

GESI and Energy Access Goals of SEforALL/SDG7

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"Technology has brought many possibilities in education and health that are key to women."
- Paul Kagame, President of Rwanda

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Backdrop

In spite of being recognized as one of the main factors influencing development outcomes, a knowledge gap around Gender and Social Inclusion (GESI) issues continue to affect the formulation of realistic and result oriented policies and program in the energy sector in Nepal. Nonetheless, it is evident that development policies and programs are increasingly seeking to either promote direct interventions to support GESI outcomes through efforts to mainstream GESI issues by promoting GESI-sensitive policies and programs. It is heartening that commitment and endorsement of the GESI agenda is one of the prominent characteristics of the current development discourse in Nepal (ADB. 2018).

It is not specific to Nepal but similar to other developing countries that women experience energy poverty differently and more severely

than men (AEP. 2013b, UNDP. 2010). It is evident, in social expectations in their day-to-day responsibilities, mainly in rural Nepal, in terms of having to ensure availability of fuel (and water) in addition to food preparation. As women spend considerable amount of time in collecting and managing fuel and water, it takes them away from employment, education, and other self-improvement opportunities. In addition, with awareness of social recognition of having economic prowess, women's engagement in various types of microenterprises further adds up to their demand on their time and effort disproportionately. Further, continued dependence on traditional biomass has detrimental effects on women's health through indoor air pollution caused by smoke and unhealthy work places. Yet, socially constructed perceptions that consider modern energy as "men's domain" limit the opportunities for women to take full advantage of new energy sources, particularly in entrepreneurship (J.S.

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Clancy et al. 2011). Further, a study conducted by Alternative Energy Promotion Centre (AEPC) also indicates that existing income inequalities also surface in terms of discrepancies in the ability to benefit from energy (AEPC.2014).

This article envisages to highlighting importance of addressing GESI issues in meeting Energy Access goals outlined in Sustainable Energy for All (SEforAll) goals which are now internalised as Goal 7 in Sustainable Development Goals (SDG7).

Energy Access

Energy Access, in line with broad definition within the UNDP’s SEforAll initially put forward by the then UN Secretary General Ban Ki Moon in 2011 and now integrated in Sustainable Development Goal number 7 is generally measured by (i) access to electricity and (ii) extent of reliance on traditional use of biomass for cooking (Shonali Pachauri et al. 2012). The concept of energy access is further elaborated that the classical approach of determining access in binomial terms having access or no access is erroneous. It advocated that there is a need to define the access more qualitatively and introduced approach of measuring access

using a multi-tier approach. This approach divides access based on characteristics such as quality, reliability and availability. For example, availability of electricity through small solar photovoltaic systems for few bulbs for lighting and electricity for small uses such as charging mobile will fall under Tier1. Tier 5 access would mean availability of electricity for minimum of 23 hours a day of which 5 hours in the evening and at power availability at 2 kW enabling to do everything and any time using electricity. Similarly, access to cooking energy and technology is also being categorised in 5 Tiers with use of solid biomass in traditional stoves with very low thermal efficiency (10 percent or less)being categorised as Tier 0, use of wood stove manufactured using control process in factory with higher efficiency at about 30 percent would put it into Tier 2 and use of stoves using BLEN (Biogas, LPG, Electricity and Natural Gas) fuel in an efficient stove would put access into Tier 3-5 (ESMAP. 2015). Tables 1 and 2 below summarise electricity access and energy access for cooking. Even to qualify for Tier 1 stoves need to comply with WHO guideline for concentration of PM 2.5 and CO which makes almost all of so called improved stoves in Nepal to fall in Tier 0.

Table 1: Multi-Tier Framework for Electricity

	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Capacity		Capacity (from 3W to above 2kW) and ability to power appliances (applicable for off-grid solutions)				
Duration- day		From at least 4 hours to over 23 hours a day				
Duration- evening		From at least 1 hour to over 4 hours				
Reliability					Number and duration of outages (applicable for Tier 4 & 5 only)	
Quality					Voltage problems do not affect the use of desired appliances (Tier 4&5)	
Affordability				Basic service cost less than 5% of a household income (Tiers 3-5)		
Legality					Service provided legally (Tier 4&5)	
Health and Safety					Absence of accidents (Tier 4&5)	

Source: ESMAP, 2015

Table 2: Multi-Tier Framework for Cooking

	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Indoor air quality		Concentration of PM2.5 and CO; tiers aligned with WHO guidelines				
Efficiency		Tier benchmarks under development, awaiting results of ISO process				
Convenience			Stove preparation time and fuel collection and preparation (applicable from Tier 2 on)			
Safety			Absence of accidents and alignment with the ISO process (from Tier 2 on)			
Affordability					Levelized cost of cooking solution < 5% of household income	
Quality and availability of fuel					Cooking not affected by seasonal variations in fuel quality and quantity	

Source: ESMAP, 2015

Key Gender and Energy Access Issues

Among the many factors the high cost of grid extension, especially in sparsely populated remote areas and high up-front cost associated with renewable energy technologies affect households' access to energy severely. Other factors that affect the energy access are poor and/or costly energy services, inability of poor and marginalized groups to pay for services. Government subsidies have proven to have only limited effect on improving access to poor and marginal population.

Key problems in designing and implementing energy access projects that address social injustice specifically to address gender related concerns are, i) Inadequate understanding of dynamics between social inequities and energy access outcomes of energy projects; ii) Lack of knowledge and tools to address differential needs of women, men, and socially excluded groups in providing energy services and technologies.

In order to enable project developers and policy makers to understand how gender inequality and social exclusion affect certain development outcomes that they are seeking and what prevents women and socially excluded groups from accessing benefit from energy services or programs. Therefore to devise tangible solutions that would address energy access in a socially justifiable and in gender sensitive manner it will be necessary to identify the potential entry points for leveraging GESI issues in the

energy sector to have transformative impacts in terms of welfare, efficiency, empowerment, and gender relations. It is also important to know that socially excluded groups could be losing out from the benefits of energy projects. Their inability to afford electricity could lead to fact that they are not able to benefit such as rising income, better educational attainment of children, and reduction in healthcare expenditure, etc. (R. Pandey. 2009). Ability to access energy services could facilitate women to pull themselves out of poverty instead being remained trapped in a vicious cycle of poverty (ADB. 2015). While there is a dearth of research on energy and excluded groups, the issue of poverty in Nepal has a very strong caste and ethnic dimension with poorer households generally being from excluded (ADB.2018).

Women's Participation in Energy Access Efforts

Women's participation in energy access projects and programs sponsored by government, donors and other institutions is discouragingly low specifically if we look at decision-making positions. The situation is gradually changing with measures such as mandatory inclusion of all beneficiary or affected households and mandatory representation of excluded groups in bodies such as users' committees (The Asia Foundation. 2012). A study of the Community Rural Electrification Program managed by the National Association of Community Electricity Users - Nepal (NACEUN) found that, of the 66 technicians involved in the six districts under

consideration, there was not a single woman (P. Sharma, 2011). Women's ownership of different technologies also remains low. In a study carried out in Ilam District, women's ownership of renewable energy systems was low at 20 percent for improved cooking stoves, 33 percent for biogas plants, 15 percent for solar home systems and 4 percent for improved water mills (Vipramshree Energy. 2011).

The participation and ownership in the provision of modern energy are important because it can create new opportunities if planned sensibly for women such as capacity building and opening up technical and other positions for women rather than relegating them to the role of end users only (K. Standal and T. Winther. 2016). Encouraging GESI will also become critical in meeting energy access goals (SDG7, SEforALL). However, inadequate or lack of women's and marginalised communities' capacity and their poor access to financial resources stand as discouraging factors to increase their meaningful participation.

Conclusions

In a pattern similar to other developing countries, Nepal has plenty of evidence indicating that women are responsible for fetching fuel and water for their households as well as for engaging. Since the burden of providing energy to fulfil their household needs fall disproportionately on women who spend a significant amount of their time in the opportunity cost is high for them. It is evident from many studies and researches that women and marginalised groups experience several barriers while accessing energy services and technologies. These barriers not only limit the potential of excluded groups from benefiting from development projects but also limit the effectiveness of the project itself to achieve its stated outcomes.

Hence, achieving and sustaining results by designing gender-sensitive and/or inclusive interventions to help achieve the objectives and goals should be at the centre in policy

making and planning energy access programs and projects. The new constitution of Nepal and other legal provisions mandates to increase women's participation at all levels. This will positively impact in GESI responsive implementation of activities in meeting sustainable development goals.

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