by its loss.

Women face specific vulnerabilities during compensation if resettlement occurs. Land values can go up or down during planning and construction of large scale infrastructure. Women tend to own smaller plots for residential use and the values of those tend to go down. In addition, new reservoir and water regimes can lead to a change in crop patterns towards a high value mono crop that may negatively affect women who work in small-scale cultivation.



Electricity infrastructure: gender impacts on labor markets

During project planning and implementation, it is important to explore whether the project will create employment and entrepreneurial opportunities, whether women will have access to these opportunities, and whether women will be employed in decision-making positions, and to explore positive and negative impacts on men and women. This is crucial in a sector which is often viewed as a male domain, and where women may be excluded from economic opportunities and have limited inputs into decision-making, with decisions often taken from the male perspective.

The employment impacts of electricity infrastructure projects on women are often restricted by low skills, traditional gender roles, low aspirations, or employer prejudice.

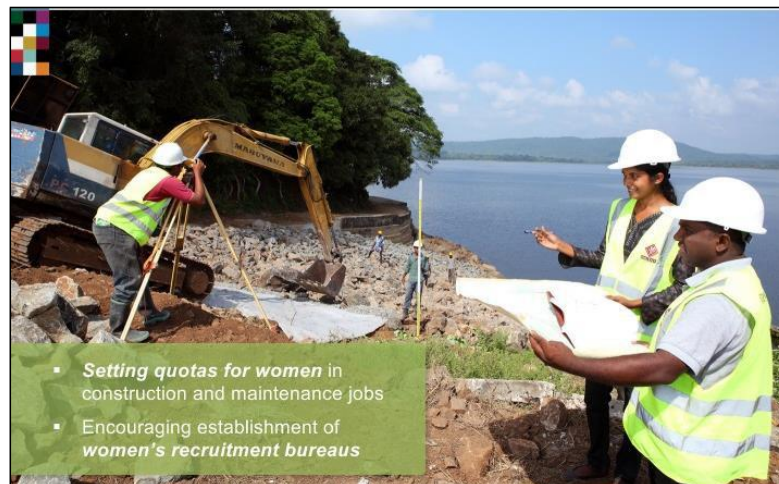
However, the private sector has had success in hiring female graduates in traditionally male-dominated fields, such as engineers, especially in the areas of quality, environment, health and safety management.

For example,

- Odebrecht established the *Acreditar* program for a hydro project in Porto Velo, Brazil, to train local personnel, which specifically included women. This allowed them to hire local men and women instead of bringing in male workers from other areas.
- In New Zealand, the Electricity Supply Industry Training Organization trains and hires women in two traditional male roles: as line mechanics and cable jointers.

Occupational segregation by gender tends to frame available opportunities for women, as

most new jobs for women linked to electricity infrastructure development are offered in traditionally feminine tasks, such as catering and food supply, laundry, clothing, financial services and clerical support. This can be improved by setting quotas for women in construction and maintenance jobs, encouraging establishment of women's recruitment bureaus and ensuring separate washing and toilet facilities for women and men at work sites.



Protecting land rights and livelihoods: the Nam Theun 2 dam

- The highest potential positive and negative gender impacts in electricity infrastructure are associated with dams. The Nam Theun 2 dam in Lao PDR is a hydroelectric dam located on the Nam Theun River in Lao PDR. Its design included comprehensive environmental and social mitigation, and addressed gender issues based on a gender assessment, becoming a good model for future dams.
- Land titles for resettlers were issued jointly to husband and wife and compensation payments were given jointly to husband and wife.
- Downstream livelihood programs included raising chickens and making handicrafts, to protect some vulnerable households, often elderly widows, who were unable to take advantage of more labor intensive opportunities.
- Women and men are actively participating in managing the Village Income Restoration Fund, and other income generating groups.
- A gender assessment found that vulnerable and at-risk groups, including women and girls, had limited access to education, off-farm employment, production markets, cash assets, and sociopolitical empowerment. The project included specific actions for these groups, such as: gender-sensitive and participatory planning and monitoring mechanisms; promotion of gender-balanced community institutions;

gender-sensitive opportunities for income generation and skills development, training, off-farm work opportunities; and community education on alcoholism, spouse abuse, and sexually transmitted infections.



Safeguards and gender screening

We have already seen that:

- Electricity infrastructure can trigger involuntary displacement and resettlement, which often affects indigenous people and ethnic minorities.
- Women tend to be more vulnerable to the negative impacts of relocation and loss of livelihood because their assets tend to be more limited, with indigenous women usually the most vulnerable.
- Compensation to male heads of households does not necessarily benefit other members of the household.

Gender screening is needed in all social assessments, to identify any differential impacts on men and women. Following the assessment, features may be incorporated in project design, in order to reduce the risks of negative gender effects, such as:

- Minimizing displacement and resettlement;
- Disaggregating the census of persons affected by sex, as well as by ethnic group, if relevant;
- Making sure the resettlement planning is inclusive and participatory;

- Providing livelihood options for displaced street vendors, squatters, etc.; and
- Ensuring women also receive adequate compensation, including joint titles to property, cash in individual account, or training for new employment opportunities.



Check Your Understanding

1. Identify the positive gender impacts of electricity infrastructure development.
 - A. Better employment opportunities for men and women
 - B. Increased risk of gender-based violence
 - C. Lower land compensation for women
 - D. Opportunities for women entrepreneurship
 - E. Improved education and health services