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Gender Equality and Social Inclusion Assessment of the Energy Sector: Enhancing Social Sustainability of Energy Development in Nepal

Abstract

In Nepal, deeply embedded structural conditions determined by gender, caste or ethnicity, religion, language, and even geography have made access to and benefits from energy resources highly uneven. Women, the poor, and excluded groups experience energy poverty more severely. To address this imbalance, the government and other stakeholders have introduced measures to achieve greater gender equality and social inclusion. This study is an attempt to understand the factors affecting the outcomes and extent to which the initiatives have fostered gender equality and social inclusion. The study recommends measures to facilitate the distributive impact of energy sector development if Nepal is to meet its target of ensuring energy access to all.

Keywords

Nepal, gender equality, social inclusion, energy sector, development

Comments

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GENDER EQUALITY AND SOCIAL INCLUSION ASSESSMENT OF THE ENERGY SECTOR

ENHANCING SOCIAL SUSTAINABILITY
OF ENERGY DEVELOPMENT IN NEPAL

GENDER EQUALITY AND SOCIAL INCLUSION ASSESSMENT OF THE ENERGY SECTOR

**ENHANCING SOCIAL SUSTAINABILITY
OF ENERGY DEVELOPMENT IN NEPAL**

February 2018



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Abbreviations

ADB	– Asian Development Bank
AEPC	– Alternative Energy Promotion Centre
DOED	– Department of Electricity Development
EIA	– environmental impact assessment
ESSD	– Environment and Social Studies Department
FGD	– focus group discussion
GESI	– gender equality and social inclusion
GRB	– gender-responsive budgeting
IEE	– initial environmental examination
IVCDP	– Indigenous and Vulnerable Community Development Plan
LPG	– liquefied petroleum gas
MHP	– Micro-Hydropower Project
MOEN	– Ministry of Energy
MW	– megawatt
NEA	– Nepal Electricity Authority
NRREP	– National Rural and Renewable Energy Programme
TOR	– terms of reference
UN	– United Nations
VCDP	– vulnerable community development plan
VDC	– village development committee
WSS	– wind–solar system

Introduction

There is a considerable energy divide in the world—between rich and poor countries; within countries, with the rich benefiting the most from energy resources; between urban and rural areas; and within households.¹ Addressing these gaps has become crucial, especially since the United Nations (UN) Sustainable Development Goal 7 (ensuring access to affordable, reliable, sustainable, and modern energy for all) recognizes that energy is central to progress in all areas of development.² However, in the context of Nepal, as in many other South Asian countries, deeply embedded structural conditions determined by gender, caste or ethnicity, religion, language, and geography to name a few have meant that access to, as well as benefits from, energy resources flow are unequal, with women, the poor, and people from excluded groups experiencing energy poverty differently and more severely than those from relatively advantaged groups.³

To address these challenges, the government, development institutions, and civil society groups have introduced policies and programs in Nepal. However, the extent to which these measures have brought transformative changes in the lives of the local population, especially women, the poor, and the marginalized remains to be determined. Further, the twin pressures of expanding energy resources to meet Nepal’s ambitious growth agenda, for which energy is crucial, and ensuring energy access to all, including addressing the distributive impact of energy sector development, provide an additional challenge.

This study seeks to provide a comprehensive analysis of gender equality and social inclusion (GESI) issues of the energy sector.

¹ International Energy Agency. 2011. *Energy for All: Financing Access for the Poor*. http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf; Legros et al. 2009. *The Energy Access Situation in Developing Countries*. <http://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Sustainable%20Energy/energy-access-situation-in-developing-countries.pdf>; United Nations Industrial Development Organization and UN Women. 2013. *Sustainable Energy for All: The Gender Dimensions*. https://www.unido.org/fileadmin/user_media_upgrade/What_we_do/Topics/Women_and_Youth/GUIDANCENOTE_FINAL_WEB.pdf.

² UN Department of Economic and Social Affairs. Sustainable Development Knowledge Platform. <https://sustainabledevelopment.un.org/post2015/transformingourworld>.

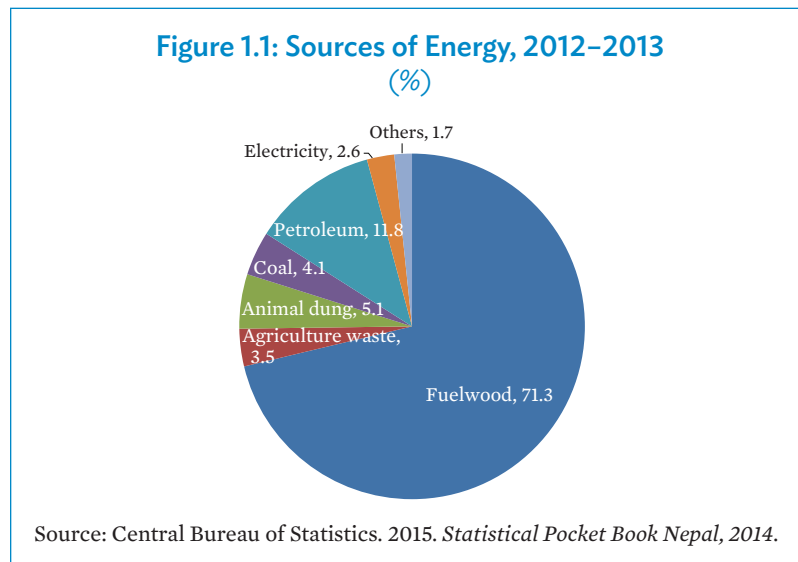
³ World Bank. 2013. *Inclusion Matters: The Foundation for Shared Prosperity* (Advance Edition). Washington, DC. For a discussion of structural barriers faced by the excluded in Nepal, see, for instance, the seven sectors covered by Asian Development Bank (ADB), Department for International Development of the United Kingdom, and World Bank. 2011. *Sectoral Perspectives on Gender and Social Inclusion*. Kathmandu.

1.1 Research Context: Energy Development in Nepal

1.1.1 Energy Resources

The Government of Nepal has classified the country's energy resources into three: (i) traditional (fuelwood, agricultural residue, and animal dung); (ii) commercial (energy supplied by grid electricity, coal, and petroleum products); and (iii) alternative (biogas, solar power, wind, and microhydropower).⁴ The latest available data show that 80% of the country's energy comes from traditional sources (Figure 1.1) with the bulk (80%) consumed by the residential sector (Figure 1.2).

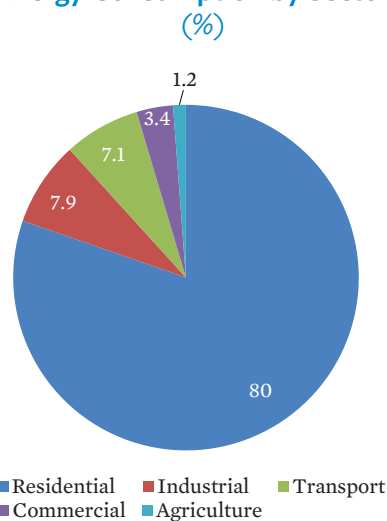
Nepal's continued dependence on traditional sources stands in contrast to the fact that it has one of the highest per capita hydropower potentials in the world. Yet, hydropower provides less than 3% of its energy needs and has failed to deliver its potential so far.⁵ Figure 1.3 shows the generation capacity of hydropower projects that are currently in operation and under construction. More specifically, the hydropower potential of Nepal's rivers is estimated to be 83,290 megawatts (MW), with 45,610 MW considered technically feasible (footnote 4).



⁴ Water and Energy Commission Secretariat. 2014. *Energy Data Sheet*. http://energyefficiency.gov.np/downloadthis/final_data_book_11_june_2014.pdf.

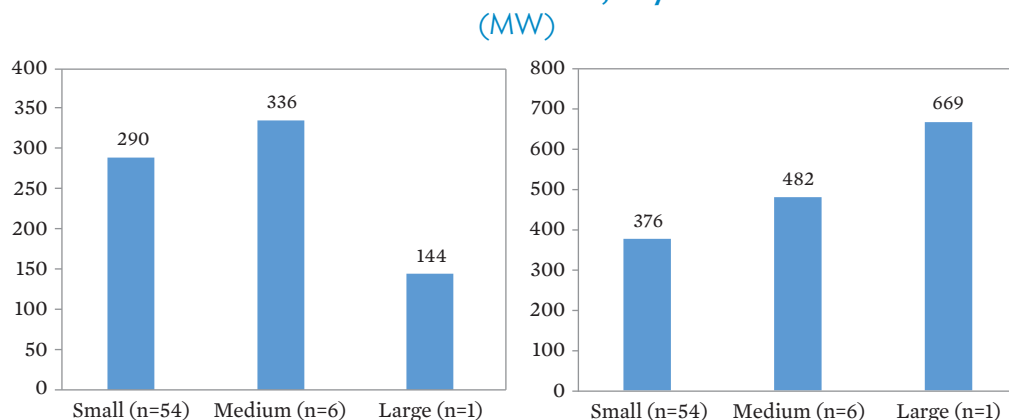
⁵ For instance, in 2008, the government declared a national electricity crisis and announced a series of 38 measures to address the issue. Two high-level taskforces devised plans to generate (i) 10,000 MW in 10 years and (ii) 25,000 MW in 20 years. But the pace of development has not picked up. The 10-year plan was announced in March 2009. As of 1 May 2016, 17 hydropower projects had come into operation, with a combined capacity of just 106 MW, and generation licenses had been issued to 98 projects to generate a total of 2,353 MW, about 8,000 MW short of the 10-year target even if these projects begin generating by 2019. These existing crises have been further exacerbated by the April 2015 earthquake that had a strong impact on hydropower generation facilities, with nearly 15% of existing capacity severely damaged. See National Planning Commission. 2015. *Post Disaster Needs Assessment: Vol. A: Key Findings*. Kathmandu; Water and Energy Commission Secretariat. 2013. *Nepal's Energy Sector Vision 2050 A.D. 2013*. weecs.gov.np/uploaded/vision-2050.pdf; Department of Electricity Development (DOED). *Operating Projects*. http://doed.gov.np/operating_projects_hydro.php (accessed 1 May 2016); and DOED. *Status of Generation Licenses*. http://doed.gov.np/status_generation_licenses.php (accessed 1 May 2016).

Figure 1.2: Energy Consumption by Sector, 2012–2013



Source: Water and Energy Commission Secretariat. 2014. *Energy Data Sheet*.

Figure 1.3: Generation Capacity of Projects in Operation and under Construction, July 2015



Source: Independent Power Producers' Association, Nepal. 2015. List of Projects to be Developed by Independent Power Producers and Nepal Electricity Authority. Unpublished, updated 28 July 2015.

To provide the much-needed impetus to its economy and to address infrastructure gaps, the government is seeking major investments in infrastructure development, and the hydropower sector has emerged as a key priority area.⁶

⁶ See for instance, Government of Nepal, Ministry of Water Resources. 2009. *Main Report Submitted by the Taskforce for 10-Year Hydropower Development Plan*. Kathmandu; World Bank. 2015. *Project Appraisal Document: Power Sector Reform and Sustainable Hydropower Development Project*. <http://documents.worldbank.org/curated/en/563361514467942958/pdf/Disclosable-Version-of-the-ISR-Nepal-Power-Sector-Reform-and-Sustainable-Hydropower-Development-PSRSHD-P150066-Sequence-No-05.pdf>; and Government of Nepal, Investment Board Nepal. n.d. *Energy Demand Projection 2030: A MAED Based Approach*. Kathmandu.

As a response to continued challenges associated with the generation and expansion of the national grid, wind and solar energy have recently been identified as potential alternative sources of renewable energy, with the commercial potential of wind power estimated at 3,000 MW and of solar at 2,100 MW.⁷ Accordingly, the government has been providing subsidies, particularly in rural areas, to promote alternative forms of renewable energy, namely, mini-, micro-, and pico-hydropower, solar, biogas, and biomass, mainly through the Alternative Energy Promotion Centre (AEPCC). As a result, there has been incremental progress in rural electrification, with AEPCC reporting 20,108 rural households electrified though 2.2 MW generated by 102 micro- and pico-hydropower plants in 2012–2013, 42,875 households in 2013–2014, and 25,235 in 2014–2015, far short of a rate at which the entire population can be supplied with a reliable and uninterrupted source of energy.⁸ As for wind energy, there has been very little achievement, with less than 20 kilowatts of electricity generated,⁹ though wind–solar hybrid systems have increasingly been promoted in rural communities.¹⁰ Recent estimates suggest that 12% of Nepal’s population has access to electricity through renewable energy sources.¹¹

1.1.2 Energy Demand, Consumption, and Distribution

Nepal’s per capita energy consumption is very low. In 2013, it was 370 kilograms of oil equivalent, two-thirds of the South Asian average of 550 kilograms of oil equivalent and a fifth of the world average of 1,894.¹² Growth in energy consumption has also been slow, averaging a 2.7% annual increase during 1990–2013 compared with the regional average of 4% (footnote 12).

Further, four-fifths of the energy consumed nationally is by the “nonproductive” residential sector while the share of industry is just about 8%, indicating a suboptimal pattern of energy consumption (Figure 1.1). Yet, nearly a quarter of the population still has no access to electricity.¹³ One reason is that the transmission line network, extending to around 2,800 kilometers with 27 grid substations, is considered insufficient.¹⁴ This lack of adequate infrastructure is considered a major hindrance to evacuating energy from generation sites to load centers.

⁷ UN Environment Programme and Global Environment Facility. 2008. *Solar and Wind Energy Resource Assessment in Nepal*. Kathmandu. http://www.aepc.gov.np/docs/resource/subreport/20130818124528_Solar%20and%20Wind%20Energy%20Resource-Assessment%20in%20Nepal.pdf.

⁸ National Rural and Renewable Energy Programme (NRREP) Annual Progress Reports available at http://www.aepc.gov.np/?option=resource&page=rescenter&mid=3&sub_id=61&ssid=27&cat=NRREP.

⁹ Government of Nepal, Ministry of Science, Technology and Environment. 2013. *Subsidy Policy for Renewable Energy 2069 BS*. http://teca.fao.org/sites/default/files/comments/files/20130818060043_RE%20Subsidy%20Policy%202013%20-%20English.pdf.

¹⁰ AEPCC has set up small wind–solar hybrid system in six sites, which benefited schools and household users from backward communities, although some of them are not functioning due to lack of maintenance.

¹¹ ADB. 2015. *Gender Review of National Energy Policies and Programmes in Nepal: Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka*. <http://www.energia.org/cms/wp-content/uploads/2016/05/Gender-Review-NEPAL.pdf>.

¹² World Bank. 3.6 World Development Indicators: Energy Production and Use. <http://wdi.worldbank.org/table/3.6>. Accessed on 1 February 2016.

¹³ Footnote 6 (Power Sector Reform and Sustainable Hydropower Development Project). Also, according to the 2010/11 Nepal Living Standards Survey, electricity supply was the most inadequate facility. In the said survey, households using government facilities over the last 12 months were asked to rate them as “good,” “fair,” or “bad.”

¹⁴ Nepal Electricity Authority (NEA). *A Year in Review – Fiscal Year – 2014/2015*. http://www.nea.org.np/images/supportive_docs/year-review-2014-15.pdf. Besides the national grid, thousands of small installations, both small island mini-grids and residential and commercial grids (such as diesel gensets and solar system), are common throughout Nepal. The NEA supplies power to only around 50% of the population, while another 25% rely on off-grid sources. Footnote 6 (Power Sector Reform and Sustainable Hydropower Development Project).

Complementing state efforts to expand access to electricity is the community approach, whereby rural communities purchase electricity in bulk from the state-owned electricity distribution monopoly, the Nepal Electricity Authority (NEA), and resell it to its members. Since the Community Rural Electrification Programme began in 2003, some 45,000 households in 55 districts have received electricity through 480 community groups (footnote 14).

Energy demand has, however, been increasing. In 2014–2015, demand for grid electricity stood at 1,292 MW¹⁵ while supply was limited to a peak of 770 MW in the rainy season.¹⁶ Factors such as rapid urbanization are leading to this steady rise in demand that is estimated to rise by an annual average of 8.9% between 2010–2011 and 2019–2020.¹⁷ So far, the government and NEA have met the shortfall through scheduled blackouts, called “load-shedding,” and through import of power from India. In the rural areas, this has meant, as mentioned above, the continued use of traditional fuels such as fuelwood, agricultural residue, and animal waste. However, the impact of this energy scarcity for different population groups is not yet known or analyzed.

1.2 Gender Equality and Inclusion Issues in Energy Sector: Review of Existing Knowledge and Gaps

GESI has now been recognized as one of the main factors influencing development outcomes in Nepal.¹⁸ Accordingly, development policies and programs are increasingly seeking to either promote direct interventions to support GESI outcomes and mainstream GESI issues in programmatic responses, or promote GESI-sensitive policies and programs.¹⁹ While the commitment and endorsement of the GESI agenda is certainly one of the hallmarks of the current development discourse in Nepal, a knowledge gap around GESI issues continues in the energy sector, particularly about (i) how social inequities influence the outcomes in energy projects; (ii) what the differential needs of men, women, and socially excluded groups are in terms of energy services and technologies; and (iii) the nature of barriers that women and socially excluded groups experience while seeking to benefit from energy services. Likewise, questions remaining to be answered include: (i) Can and does access to energy services and technologies enhance welfare, efficiency, empowerment, and gender relations? (ii) How

¹⁵ *The Kathmandu Post*. 2015. Nepal's peak hour power consumption up 7.56pc. 19 August.

¹⁶ As of 28 July 2015. Source: Independent Power Producers' Association, Nepal.

¹⁷ Water and Energy Commission Secretariat. 2010. *Energy Sector Synopsis Report 2010*. Kathmandu. <http://www.weecs.gov.np/uploaded/snyopsis.pdf>.

¹⁸ World Bank. 2006. *Unequal Citizens: Gender, Caste and Ethnic Exclusion in Nepal*. Kathmandu; ADB. 2010. *Overview of Gender Equality and Social Inclusion in Nepal*. Manila; Nicola Jones et al. 2009. *Governance and Citizenship from Below: Views of Poor and Excluded Groups and their Visions for a New Nepal*. ODI Working Paper 301. London: Overseas Development Institute. <https://www.odi.org/publications/3289-governance-citizenship-nepal>.

¹⁹ Footnote 3 (Sectoral Perspectives on Gender and Social Inclusion); Centre for Rural Technology, Nepal; Indoor Air Pollution and Health Forum; and Practical Action. 2010. *Policy Brief on Strategy for Mainstreaming Gender in Rural Energy Policies in Nepal*. <http://www.crtnepal.org/docs/projects/Policy%20Brief.pdf>; Gender, Energy and Water Network and Centre for Rural Technology, Nepal. 2008. *Strategy on Gender and Social Inclusion for Alternate Energy Promotion Centre/Energy Support Assistance Programme (AEPC/ESAP)*; Norwegian Agency for Development Cooperation. 2015. *Evaluation of Norway's Support to Women's Rights and Gender Equality in Development Cooperation*. <https://www.norad.no/globalassets/publikasjoner/publikasjoner-2015-/evaluating/evaluation-of-norways-support-to-womens-rights-and-gender-equality-in-development-cooperation/evaluation-of-norways-support-to-womens-rights-and-gender-equality-in-development-cooperation-nepal.pdf>; SNV. 2012. *Renewable (Rural) Energy Policies: Gender Equality and Social Inclusion: Analysis Report*. http://www.aepc.gov.np/docs/resource/subreport/20130818123113_RE%20policies%20Gender%20Equality.pdf.

do issues of gender inequality and social exclusion affect certain development outcomes?
 (iii) What are the potential entry points for leveraging GESI issues in the energy sector to have transformative impacts?

A review of the literature on social exclusion in Nepal indicates that different excluded groups typically experience various structural barriers, including in matters relating to energy access (Table 1.1). In terms of how these barriers intersect with energy services and technologies, the evidence from Nepal and other countries is, however, limited primarily to women and the poor. In a pattern similar to other developing countries, Nepal has plenty of evidence indicating that women experience energy poverty differently and more severely than men.²⁰ Women are responsible for fetching fuel and water for their households as well as for engaging in various types of microenterprises. Since the burden of providing energy to fulfil their household needs fall disproportionately on women who spend a significant amount of their time and effort in collecting fuel, the opportunity cost is high for them as it takes them away from employment, education, and other activities for “self-improvement” (footnote 11 and footnote 20 [Identification of Gender and Social Inclusion Gaps at Policy and Institutional Level]). Further, continued dependence on traditional biomass has detrimental effects on women’s health through indoor air pollution caused by smoke and unhealthy work places (footnote 11). 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.²¹ Further, a study conducted by AEPC also indicates that existing income inequities also determine the ability to benefit from energy.²²

Access to energy is generally measured by (i) access to electricity and (ii) extent of reliance on traditional use of biomass for cooking.²³ As borne out by the existing literature, study findings also suggest that several factors constrain households’ access to energy, including the high cost associated with grid extension, especially in remote areas with sparse population density (making it financially unviable to extend the grid); high up-front cost associated with renewable energy technologies; limited access of energy services to poor and marginalized groups; limited capacity of households to pay for services (elaborated in the section below); and limited effectiveness of the current subsidy policies to name a few.²⁴

²⁰ Footnote 1 (Sustainable Energy for All); Footnote 11; UN Development Programme (UNDP). 2010. *Power, Voice and Rights: A Turning Point for Gender Equality in Asia and the Pacific*. New Delhi; AEPC. 2013. *Gender Equality and Social Inclusion Mainstreaming Plan*. Kathmandu; Sudeshna Ghosh Banerjee et al. 2011. *Power and People: The Benefits of Renewable Energy in Nepal*. Washington, DC: World Bank; AEPC. 2013. *Identification of Gender and Social Inclusion Gaps at Policy and Institutional Level*. Kathmandu; UNDP. 2006. *Energy and Environment*; UNDP. 2013. *Gender and Energy*; UNDP. 2013. *Gender and Climate Change Africa Policy Brief 3*; K.V. Ramani and E. Heijndermans. 2003. *Energy, Poverty, and Gender: A Synthesis*. Washington DC: World Bank.

²¹ Footnote 1 (Sustainable Energy for All); J.S. Clancy et al. 2011. *Gender Equity in Access to and Benefits from Modern Energy and Improved Energy Technologies*. Background paper for World Development Report 2012, ENERGIA/Norad/World Bank.

²² AEPC. 2014. *Gender Equality and Social Inclusion Toolbox: Promotion for Renewable Energy Technologies*. Kathmandu.

²³ Shonali Pachauri et al. 2012. *Access to Modern Energy: Assessment and Outlook for Developing and Emerging Regions*. Laxenburg, Austria: IIASA; Organisation for Economic Co-operation and Development and International Energy Agency. 2012. *Measuring Progress towards Energy for All: Power to the People?* In *World Energy Outlook 2012*; E. Crousillat et al. 2010. *Addressing the Electricity Access Gap*. Background paper for the World Bank Group Energy Sector Strategy, June.

²⁴ Footnote 23 (Addressing the Electricity Access Gap); Organisation for Economic Co-operation and Development and International Energy Agency and International Energy Agency. 2010. *Energy Poverty: How to Make Modern Energy Access Universal?*

Table 1.1: Structural Barriers Experienced by Different Groups

Social Group	Nature of Barriers
Women	Patriarchal values; social stigma; discriminatory practices impacting women of diverse social groups; limited access to land and other economic assets; violence, including domestic violence; restrictions on mobility; limited voice and agency; and low decision-making authority
Janajatis	Language and culture not given due recognition, especially of the more disadvantaged Janajati groups; remoteness and geographical isolation; discrimination due to different culture, traditions, and practices; higher levels of poverty; negative perceptions about Janajati women's comparatively higher mobility and voice
Dalits	Continued practice of "untouchability;" deeply entrenched caste-based discrimination influencing interpersonal relations, social stratification, and occupations; low resource endowments; high levels of poverty; extremely high illiteracy rate, especially of Madhesi Dalit women
Madhesis	Unequal citizenship rights; language and cultural barriers; treated as non-Nepalis; differences across various Madhesi groups, with the situation of Madhesi Dalits being the worst; severe social restrictions on women of Madhesi subcaste groups
Religious minorities	Religious discrimination in a Hindu-dominated society; language barrier; low resource endowment; high rates of poverty, especially among Muslims; and gender discrimination, particularly prevalent among Muslim women

Note: In the context of Nepal, the hill "upper-caste" groups consisting mainly of Bahuns and Chhetris are considered advantaged.

Sources: World Bank. 2006. *Unequal Citizens: Gender, Caste and Ethnic Exclusion in Nepal*. Kathmandu; L. Bennett et al. 2013. *Gender and Social Exclusion in Nepal: Update*. Kathmandu: Himal Books.

Besides access to energy, an equally important factor is the issue of affordability. Large sections of society do not have the means to buy or afford energy services even when they are near the supply. Even those who can afford improved energy supplies may not be able to pay for the "conversion technology" that makes that energy useful (e.g., buying a stove, TV, house wiring, or motor).²⁵ For example, the current subsidy awarded for solar home systems amounts to an average of NRs6,400 for a 20–50 watt system.²⁶ Compared with a cost estimate from 2011²⁷—NRs16,805 for a 20-watt system and NRs17,414 for a 40-watt system—poor households, which are often from socially excluded groups, would find it difficult to meet the shortfall of NRs10,000 or more. This has led some to conclude that the current policy regime is hardly sufficient to "make state subsidy and user's equity economically viable."²⁸

²⁵ Footnote 23 (Access to Modern Energy); ADB. 2012. *Gender Toolkit: Energy Going beyond the Meter*. Manila; K.C. Surendra et al. 2011. Current status of renewable energy in Nepal: Opportunities and challenges. *Renewable and Sustainable Energy Reviews*. 15 (8). pp. 4107–4117.

²⁶ Government of Nepal, Ministry of Science, Technology and Environment. 2013. *Subsidy Policy for Renewable Energy 2069 BS*. http://teca.fao.org/sites/default/files/comments/files/20130818060043_RE%20Subsidy%20Policy%202013%20-%20English.pdf. The average is taken from subsidies mean for the three categories of locations, ranging from the very remote to the most accessible.

²⁷ AEPC and Energy Sector Assistance Programme. 2011. *Solar Home System (SHS) Price Analysis*. http://aepc.gov.np/docs/resource/subreport/20130818074600_Final%20Price%20analysis%20Aug%202011%20NJT%20II.pdf.

²⁸ Madhusudhan Adhikari et al. 2014. *Analysis of Rural Electrification Policy Provisions in Nepal*. Proceedings of IOE Graduate Conference.

Lack of participation of women and the socially excluded at all levels of public life is a well-established fact in Nepal (footnote 18, Unequal Citizens). This situation has changed considerably with measures such as mandatory inclusion of all beneficiary or affected households and mandatory representation of excluded groups in bodies such as users' committees.²⁹ Despite these policy measures, the participation of women in decision-making positions, especially in energy projects, continues to be limited. A study of the Community Rural Electrification Programme managed by the National Association for Community Electricity Users found that of the 66 technicians involved in the six districts under consideration, there was not a single woman.³⁰ 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% for improved cooking stoves, 33% for biogas plants, 15% for solar home systems, and 4% for improved water mills.³¹

These issues of participation and ownership are important because the provision of modern energy not only opens new opportunities for women but also creates opportunities for new gender discourses if done rightly, such as using women as technical resources rather than relegating them to the role of end users only, a fact that can also be extrapolated to those marginalized sections of society.³² For instance, good quality light allows women greater flexibility and increases efficiency since they can choose to spread their tasks according to when it best fits their schedule.³³ Access to electricity also has positive benefits to school-going children by increasing the number of study hours, which is even more important for girls who have to lend a hand at home as well. A case study of a solar-wind hybrid project in Nepal indicates that the Magar community in Nawalparasi District, one of the marginalized groups of Nepal, benefited significantly from wind-powered lights. Women in the community mentioned better management of their time; a local entrepreneur discussed the possibility of expanding his tea business; and schoolteachers emphasized the possible improvement of children's education standard.³⁴

At the same time, socially excluded groups could be losing out from the benefits of energy projects. Their inability to afford electricity could mean that they are not able to derive the full benefits such as rising income, better educational attainment of children, and reduction in healthcare expenditure following smokeless cooking facilities, etc.³⁵ Unable to access energy services could mean that women find it difficult to pull themselves out of poverty and instead get trapped in a vicious cycle of poverty (footnote 11). 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

²⁹ The Asia Foundation. 2012. *Political Economy Analysis of Local Governance in Nepal with Special Reference to Education and Health Sectors*. Kathmandu.

³⁰ P. Sharma. 2011. *Regional Workshop on: Women, Energy and Enterprise*. http://sari-energy.org/oldsite/PageFiles/What_We_Do/activities/SAWIE/wiser/WomenEnergyEntBuildingApr2011/Apr6/NACEUN.pdf.

³¹ Vipramshree Energy. 2011. *District Climate and Energy Plan, Ilam District*. Cited in footnote 11 and footnote 20 (Identification of Gender and Social Inclusion Gaps at Policy and Institutional Level).

³² K. Standal and T. Winther. 2016. Empowerment Through Energy? Impact of Electricity on Care Work Practices and Gender Relations. *Forum for Development Studies*. 43 (1). pp. 27–45.

³³ Footnote 21 (Gender Equity in Access to and Benefits from Modern Energy and Improved Energy Technologies).

³⁴ ADB. 2011. *Wind Energy Empowers the Poor in Nepal*. <https://www.adb.org/results/wind-energy-empowers-poor-nepal>.

³⁵ R. Pandey. 2009. Rural Entrepreneurship through Electricity. *Hydro Nepal: Journey of Water, Energy and Environment*. No. 4. pp. 36–39.

groups.³⁶ Thus, it can be surmised that the socially excluded groups, who are generally poor or vice versa, would also be the ones to lose out on the benefits of energy development.

Besides structural concerns, policy provisions also affect the ways in which benefits from energy projects are realized. A gender review of national energy policies and programs in Nepal suggests that the government has policies and strategies in place to meet the energy needs of the rural population and to promote the participation of local communities and institutions in decision-making in the energy sector. These measures, however, have not recognized nor addressed the barriers experienced by women while accessing benefits from energy projects, and participating and influencing decisions relating to energy interventions. Broadly speaking, women are simply unaware of their rights or the implementation of policies and programs is very weak despite being relatively sound from a GESI perspective.³⁷ As a result, existing interventions fall short of the transformative impacts energy projects can have.

A review of interventions in the energy sector suggests that three key approaches³⁸ have emerged, whether explicitly or implicitly, to address inequities in the energy sector:

- (i) committing to the principle of “do no harm” in response to the government’s policy provisions as well as the social and environmental safeguards requirements of multilateral development banks, especially the World Bank and the Asian Development Bank (ADB);
- (ii) achieving and sustaining results by designing gender-sensitive and/or inclusive interventions to help achieve the objectives and goals of the project or intervention such as by seeking broad community support through consultations; and
- (iii) seeking opportunities to improve GESI outcomes (e.g., through inclusive design features such as a separate GESI Action Plan, affirmative action policy provisions in community groups, etc.).

Of these three approaches, the focus generally tends to be on the first. Having said that, there are several interventions under way that help incorporate GESI issues into programs. For instance, the AEPC has developed specific measures for the same and developed different implementation guidelines (footnote 22).

To summarize, women and socially excluded 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. Studies from Nepal that conclusively establish this linkage or other possible ways in which preexisting social relationships and power hierarchies determine how the benefits of energy are accessed or shared are limited.³⁹ But experiences in other contexts indicate that the nexus among gender, poverty, and social inequities, and energy, both positive and negative, are very strong (Figure 1.4).

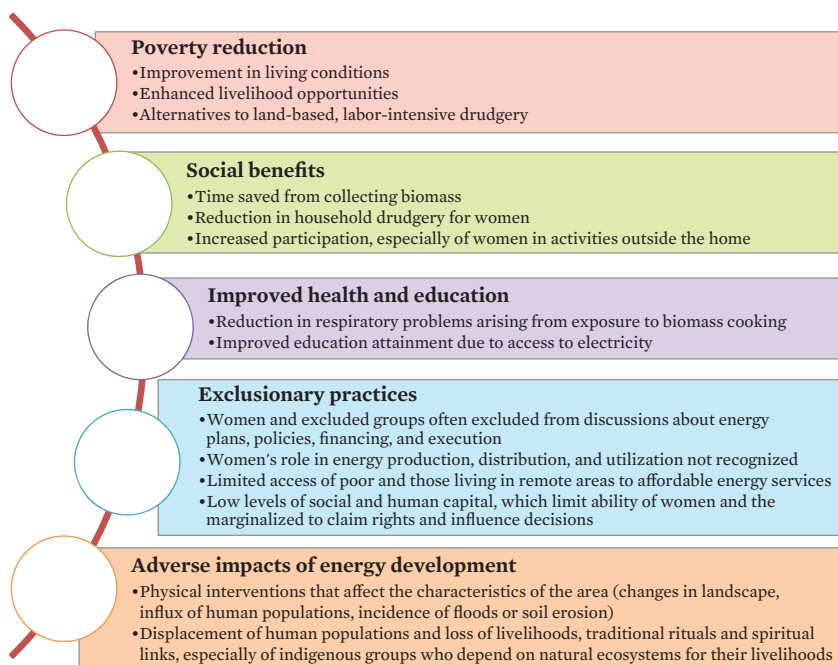
³⁶ Such groups exhibit poverty rates above the national average of 25%: 44% among Hill Dalits, 38% among Tarai Dalits, and 28% among Hill Janajatis based on the Nepal Living Standards Survey 2010. See also ADB. n.d. *Country Poverty Analysis (Detailed): Nepal*. <https://www.adb.org/sites/default/files/linked-documents/cps-nep-2013-2017-pa-detailed.pdf>.

³⁷ Footnote 11; Footnote 20 (Identification of Gender and Social Inclusion Gaps at Policy and Institutional Level).

³⁸ See also, World Bank. 2013. *Integrating Gender Considerations into Energy Operations*. Washington, DC.

³⁹ K. Rai. 2007. The Dynamics of Social Inequality in the Kali Gandaki ‘A’ Dam Project in Nepal: The Politics of Patronage. *Hydro Nepal: Journal of Water, Energy and Environment*. 1 (1). pp. 22–28.

Figure 1.4: Different Dimensions of Energy Development and Possible Impacts on Gender and Inclusion



Sources: Adapted from S. Banerjee et al. 2011. *Power and People: The Benefits of Renewable Energy in Nepal*. Washington, DC: World Bank; UN Women. 2013. *Sustainable Energy for All: The Gender Dimensions*. New York; United Nations Development Programme (UNDP). 2006. *Energy and Environment*; UNDP. 2013. *Gender and Energy*; UNDP. 2013. *Gender and Climate Change Africa Policy Brief 3*; K. Ramani and E. Heijndermans. 2003. *Energy, Poverty and Gender: A Synthesis*. Washington, DC: World Bank; Alternative Energy Promotion Centre (AEPC). 2014. *Gender Equality and Social Inclusion Toolbox: Promotion for Renewable Energy Technologies*. Kathmandu; ADB. 2015. *Gender Review of National Energy Policies and Programmes in Nepal: Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka*. <http://www.energia.org/cms/wp-content/uploads/2016/05/Gender-Review-NEPAL.pdf>

Further, while there is growing body of literature, including from Nepal, suggesting a strong linkage between energy access, poverty reduction, policy and institutional framework, and gender and inclusion outcomes, these issues have only been examined independently. While issues of gender as it relates to the energy sector have received some recognition, a similar focus has been absent in the case of socially excluded groups, and more so in terms of the intersection between gender and social exclusion. A comprehensive assessment of laws and policies in the energy sector, an analysis of the existing situation in relation to energy needs and usage patterns, the nature of barriers that women and excluded groups experience in terms of access, affordability, voice, agency and participation, and a multidimensional perspective on the ways existing interventions in the energy sector have affected the ability of women and excluded groups to benefit from energy projects, are significantly lacking.

1.3 Objectives of the Study

This study was undertaken to carry out a comprehensive gender equality and social inclusion analysis of the energy sector in Nepal. Specifically, the study

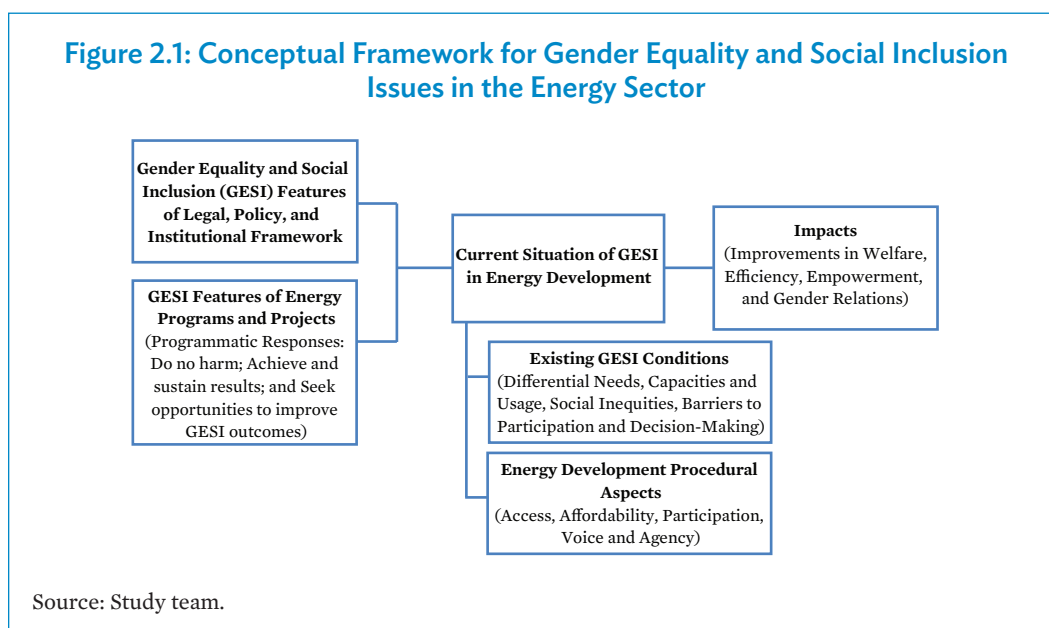
- reviews how GESI issues have been addressed (or not) in the energy sector, in the policy, institutional, and programmatic domains;
- analyzes the energy needs of women and socially excluded groups to identify differences in usage, capacity, and the various social, cultural, and economic factors that affect their participation in energy development and use;
- examines impacts, both positive and negative, on the welfare, empowerment, and gender and social relations of energy sector operations; and
- recommends strategies and approaches for gender mainstreaming and social inclusion in energy sector planning, project design and implementation, operations, and capacity building by drawing on existing good practices in the energy portfolio.

Research Framework

2.1 Conceptual Framework

To arrive at a comprehensive GESI analysis of the energy sector, the study used the framework in Figure 2.1, which was adapted from the “Gender and Social Exclusion Assessment” and other frameworks of similar nature.⁴⁰ The study uses an interpretive methodology, deriving primarily from qualitative data, to describe how the different elements and factors of the framework interact to influence gender and social inclusion outcomes in Nepal’s energy sector. Specifically, the framework is divided into four constitutive elements, or lines of inquiry: (i) legal, policy, and institutional framework; (ii) analysis of the existing energy portfolio based on a sample of 12 different energy projects; (iii) existing gender and social conditions relating to energy; and (iv) nature of impacts on gender and social inclusion outcomes.

The first line of inquiry: What are the existing laws, policies, and institutions relating to GESI in the energy sector? This is important because the legal and policy framework, along with the structure of the institutions delivering the services, sets the stage for the planning and design of energy projects and services.



⁴⁰ The Gender and Social Exclusion Assessment was conducted between 2002 and 2005 by a team of researchers under a Department for International Development of the United Kingdom–World Bank collaborative effort.

The second line of inquiry: How does the existing energy portfolio address issues relating to gender and inclusion? Twelve different energy projects with a focus on nine projects that span generation, transmission, and distribution were analyzed. Programmatic responses were examined in terms of the extent to which they followed the “do no harm” principle, sought to achieve and sustain project benefits for women and excluded groups, and actively sought to improve outcomes within the framework of the project and programmatic interventions.

As is well known, policies and program designs are not sufficient to bring about transformative changes. To examine the situation on the ground, the third line of inquiry should be asked: What are the existing gender and social issues and conditions that have a bearing on energy? To support the analysis of the situation, three distinctive but interrelated variables have been considered: (i) differential needs, capacities, and usage of energy sources and services by women and excluded groups; (ii) ways in which existing social inequities condition how women and excluded groups are able to participate in and benefit from energy services; and (iii) identification of barriers that prevent women and excluded groups from participating in the planning of, and decision-making on, energy services as well as in deriving benefits. The differential energy needs, along with the structural causes that prevent these groups from accessing and benefiting from energy sources, can considerably undermine the effectiveness and sustainability of energy projects and the policies that guide them.

The fourth line of inquiry seeks to examine procedural aspects of addressing GESI by considering four factors in the energy development chain. The first is about access to energy services, which can prove difficult because of the topography and could hence be fiscally unsustainable. Linked to this is the ability to pay for the services, or the affordability factor that typically would affect the poor and the excluded. Third, participation remains a challenge for those excluded by the state and generally by development processes. Fourth, the voice and agency of the same groups are considered in terms of their ability to influence the planning of energy projects and their intended outcomes.

Finally, the impacts of energy development on welfare, efficiency, empowerment, and gender relations are considered. Here, the study relies on the premise that to attain gender equality and social inclusion, issues of access, affordability, participation, and voice and agency need to be addressed for the excluded, including women, to be able to benefit from outcomes that lead to better welfare, efficiency, empowerment, and improved gender relations. Thus, instead of treating inclusion as a stand-alone outcome, the study recognizes it as a culmination of different outputs, processes, and impacts.

It should also be noted that the terms “excluded,” “marginalized,” “disadvantaged,” “vulnerable,” and “backward,” though distinctive, are used interchangeably in the report as is the practice of the Government of Nepal in different policies, plans, and laws. This is also the case in the project documents reviewed for this study. The report follows the well-known definition of social exclusion understood to take place “when the various institutional mechanisms through which resources are allocated and value assigned operate in such a way as to systematically deny particular groups of people the resources and recognition,” thus preventing them from fully participating in social, economic, and political life.⁴¹ Essential in this conceptualization of social exclusion is the fact that it is dynamic and driven by unequal

⁴¹ N. Kabeer. 2000. *Social Exclusion, Poverty and Discrimination: Towards an Analytical Framework*. IDS Bulletin. 31 (4).

power relationships that operate at various levels and dimensions, including individual, household, community, national, and global (footnote 19, Renewable Rural Energy Policies). This report considers Nepal's socially excluded to be those who, because of their gender, caste, ethnicity, religion, etc., have historically been discriminated against and have not been able to participate in the country's social, political, and economic mainstream, and benefit from outcomes of growth and development. Social inclusion is thereby understood as the "process of improving the ability, opportunity, and dignity of people, disadvantaged on the basis of their identity, to take part in society" (footnote 3, Inclusion Matters).

2.2 Research Methodology

The study builds on existing and available data and analysis on gender equality and social exclusion in Nepal, supplemented by some primary research. Accordingly, the research framework includes a mix of qualitative and analytical tools: literature review, document analysis, and field research consisting of focus group discussions (FGDs), interviews with key informants, informal conversations, semi-structured and unstructured interviews with energy users and those affected by energy development, and a brief survey on energy needs and usage. Available assessments of the projects were also studied and policy and institutional analyses conducted.

2.2.1 Literature Review

A desk review was undertaken to examine GESI issues in the energy sector, including a review of existing laws and policies relating to energy sector; documents from ongoing projects and those completed; and broader literature relating to gender, inclusion, and poverty in the energy sector. In the case of the latter, lessons from other international examples of GESI mainstreaming within the energy sector were also drawn upon to add to the analysis.

2.2.2 Field Research

Field research in the project sites mentioned below (Section 2.3) was carried out to understand the ground realities in Nepal for women, the poor, and the excluded in the energy sector. Information was derived from qualitative interviews with individuals from locales where projects have been completed or are ongoing. Semi-structured and unstructured interviews were conducted with 90 individuals (30 women and 60 men) across the study sites along with 8 FGDs conducted among 17 women and 30 men to seek inputs from a range of people affected in one way or another by energy development. A short survey was also conducted with a total of 61 respondents (48 women and 13 men) to understand how energy figures in the lives of people and the impact of new forms of energy in places where it has been introduced. Interview and FGD participants were selected using the purposive sampling method to ensure representation of different groups relevant to each of the project context and site. Snowball sampling was used to identify actual participants. Interviews were held with some key informants in Kathmandu to gain a deeper insight into how they view GESI issues within their institutional landscapes. The qualitative information was coded to identify GESI features relating to barriers, usage, social inequities, access, participation, benefits of energy, impacts of energy services, decision-making to name a few.

2.2.3 Institutional and Financial Assessment

The policy and legal framework, existing institutional arrangements, and budgeting and monitoring systems were reviewed from a GESI perspective. To support this process, information was collected from the NEA, NEA's Environment and Social Studies Department (ESSD), and AEPC for review, including the policy and legal framework guiding these institutions, and budgeting and monitoring systems.⁴² The analysis examined existing institutional arrangements, the location of responsibility for GESI, and institutional culture and attitudes of the service providers to assess how these could affect the access of women, the poor, and the excluded to energy-related resources and benefits. Specifically, the analysis examined the job descriptions of key staff to identify how GESI issues have been integrated into their responsibilities, the staff diversity for existing levels of inclusion, the human resource policies to assess whether the institutions have recognized the gender-based and caste or ethnicity-based constraints of different groups of staff, the level of competencies of staff to recognize and respond to GESI issues, and staff performance evaluation. Financial allocation review of the AEPC budget was done to understand how resources were being allocated to address issues and bring direct benefits to women, the poor, and the excluded; how a supportive environment was being created; or whether the budget was mostly based on an assumption that all will benefit equally. These assessments enabled an understanding about the existing capacities of these institutions in addressing issues that could affect the access of women, the poor, and the excluded to the benefits of modern forms of energy.

2.3 Study Sites

Study findings draw upon research conducted in various energy sector projects: hydropower generation, transmission, distribution, micro-hydro and mini-grid, and solar-wind hybrid (Map 2.1). Fieldwork was conducted in two stages, the first in 2014 as part of a World Bank study on gender and energy, and the second in 2015 as part of the study supported by ADB, which expanded 2014 findings and considered issues of social exclusion in addition to gender. In the first phase, six projects were studied: three hydropower projects, two of which were financed by international agencies, including the World Bank, and the third being built by the NEA; two transmission projects, both funded by the World Bank; and a community-operated hydro project, which was selected to contrast its approach with the bigger projects. The projects selected in the second phase represent the entire ADB energy portfolio in Nepal at the time (marked with an asterisk in Table 2.1).

Spread as these were across Nepal, the project sites represented great diversity among the people affected, including some in which groups generally recognized as being part of the excluded had a higher population presence. The populations affected by the project were in some cases homogeneous and heterogeneous in the others. The different sizes and scope of the projects also allowed for examination of any correlations between size and sensitivity to GESI issues.

Table 2.1 provides a list of the projects considered by the study, arranged according to sector and from the latest to the earliest.

⁴² The budget of NEA was not sufficiently detailed for a GESI analysis, and hence only AEPC's budget was reviewed.

Table 2.1: Study Sites

SN	Project	Type	Capacity	District(s)	Funding	Executing Agency	Project Status
Hydropower Generation							
	Dudhkoshi Hydropower Project*	Storage	300 MW	Khotang and Okhaldhunga	ADB	NEA	Planned
	Tanahu Hydropower Project*	Storage	140 MW	Tanahu	ADB, JICA, European Investment Bank	NEA	Ongoing
	Kabeli Hydropower Project	Run-of-the-river	38 MW	Panchthar	World Bank, equity investment from BPC	BPC	Ongoing
	Middle Bhotekoshi Hydropower Project	Run-of-the-river	102 MW	Sindhupalchowk	Equity investment	Madhya Bhotekoshi Jalavidhyut Company, NEA	Ongoing
	Middle Marsyangdi Hydropower Project	Run-of-the-river	70 MW	Lamjung	KfW	NEA	Completed 2008
Transmission							
	Dana-Kusma Transmission Line (SASEC Power System Expansion Project)*	Transmission line	220 KV	Myagdi-Parbat	ADB	NEA	Ongoing
	Dhalkebar-Duhabi Transmission Line	Transmission line	400 KV	Dhanusha, Siraha, Saptari, Udayapur, Sunsari	World Bank	NEA	Ongoing
	Khimti-Dhalkebar Transmission Line	Transmission line	220 KV	Dolakha, Ramechhap, Sindhuli, Dhanusha	World Bank	NEA	Ongoing
Distribution							
	Ghoda Ghodi Rural Community Electricity Cooperative (Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka)*	Community distribution		Kailali	ADB	Ghoda Ghodi Rural Community Electricity Cooperative	Completed 2017

continued on next page

Table 2.1 continued

SN	Project	Type	Capacity	District(s)	Funding	Executing Agency	Project Status
Micro-hydro and Mini-grid							
	Urja Upatyaka Mini-Grid Project (Urja Khola First MHP and Theuli Khola MHP)	Micro-hydro Mini-grid	107 kW	Baglung	AEPC	Six local communities	Completed 2012
	Kishedi Khola Micro Hydropower Project	Micro-hydro	21 kW	Lamjung	Local contributions, grant from AEPC, loans from Agricultural Development Bank and locals	Local community	Completed 2010
Hybrid							
	Dhaubadi Wind-Solar System*	Solar-wind hybrid	12 kW	Nawalparasi	AEPC, ADB	Local community	Completed 2011

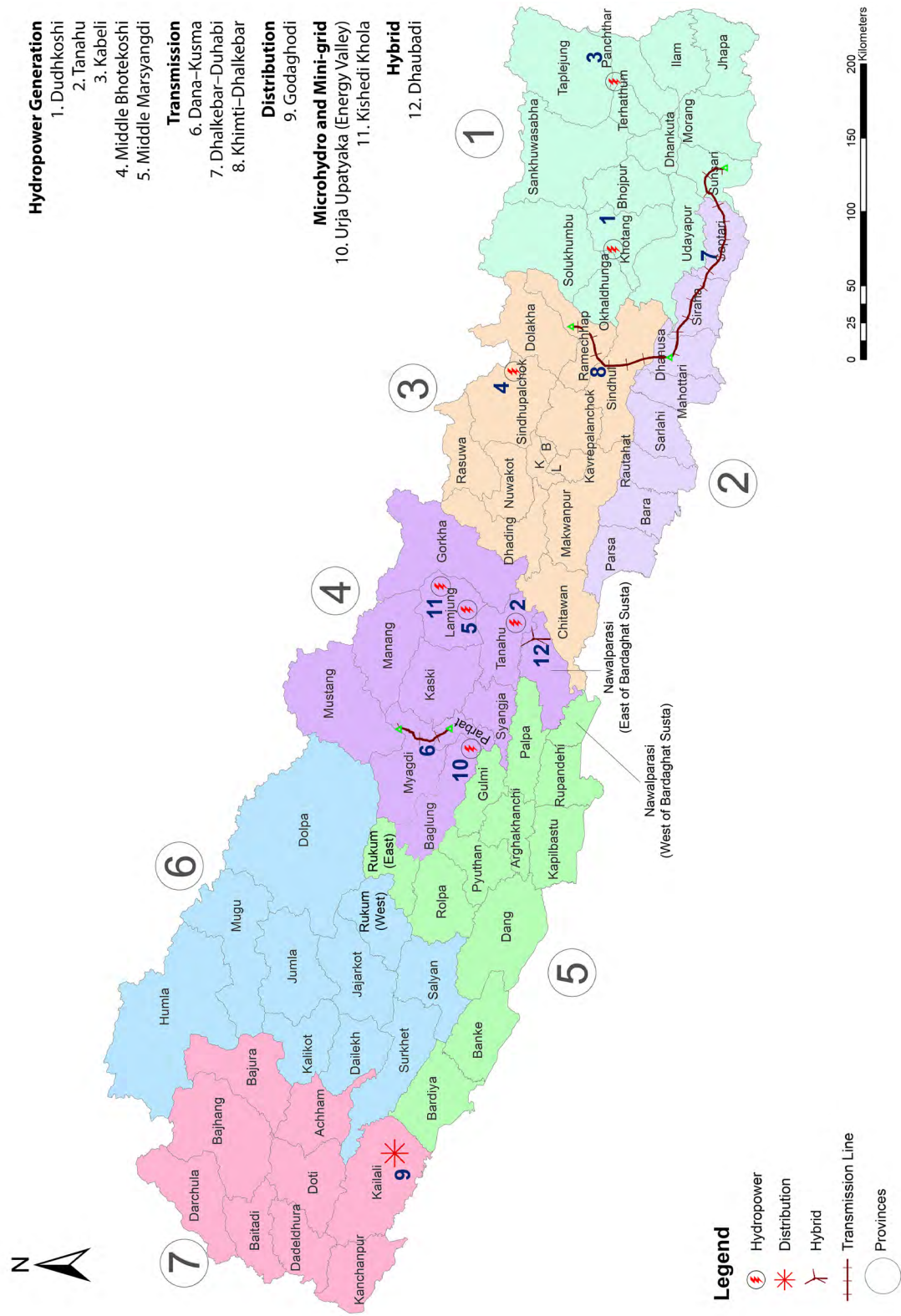
* = ADB energy portfolio in Nepal, ADB = Asian Development Bank, AEPC = Alternative Energy Promotion Centre, BPC = Butwal Power Company, JICA = Japan International Cooperation Agency, kV = kilovolt, kW = kilowatt, MHP = Micro-Hydropower Project, MW = megawatt, NEA = Nepal Electricity Authority, SASEC = South Asia Subregional Economic Cooperation.

Notes: Although the 1998 Environmental Impact Assessment is the only document available on Dudhkoshi Hydropower Project, it has been included in the analysis because of its potential impact on the implementation phase. The document review of the last three projects (nos. 10–12) was not done as these were not available, but field visits were undertaken to those sites.

Sources:

- ADB. 2013. Nepal: Tanahu Hydropower Project. *Project Administration Manual*. Manila.
- ADB. 2014. Nepal: South Asia Subregional Economic Cooperation Power System Expansion Project. *Project Administration Manual*. Manila.
- ADB. 2016. *Regional: Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka*. Manila. <https://www.adb.org/projects/44135-012/main#project-pds>.
- Kabeli Energy Limited. 2013. *Social Action Plan (SAP) of Kabeli-A Hydroelectric Project*. Kathmandu.
- Kabeli Energy Limited. 2011. *Cumulative Impact Assessment Report of Kabeli Basin*. Kathmandu (Annex 1).
- Ministry of Energy. 2013. *Environmental Impact Assessment (EIA) of Middle Bhotekoshi Hydroelectric Project (102 MW)*. Kathmandu.
- Nepal Electricity Authority. 1998. *Dudhkoshi Hydropower Project: Environmental Impact Assessment*. Kathmandu.
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- Nepal Electricity Authority. 2011. *Resettlement Action Plan (RAP) of Hetauda-Dhalkebar-Duhabi 400 kV and Dhalkebar-Bhittamod 400 kV Transmission Line Project (Angle Tower, Sub-stations and Structures)*. Kathmandu.
- Nepal Electricity Authority. n.d. *Khimti-Dhalkebar 220 kV Transmission Line Project*. Kathmandu (Volume 2: Annexes).
- Interviews with:
Bicha Bahadur Ghale (secretary, Kishedi Khola Micro Hydropower Project), in discussion with the author, 27 December 2014.
Fokta Bahadur Gurung, (member, Kishedi Khola Micro Hydropower Project), in discussion with the author, 27 December 2014.

Map 2.1: Study Sites



Note: The locations of the study sites are only indicative.
Source: Study team.

Policy, Legal, and Institutional Framework

3.1 Policy Context for Gender Equality and Social Inclusion

As part of Nepal's plans to graduate from the current least developed country status by 2022 as announced and reinforced in the 12th and 13th development plans, the focus on energy development is strong.⁴³ The approach paper prepared by the government for the graduation strategy indicates that moving forward, much of the emphasis will be on generating hydropower and exploring the possibility of expanding renewable energy resources for which an annual expenditure increase of 26.5% for the initial 5 years has been envisaged in the energy sector.⁴⁴ The issue of energy access and services is also included in the Constitution of Nepal 2015, which, under the Directive Principles, Policies and Obligations of the State, mentions the state's obligation to "ensure reliable supply of energy in an affordable and easy manner, and make proper use of energy, for the fulfilment of the basic needs of citizens, by generating and developing renewable energy;" (Part 4, Section 51[g][3]).

Various constitutional and legal provisions have strong GESI mandates inbuilt. The 2015 Constitution states that there shall be "gender equality, proportional inclusion, participation and social justice," (Part 4, Section 50[1]). Further, starting with the 10th Five-Year Plan (2002–2007), Nepal has made it a priority to implement policies and programs to enhance the welfare of women and socially excluded groups while at the same time mainstreaming gender equality. Following this trend, the Approach Paper for the 14th Three-Year Development Plan (2016/17–2018/19) seeks to address structural problems in the economy such as inequitable access to productive means and resources to ensure sustainable development and shared prosperity.⁴⁵

The government is also committed to international instruments such as the UN Declaration on the Rights of Indigenous Peoples and the International Labour Organization Convention on Indigenous and Tribal Peoples, 1989 (No. 169), and is committed to attaining the objectives of the Convention on the Elimination of All Forms of Discrimination against Women, the Beijing Platform for Action, and the International Conference on Population and Development +10. Additionally, the government has enacted several laws like the Gender Equality Law (Act to Amend Some Nepal Acts for Maintaining Gender Equality, 2006) and the Good Governance Act, 2008, and amended the Civil Service Act, 1993 to promote nondiscrimination, equity, and inclusiveness while also guaranteeing human rights and promoting local participation

⁴³ Government of Nepal, National Planning Commission. 2007. *Three Year Interim Plan (2007/08–2009/10)*;

Government of Nepal, National Planning Commission. 2010. *Three Year Plan Approach Paper (2010/11–2012/13)*.

⁴⁴ National Planning Commission. 2014. *An Approach to the Graduation from the Least Developed Country by 2022*. <http://documentshare.tips/images/server01/28022017/77/b8634da4094881d2d477d2e638b22a45.pdf>.

⁴⁵ National Planning Commission. 2016. *Three Year Plan Approach Paper (2016/17–2018/19)* (in Nepali). http://npc.gov.np/images/category/14_plan_approach_paper3.pdf.

in development. Likewise, the government has developed GESI guidelines for some sectors, including for the nationwide Local Governance and Community Development Programme, prepared the National Plan of Action for Controlling Gender-Based Violence and Promoting Gender Empowerment, 2012, introduced gender-responsive budgeting (GRB), mandated women's participation in the planning and execution of local development activities, and carried out GESI analysis and GESI audits of several sectoral ministries' programs.

Besides these broad policies that guide GESI issues in the country, acts and regulations cover the energy sector in Nepal, some of which with a stronger focus on GESI issues and others with clear deficits on these fronts. Using the framework provided in Figure 2.1, the study reviewed these sets of policies to examine the extent to which the policies recognize the differences in existing conditions across gender and different social groups; how the barriers experienced by women, the poor, and the excluded are addressed; and how their capacities are strengthened to access resources, opportunities, and benefits from the energy sector; and, finally, the extent to which the laws and policies seek to impact welfare, efficiency, and empowerment of different population groups. Appendix 2 contains a brief background on some of the more pertinent policies.

3.2 Analysis of Energy-Related Policies from a Gender Equality and Social Inclusion Perspective

Energy issues in Nepal, as in many other countries, are considered “neutral,” with no bearing on GESI outcomes. Not surprisingly, barring a few laws and policies, the legal and policy framework governing energy issues is largely silent on recognizing GESI as a factor requiring separate treatment.⁴⁶ That the terms “gender,” “women,” “poor,” “excluded,” or “marginalized” are rarely mentioned in the policy documents, with some exceptions (e.g., Rural Energy Policy, 2006), is a case in point.

The GESI analysis of policy and legal frameworks in this section, thus, is not so much about the extent to which these different policies address issues of gender and inclusion (because most do not) but rather the space they provide for realizing gender-sensitive and socially inclusive provisions and outcomes. In this regard, the policy overview uses three criteria for assessment: (i) **present to a large extent** (i.e., there are some mechanisms and/or policy provisions in place to address issues of gender and social inclusion, and denoted by the symbol ●); (ii) **partially present** (i.e., these aforementioned measures are partially included but not substantially enough to help bring about transformative impact, and denoted by ●); and (iii) **almost or fully absent** (i.e., no mechanism or provisions in place to address issues of GESI, and denoted by ○).

A general trend evident in these legislations is that the more recent ones, especially those introduced post-2006, are more sensitive to GESI issues. For example, as Table 3.1 shows, the Renewable Energy Subsidy Policy, 2016 is more GESI-sensitive in many more parameters compared with something like the Electricity Act, 1992. Similarly, the Land Acquisition,

⁴⁶ There is, however, the mandatory requirement to follow the Gender Equality Law (Act to Amend Some Nepal Acts for Maintaining Gender Equality, 2006) to ensure women's representation in bodies such as users' committees.

Table 3.1: Potential for Addressing Gender Equality and Social Inclusion Issues in Selected Energy-Related Policies and Legislations

	Recognition of Existing Conditions			Procedural/Implementation Considerations				Enhancement of Impacts/Benefits		
	Differential Needs, Capacities and Usage	Existing Societal Inequities	Barriers to Participation and Decision-Making	Improve Access and Choices	Ensure Affordability	Enhance Participation	Enhance Voice and Agency	Welfare	Efficiency	Empowerment
Water Resource Act, 1992/ Rules, 1993	●	●	○	○	○	●	●	●	○	●
Electricity Act, 1992/ Regulations, 1993	○	●	○	○	●	○	○	●	○	○
National Environment Impact Assessment Guidelines, 1993	●	●	●	○	○	○	●	○	○	○
Environment Protection Act, 1997/Rules, 1997	●	●	○	○	○	○	●	●	○	○
Local Self Governance Act, 1999	●	●	●	●	○	●	●	●	○	●
Hydropower Development Policy, 2001	●	○	○	●	●	○	○	●	●	○
Community Electricity Distribution Bylaws, 2003	●	●	○	●	●	●	○	●	●	○
Rural Energy Policy, 2006	●	●	○	●	●	●	●	●	●	●
Renewable Energy Subsidy Delivery Mechanism, 2013	○	●	●	●	●	●	●	●	●	○
Renewable Energy Subsidy Policy, 2016	●	●	●	●	●	●	●	●	●	●
Land Acquisition, Rehabilitation and Resettlement Policy for Development Projects, 2015	●	●	●	●	○	●	●	●	○	●

● = Present to a large extent, ● = Present partially but not substantial enough, ○ = Almost or fully absent.

GESI = gender equality and social inclusion.

Note: The content of this table deviates slightly from the conceptual framework used for this study in that impacts on gender relations are not included. This is because none of the policies address the relational aspect of energy development, either directly or indirectly.

Sources: Community Electricity Distribution Bylaws, 2003; Electricity Act, 1992; Electricity Regulations, 1993; Environment Protection Act, 1997; Environment Protection Rules, 1997; Hydropower Development Policy, 2001; Land Acquisition, Rehabilitation and Resettlement Policy for Development Projects, 2015; Local Self Governance Act, 1999; National Environment Impact Assessment Guidelines, 1993; Rural Energy Policy, 2006; Water Resource Act, 1992; and Water Resource Rules, 1993.

Resettlement and Rehabilitation Policy, 2015, though not specific to the energy sector, clearly lays out procedures for project affect families belonging to groups such as Dalits, Janajatis, and single women to be consulted from the very beginning of the project, apart from being provided preferential employment opportunities as well as benefiting from special programs for the social and economic improvement of their group, in addition to the compensation and other assistance generally given to all the affected (Section 8.2.9).

It also appears that legislations that emphasize decentralization and community engagement such as the Rural Energy Policy, 2006, Renewable Energy Subsidy Delivery Mechanism, 2013, or even the much-older Local Self-Governance Act, 1999, tend to contain more GESI-friendly provisions than those with a macro focus such as the Hydropower Development Policy, 2001 or the Environment Protection Act, 1997. For instance, the Rural Energy Policy, 2006, among others, explicitly states “as rural energy is directly linked to activities traditionally carried out by the women, programmes of rural energy technology will be implemented considering it as an integral part of the women’s enabling activities” (Article 10.6). The policy also emphasizes issues such community management, enhancing productivity of end users, and representation of excluded groups in user committees.

Besides these broad trends, one of the biggest gaps in the current policy framework is that most policies do not fully recognize (at least not explicitly) the differential needs, long-standing societal inequities, and different forms of barriers to participation and benefits across different gender and social groups. Policies as well as guidelines such as the National Environment Impact Assessment Guidelines, 1993 and the Environment Protection Act, 1997 emphasize environmental effects more than social, though this has changed significantly as in the recently endorsed Land Acquisition, Resettlement and Rehabilitation Policy, 2015.⁴⁷ Likewise, policy provisions to address differences, in cases where they are recognized, are also rather vague. Examples include the ambiguous reference to the strategy of “extend[ing] hydropower services to the rural economy from the perspective of socio-equity” (Hydropower Development Policy, 2011); the unqualified statement of the need to develop affordable energy resources (Rural Energy Policy, 2006); or the additional subsidy to individuals from targeted beneficiary groups, which, among others, include endangered indigenous communities identified—except for some specific groups—by the Government of Nepal (Renewable Energy Subsidy Policy, 2016).⁴⁸

In terms of procedural aspects, some of the laws and policies emphasize awareness raising, participation, and/or informing local communities about legal provisions or programmatic interventions. For example, the Environment Protection Act requires that the environmental impact assessment (EIA) report be made accessible to the public for them to provide opinions and suggestions before approval for implementation (Article 6[3]). Similarly, the Land Acquisition, Resettlement and Rehabilitation Policy, 2015 mentions the need to “ensure that

⁴⁷ For instance, the objectives of the National Environment Impact Assessment Guidelines, 1993, as stated in Chapter II, Section 3, are all related to impacts on the environment and the only reference to social issues is in relation to “cultural heritage of the society.” Reference to social issues are limited primarily to concerns relating to land (Chapter III, Section 8 (a) (d)); affected population (Chapter III, Section 8 (b), Section 14 (c), Section 14 (d)); and public involvement (Chapter IV, Section 13 (f), Section 14 (a)). Chapter VII on “Identification of Environmental Impact” requires attention to socioeconomic impact but is limited to examining how the proposed activities would bring about changes (beneficial and/or adverse) to the existing economic and social conditions of the communities within the project area or its vicinity (Chapter VII, Section 23(a)).

⁴⁸ The current practice is to adopt the classification used by the Nepal Federation of Indigenous Nationalities, a nongovernment organization. The indigenous groups of Nepal are categorized into five, namely, advanced, disadvantaged, marginalized, highly marginalized, and endangered. At present, there are nine groups that fall under the “endangered category.”

fruitful dialogue has taken place with the affected people, especially those who are from vulnerable groups like poor, landless, senior citizens, women, children, indigenous people, differently-abled and those without any legal rights over the land they occupy” (Section 7.3.1). However, such provisions are not included in all the policies, regulations, and acts, thus the space for enhancing voice and agency among local communities, especially women and the excluded, is limited.

There are exceptions though. The Local Self-Governance Act, 1999 has provisions for women members in councils and committees formed at district, municipality, village development committee (VDC), and ward levels; and even if it does not mention provisions for other GESI target groups, that changed when the Local Governance and Community Development Programme was introduced in 2008. Likewise, the Rural Energy Policy, 2006 requires the formation of user and community organizations to be through community mobilization and ensures representation of women, Dalits, Janajatis, and other excluded groups (Section 6.1.4) (footnote 19, Policy Brief on Strategy for Mainstreaming Gender in Rural Energy Policies in Nepal). The Hydropower Development Policy, 2001 refers to “mobilization of public participation” even though it does not indicate the modality or the context for it (Section 5.11).

Issues of affordability as they relate to energy access are mentioned in the Hydropower Development Policy, 2001 and in different rural energy policies. For instance, the Renewable Energy Subsidy Policy, 2016 and the Renewable Energy Subsidy Delivery Mechanism, 2013 seek to increase the access of low-income households to renewable energy technologies and provide an opportunity for poor and socially excluded rural households to use renewable energy solutions and minimize regional disparity by provisioning for concessional loans (e.g., Article 4.1.2, Rural Energy Policy, 2006) or additional subsidy (Renewable Energy Subsidy Delivery Mechanism, 2013). To support such targeted approaches, the Rural Energy Subsidy Delivery Mechanism, 2013 also provides criteria for identifying the excluded groups such as single women, the poor, Janajatis, and Dalits (Article 8.2).⁴⁹

Finally, in terms of improving impacts and benefits at a broader level, most policies indicate the following as their priority areas (directly or indirectly): improving efficiency, enhancing well-being and welfare, affording greater choices, and empowering local communities. However, policy provisions are not always fully spelled out, and only in a few cases do they recognize the need to focus on GESI. For example, the Local Self-Governance Act (Section 220) and its regulations (Rule 211 and Schedule 26) mention allocation of royalty earned through hydroelectricity to district governments but do not specify how it will consider gender-responsive and socially inclusive development. Similarly, benefit sharing is mentioned in the Hydropower Development Policy, 2001, but a comprehensive legal framework for benefit sharing has not yet been put in place, which means that the desired impacts are yet to come to fruition.⁵⁰ Others such as the Rural Energy Policy, 2006 also mention increasing employment and human resource capacity (Article 2.2, Article 3.6), improving health of women and children (Section 1.1), and enhancing economic activities (Article 2.3, Article 3.7, Article 3.9),

⁴⁹ For example, single women are identified through an ID card provided by the district development committee upon recommendation of VDC, a letter of recommendation from the district administration office in the case of deprived groups, and recognition by the Ministry of Cooperatives and Poverty Alleviation and/or the Poverty Alleviation Fund in the case of the poor.

⁵⁰ For example, there is no explanation or guidelines for calculating the percentage of share of royalties from hydropower if it is in more than one district. Further, the royalties are paid to concerned district development committees but without any guidelines on how the committees should spend their share, a situation in which the GESI aspect is not likely to be covered.

but there is not much clarity on how these would be achieved or how the structural conditions that disadvantage these groups to begin with would be overcome.

From the perspective of empowerment, the Community Electricity Distribution Bylaw, 2003 seeks public participation to make electricity distribution effective, but the rules and responsibilities of the distributing institution seem more focused on reducing electricity theft than on empowering local communities to partake in extension and management of electricity distribution systems. Similarly, the Rural Energy Policy, 2006 states, “Community management and holistic approach will be encouraged as may be necessary for the sustainable rural energy development and management” (Article 5.3), but how this is to be achieved remains unclear.

Notably, even though the existing policy regime has visible gaps, in the aftermath of 2006 and the great recognition provided to issues of gender and social inclusion, a lot of progressive policies have been drafted for the energy sector. But because of the unstable political situation, they have not yet been endorsed. For example, two documents expected to guide a rationalized tariff regime in Nepal that could have a stronger impact on women and socially excluded groups, the Electricity Act and the Nepal Regulatory Commission Act, are both in the process of being redrafted. Similar is the fate of the long-delayed National Energy Strategy drafted by the Water and Energy Commission Secretariat to guide the development of Nepal’s hydropower sector as outlined in the National Water Plan of 2005,⁵¹ and which will also incorporate the Energy Efficiency Strategy and the Biomass Energy Strategy to make more efficient use of energy generally.⁵² It is expected that the National Energy Strategy will be cognizant of the need to come up with a strategy that reflects the country’s national and international obligations and to be much more attuned to GESI issues (footnote 11). Further, in 2005, the Department of Electricity Development (DOED) issued a manual to address gender issues in hydropower projects, recommending collection of sex-disaggregated data and consideration of women’s time constraints while holding public consultations. It should be noted though that these guidelines are recommended only and not mandatory.⁵³

In summary, GESI issues have received significant attention in Nepal’s legal and policy framework in later years. The more recent government policies and those focused on rural energy are much more GESI-sensitive, and recognize the need for greater social inclusion even though assessments of the same have shown mixed results so far.⁵⁴ The government has also been implementing programs on energy with a strong GESI focus, such as the AEPC-executed Energy Sector Assistance Programme, the National Rural and Renewable Energy Programme (NRREP), and the Rural Energy Development Programme, all of which are guided by AEPC’s GESI Mainstreaming Plan. However, as will be elaborated further in the following section on the major institutions in the energy sector, women and excluded groups have little control over or negotiating power within the national energy policy landscape whether in relation to pricing and production or energy services that women and the excluded require.

⁵¹ Government of Nepal. 2011. *Scaling-Up Renewable Energy Program Investment Plan for Nepal (draft)*. 11 September. moste.gov.np/scaling-up_renewable_energy_program_investment_plan_for_nepal.

⁵² Nepal Energy Efficiency Programme. n.d. *Promotion and Realization of Energy Efficiency*. <http://energyefficiency.gov.np/downloadthis/neeep.pdf>.

⁵³ Government of Nepal, DOED. 2005. *Manual for Addressing Gender Issues in Environmental Impact Assessment/Initial Environmental Examination for Hydropower Projects*. Kathmandu.

⁵⁴ Footnote 11; Footnote 18 (Overview of Gender Equality and Social Inclusion in Nepal); M.S. Swaminathan Research Foundation and Centre for Rural Technology. n.d. *The Gender Factor in Political Economy of Energy Sector Dynamics: Scoping study report*. <http://www.energia.org/cms/wp-content/uploads/2016/07/RA3-Scoping-Report-Website.pdf>.

Additionally, the policy formulation process is usually not inclusive and is not based on the voices of women, the poor, and the excluded even while women (and the disadvantaged groups) are primary users of energy, especially at the household and community levels.

3.3 Institutional Analysis of Nepal Electricity Authority and Alternative Energy Promotion Centre

3.3.1 Institutional Framework

In Nepal, the Ministry of Energy (MOEN) is primarily responsible for overseeing the country's energy sector in connection to large-scale hydropower, solar, and thermal energy, while renewable energy is under the Ministry of Population and Environment, and fossil fuel under the Ministry of Commerce and Supplies.⁵⁵ This study concentrates on hydropower and renewable energy only because of two reasons: (i) these sectors are likely to see the greatest expansion over the coming years; and (ii) these sectors require external interventions, providing an opportunity to improve the conditions of women and the excluded.

The hydropower sector is governed at four levels. First, at the policy level, the MOEN, the National Planning Commission, and the Water and Energy Commission determine the policies. Second comes policy implementation, which is the remit of DOED, the body also responsible for promoting and facilitating private sector participation in electricity development. Third is regulation, with the DOED responsible for overseeing the licensing procedure for the survey, construction, and commissioning of hydropower projects, and the Electricity Tariff Fixation Commission for determining electricity rates. Fourth is generation, transmission, and distribution, in which the NEA was the sole operational institution until the Electricity Act of 1992 opened the door for others although its monopoly over transmission and distribution remained intact.

Two other ministries play a key role in hydropower: (i) the Ministry of Population and Environment since environmental assessments require mandatory clearance from the Ministry of Hydropower for projects to proceed; and (ii) the Ministry of Forest and Soil Conservation for the provisions to be followed under the Working Guidelines for Acquisition of Forest Land for Other Development Purposes, 2006 while clearing forestland, an inevitable necessity while developing power projects.⁵⁶

AEPC is the key institution in renewable energy, which encompasses a wide range of alternative technologies: solar, wind, mini- and microhydropower, biomass, biogas, and biofuel. It also implements targeted programs such as NRREP and Renewable Energy for Rural Livelihood.

⁵⁵ As per the Work Division (Second Amendment) Rules, 2066, the MOEN has been entrusted, among other things, with the development of policies and plans, and its implementation for conservation, regulation, and utilization of energy.

⁵⁶ The configuration of the ministries keeps changing. Environment had previously been placed under the Ministry of Environment; the Ministry of Science, Technology and Environment; and, even earlier, the Ministry of Population and Environment.

Broadly speaking, as with the legislative and policy framework, the institutional framework appears to be guided by the perception that energy is “neutral,” with very little, if any, bearing on gender and social relations. However, with the changing political context, the institutional framework has also seen major shifts although not always as swiftly. For instance, the Ministry of Finance began introducing GRB in fiscal year 2007/08⁵⁷ for the national budget,⁵⁸ but as of the fiscal year 2014/15, the MOEN had not allocated any funds for measures linked directly to gender.⁵⁹ But budget allocation is only one aspect. Issues of human resource management, staff profile, training and skills development of staff, and institutional mandates to name a few are important elements that constitute a GESI-friendly institutional framework. Thus, to gain deeper insights into these issues, the NEA and the AEPC, the most important institutions in relation to electricity and renewable energy, respectively, have been used as examples for the institutional analysis presented below.

3.3.2 Nepal Electricity Authority

The Nepal Electricity Authority (NEA) was established in 1985 through the amalgamation of the Nepal Electricity Corporation and the Department of Electricity to create a single public entity to generate, transmit, and distribute electricity. It is an autonomous corporate body with a board of directors to operate, supervise, and manage its entire business. The body responsible for social and environmental assessments within the NEA is the ESSD (Box 3.1).

3.3.2.1 Functions, Duties, Powers, and Human Resource Policies of Nepal Electricity Authority

The bylaw governing the NEA staff, the *Karmachari Sewa Niyamavali, 2062*, specifies the benefits and facilities for NEA staff as well as human resource policies. In a very positive step, recruitment (Section 3) processes mention affirmative scoring for women candidates and candidates considered excluded according to the Government of Nepal (Dalits, Adivasi Janajatis, Madhesis, Muslims, persons with disabilities, and people from backward districts). But, at the same time, one of the promotion criteria provides higher scores for service in difficult geographical regions, a factor that can be biased against women staff due to their responsibilities for their children and family, making it difficult for them to serve in remote locations.

The NEA’s functions, duties, and powers of the authority detail key responsibilities of generation, transmission, and distribution of making policies, fixing rates, and managing human resources. However, there is nothing to ensure that issues of women, the poor, and the excluded are addressed while fixing fees. For example, the roles, responsibilities, and performance evaluation indicators in the terms of reference (TOR) of the deputy managing directors do not include any gender- or inclusion-related aspects, and the deputy managing director of finance has not been tasked to prepare a budget that would reduce barriers for women, the poor, and the excluded to access electricity and its benefits or to promote opportunities for them to influence decisions affecting them. Likewise, there is no mention about ensuring staff diversity in strengthening skilled human resources for the energy sector.

⁵⁷ Nepal’s fiscal year begins in mid-July.

⁵⁸ For more information on GRB in Nepal, see Gender Budgets. Equality and Current Affairs. http://www.gender-budgets.org/index.php?option=com_content&view=article&id=763.

⁵⁹ Ministry of Finance. 2014. Budget Speech of Fiscal Year 2014/15. www.mof.gov.np/.../file/Budget%20Speech%20Final%20English_20140727050302.pdf.

Box 3.1: Environment and Social Studies Department

The Environment and Social Studies Department (ESSD) under the Engineering Service Directorate of Nepal Electricity Authority (NEA) provides technical expertise for social and environmental assessments such as environmental impact assessment (EIA), initial environmental examination, social impact assessment, Vulnerable Community Development Plan, Resettlement Action Plan, etc. for NEA projects. Besides the preparation of these reports, ESSD also conducts monitoring and implements mitigation measures and community support programs that are part of the projects.

ESSD is the locus of GESI activities within the NEA. The GESI Section has been established within ESSD with the responsibility to implement and oversee GESI-related activities. At the time of the study, the GESI Section was still very new, and it was clear that there was limited understanding of GESI issues and neither had anyone in the GESI Section been trained in applying a GESI lens to projects.^a Regardless, the staff at the GESI Section has been using the general provisions of studies such as the EIA to implement GESI-friendly approaches.

In terms of staff profile, there were 18 people in the ESSD, including two women (both from the Bahun-Chhetri group). The staff represents only three social groups (Bahun-Chhetri, Newar, and Tarai Janajati), again reflecting the lack of diversity within a very relevant section of a key energy sector institution. This is all the more critical since the effective implementation of GESI policy commitments depends on the understanding, skills, and commitment of ESSD staff.

^a Surendra Rajbhandari, DMD, Project Management Directorate, NEA. Interview by Deepak Thapa. 24 February 2016; Focus group discussion at ESSD GESI section. Conducted by Deepak Thapa and Chhaya Jha. 13 February 2016.

Source: GESI Section Integration in ESSD.

3.3.2.2 Diversity Profile of Nepal Electricity Authority Staff

As of October 2015, there were 8,039 individuals on the NEA staff, 10.4% women and 89.6% men.⁶⁰ The presence of women is highest as support staff and assistants, while there are no women at senior management, and only small percentages of women are at mid- and lower levels of professionals (Figure 3.1).⁶¹

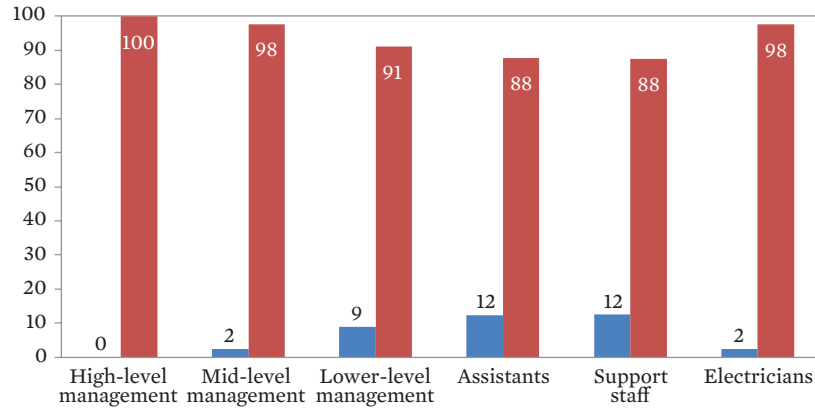
Likewise, as shown in Figure 3.2, there is overrepresentation of advantaged groups (Bahun-Chhetri and Newar) and a severe underrepresentation of Dalits, Muslims, Janajatis, and Madhesis, especially at the higher levels of the organizational hierarchy.

The dominance of one social group and lack of representation from other groups at different levels of management denies NEA an appreciation of their varied perspectives and does not ensure an inclusive work environment where awareness of—and respect for—different cultures

⁶⁰ The NEA staff list provided by NEA in October 2015 was analyzed by the study team for this diversity analysis. In the absence of a breakdown by caste/ethnicity, the team used surnames and place of origin for the analysis, a method while not 100% foolproof does provide more than a fair degree of certainty.

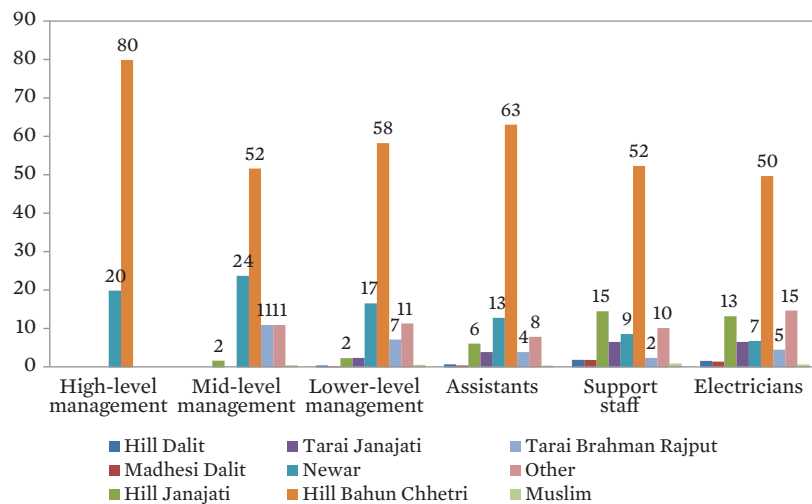
⁶¹ This is according to the data provided. At the time of the fieldwork, however, one woman had been promoted to acting deputy managing director.

Figure 3.1: Nepal Electricity Authority Staff by Level and Gender (%)



Source: Nepal Electricity Authority and Study Team.

Figure 3.2: Nepal Electricity Authority Staff by Level and Caste or Ethnicity (%)



Source: Nepal Electricity Authority and Study Team.

is promoted. Such staff homogeneity would result in limited recognition and understanding of the need for approaches and strategies to support women, the poor, and the excluded in accessing energy sector resources and services, and of how to address GESI issues during planning and implementation of interventions. With the introduction of quotas for women and excluded groups in public service since 2007, NEA has been recruiting staff following the same provision. But since the data provided to the team did not have the date of entry into NEA, the impact of the quota system on increasing diversity could not be ascertained.

3.3.3 Alternative Energy Promotion Centre

AEPC was established in 1996 under the aegis of the then Ministry of Science and Technology (and is currently under the Ministry of Population and Environment) for the development and promotion of renewable and alternative energy technologies. The roles and responsibilities of AEPC consist of promoting the use of alternative or renewable energy technologies to meet the energy needs in Nepal and acting as an intermediary institution between the operational level nongovernment organizations or private promoters of renewable energy and the policy levels in relevant ministries.⁶²

3.3.3.1 Mandates and Programmatic Approaches

In the energy sector, AEPC stands out for having a strategy and action plan with gender and social inclusion aims, including specific measures at the organizational and programmatic levels and indicators to measure changes (footnote 18, Overview of Gender Equality and Social Inclusion in Nepal). This is even though there is nothing to specify that GESI aspects be included in fulfilling the eight responsibilities detailed as AEPC's main roles, suggesting an evolution AEPC has undergone since its establishment in 1996.

With support from external development partners, AEPC is currently executing a joint framework program, the NRREP (Box 3.2), which mandates GESI mainstreaming, including resorting to affirmative action aimed at empowering women.⁶³ Nonetheless, these initiatives have come under criticism, as an audit carried out in 2014 concluded that while documents like social mobilization guidelines, GESI toolbox, and GESI audit guidelines had been prepared, there was limited dissemination and insufficient orientation on how to use them.⁶⁴ Further, the report pointed out that AEPC suffered from a lack of GESI-responsive planning and budgeting, which presumably hindered effective implementation of the mainstreaming strategy as well as adoption of instruments prepared to support it.⁶⁵

3.3.3.2 Location of Gender Equality and Social Inclusion Responsibility

A review of the job descriptions (TOR) of some of the senior officials indicates that some GESI responsibilities have been included in six of the 11 TOR reviewed.⁶⁶ There are instructions to the officers to ensure that GESI is integrated in the preparation of the annual budget and programs; in the monthly, trimestral, and yearly progress reports; and during monitoring and evaluation. Coordination activities, policy advocacy, and other such aspects have not been addressed, which otherwise would have supported effective implementation of AEPC's GESI-related strategies, plans, and interventions.

⁶² Government of Nepal, Ministry of Population and Environment, AEPC. Roles and Responsibilities. http://www.aepc.gov.np/?option=aboutus&page=aboutsub&mid=1&sub_id=2&id=2 (accessed in 2015).

⁶³ This 5-year program started in July 2012 is funded by the governments of Nepal, Denmark, Norway, Germany (KfW), and the United Kingdom (Department for International Development), and UNDP, SNV, and GIZ; Footnote 20 (Identification of Gender and Social Inclusion Gaps at Policy and Institutional Level).

⁶⁴ Political commitments, organizational accountability, technical expertise, and organizational culture were used as key elements for assessment.

⁶⁵ U. Koirala. 2014. *Gender Equality and Social Inclusion (GESI) Audit in AEPC/NRREP*. Lalitpur: AEPC/NRREP.

⁶⁶ The TOR of senior planning officer, senior administrative officer, senior energy officer, senior socioeconomist or Carbon Development Mechanism project manager, senior training officer, senior engineer, planning officer, training officer, engineer, information and communication officer, energy officer were made available to the study team.

Box 3.2: National Rural and Renewable Energy Programme: Missed Opportunity?

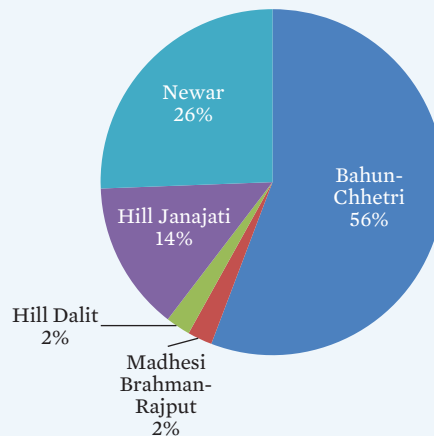
The National Rural and Renewable Energy Programme (NRREP), the single program of the Alternative Energy Promotion Centre (AEPCC) that is funded by different donors, has recognized gender and social differentials in its development objective, stating that the living standards, employment, and productivity of rural women and men will be increased and that their dependency on traditional energy will be reduced.

NRREP has specified a Gender Equality and Social Inclusion (GESI)-related overall objective along with expected results, approach, and targeted areas. The main objective mentions improving the living standard, employment, and productivity of both men and women. NRREP's GESI mainstreaming plan outlined in the annual work plans (i) identifies positive discrimination in selecting financial institutions to ensure credit access or facility to target groups; (ii) adopts social mobilization to address targeted groups' needs and demands as well as support their meaningful participation; (iii) requires representation of women and socially excluded groups' organization in the NRREP Coordination Committee; (iv) promotes technology end use for employment and income generation of targeted groups; (v) includes measures for capacity development of AEPCC/NRREP staff through GESI mainstreaming plans, GESI tool box, trainings, and orientation; and (vi) adopts a disaggregated monitoring system to examine the progress made by individual and community-managed systems in terms of gender and social exclusion, among others.^a

Differentials between different social groups have not been fully recognized. Separate results to address strategic energy interests of women, the poor, and the excluded are yet to be identified to ensure that (i) they are positioned as main actors in the development of mini- and microhydropower projects; (ii) technology is designed based on women's and excluded groups' experiences; and (iii) the sector would contribute to changing discriminatory practices and mind-sets based on gender, caste, or ethnicity.

Of the 43 individuals in the NRREP staff, 16% are women. Bahuns-Chhetris dominate with 56%, followed by 26% Newars, 14% Hill Janajati, and 1% each of Brahman-Rajput and Hill Dalit groups (figure below). There are no Madhesi Dalits, Tarai Janajatis, or Muslims. High-level management is dominated by Bahun-Chhetri (83%), who are dominant at other levels as well: 60% in mid-level management, 60% as assistants, and 29% as support staff. The women staff in NRREP all belong to hill groups with the highest numbers as assistants (40%), followed by mid-level management (15%). There are no women at high-level management.

Staff Diversity at National Rural and Renewable Energy Programme



Source: Parbatta Bhatta, e-mail message to author, 20 August 2015.

Box 3.2 *continued*

A multidonor funded program has not been able to ensure a more diverse workforce or break the pattern of women and the excluded occupying stereotypical assistant positions with no opportunity to influence management decisions.

^a It should be noted that it is not clear what stage NRREP's GESI mainstreaming strategy is at. While the 2012–2013 Annual Report declares categorically, “GESI mainstreaming plan developed,” the Annual Work Plan 2015–2016 still mentions the need to “Design Tailor Made GESI Mainstreaming Plan and Implement” even though the GESI unit prepares different gender-responsive activities in its annual work plans to mainstream GESI within the organization as well as in its program under this theme.

Sources: Parbatta Bhatta, e-mail message to author, 20 August 2015; Alternative Energy Promotion Centre, National Rural & Renewable Energy Program. n.d. *Gender Equality and Social Inclusion Mainstreaming Plan*. Kathmandu. http://www.aepc.gov.np/docs/techsupport/subsubtechsupport/20130824235437_GESI%20mainstreaming%20plan.pdf.

3.3.3.3 *Gender Equality and Social Inclusion Provisions in Human Resource Policy*

The *Karmachari Sewashart Niyamawali 2066*, or the personnel service regulations of AEPC, is fairly detailed but with some gaps from a GESI perspective. The “Definitions” does not include gender, exclusion, or affirmative action even though, like all government agencies, AEPC is required to follow the government-mandated quota system during recruitment.⁶⁷ A four-member recruitment committee is authorized to develop its own working guideline but without any specific directive to ensure that the committee observe AEPC's own GESI commitments. For instance, one of the tasks of the recruitment committee is to fix educational qualifications for different posts, but there is no guidance on adjusting (e.g., qualification levels) for historically disadvantaged groups. There is no provision for the inclusion of women or other excluded groups in the recruitment committee although experts can be invited as required.

3.3.3.4 *Diversity Profile of Alternative Energy Promotion Centre*

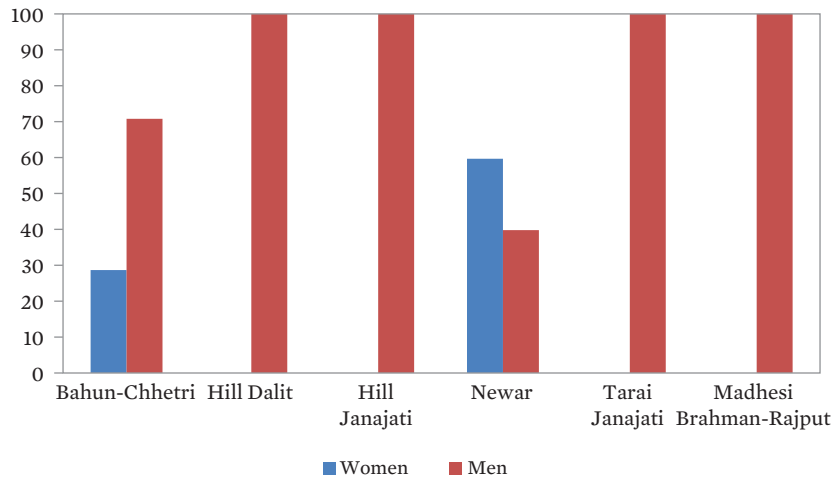
In terms of workforce, AEPC had a staff of 41 people at the time of the study, with 27% women and 73% men. The women among the staff were only from Bahun-Chhetri and Newar social groups. The percentage of women is lowest in high-level management and highest at the assistant level (Figure 3.3).

Bahun-Chhetri are dominant among the social groups represented at AEPC—at 68%. Further, while all levels are dominated by Bahun-Chhetri, their representation is highest at the high-level management (75%) (Figure 3.4). At an aggregate level, Janajatis seem to be slightly better represented but barring one individual, all the other Janajatis are Newar.⁶⁸ This diversity profile again demonstrates the dominance of a few social groups in decision-making positions and no reflection of the population AEPC programs serve.

⁶⁷ As per the quota system, 15% of all the seats are reserved for women, 12% for Janajatis, 10% for Madhesis, 4% for Dalits, 2% each for the disabled and residents of 10 backward districts.

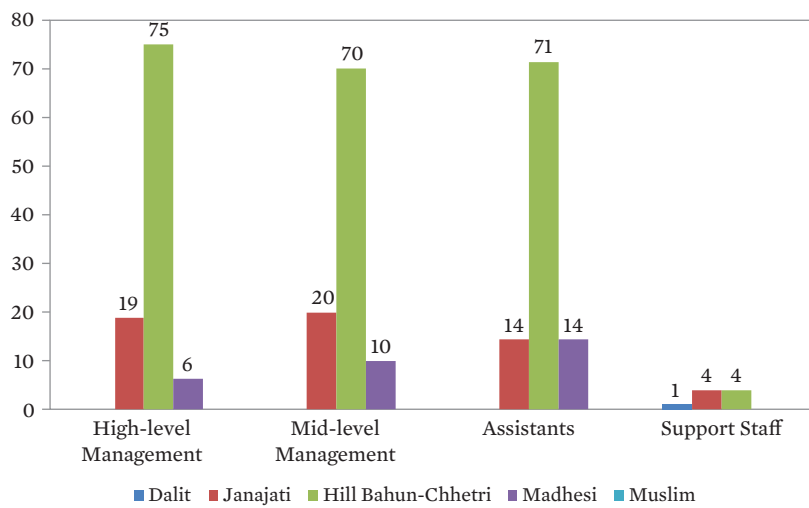
⁶⁸ Newars are one of the, if not the, most advantaged groups among the Janajatis.

Figure 3.3: Gender Profile of Alternative Energy Promotion Centre Staff (%)



Source: Parbatta Bhatta, e-mail message to author, 20 August 2015.

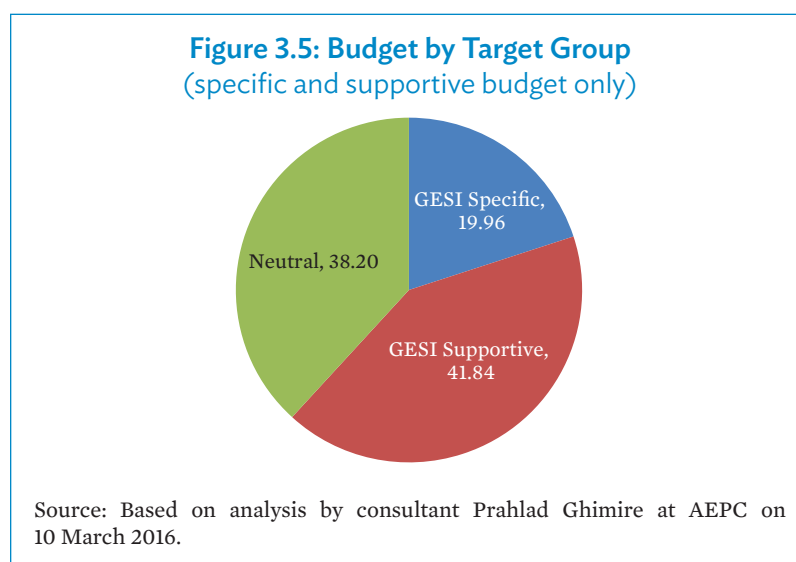
Figure 3.4: Alternative Energy Promotion Centre Staff by Caste or Ethnicity (%)



Source: Parbatta Bhatta, e-mail message to author, 20 August 2015.

3.3.3.1 Budgetary Analysis of Alternative Energy Promotion Centre

From a GESI perspective, the analysis of two fiscal years of AEPC's budget indicates that about 38% of the budget allocated is neutral (Figure 3.5).⁶⁹ Of the remaining 62% found to be GESI responsive, about 20% is specific to GESI and about 42% is supportive of GESI outcomes.



⁶⁹ “Neutral” assumes that all people will benefit equally and does not recognize that gender, caste, ethnicity, location, or income-based issues can constrain women, the poor, and the excluded from accessing and using resources and opportunities brought in by AEPC.

4

Gender Equality and Social Inclusion Features of Energy Programs and Projects

As mentioned earlier, GESI dimensions are gradually being recognized as important elements to be considered for effective policymaking and project design in the energy sector. As discussed in Section 3, this is already reflected in the more recent legal and policy provisions. But equally important is ensuring that the policy requirements are translated into integrating or mainstreaming a GESI perspective throughout the project cycle to improve greater participation, benefits and opportunities, and impacts (Appendix 1).

As also stated earlier, three key measures—“do no harm,” “achieve and sustain results,” and “seek opportunities to improve GESI outcomes”—have emerged to address inequities in the energy sector. Against this spectrum of approaches, addressing social inequities comprehensively and effectively, while also sustaining its positive impacts, requires that energy projects move beyond the simple “do no harm” approach (i.e., ensuring that the poor, women, and other socially excluded groups are not adversely affected by the project) and instead seek to address inequities through GESI-related interventions. This, as the framework for the study suggests, (i) recognizes existing conditions and inequities during project design, implementation, and monitoring and evaluation; (ii) puts in place robust mechanisms for improving access, ensuring affordability, and enhancing voice, agency, and participation during project design and implementation; and (iii) finally designs interventions that would strengthen project impacts through improved welfare, efficiency, empowerment, and gender relations.

A review of available documents from the projects under study indicates significant variations across projects (Table 4.1). In most projects, GESI considerations are recognized and addressed primarily in the initial phases, but the same amount of diligence is not apparent later, i.e., during implementation. As required by national law and/or by operational guidelines of the funding agency, all the projects had collected baseline demographic and socioeconomic data on the affected population, spelled out the nature of impacts, and drafted mitigation measures. Later projects ensured that consultations were either held specifically with women and socially excluded groups, or were at least represented in numbers in consultations. These are important steps to identify the existing conditions, including the prevailing societal inequities. Yet, there is very little evidence in the existing reports of the studies and consultations about the barriers that women and socially excluded groups experience while seeking to access energy services and technologies, finding employment opportunities, participating in decision-making roles, accessing credit for productive end use, among others.

Evidently, the better integration of GESI issues during these early stages is apparent because project proponents are required by national regulations as well as policies of funding agencies to engage with the to-be-affected population through exercises such as consultations, EIAs or initial environmental examinations (IEEs), and social impact assessments. However, newer

projects, e.g., Tanahu Hydropower Project, Dana–Kusma Sector of Kaligandaki Transmission Corridor, part of the South Asia Subregional Economic Cooperation initiative, demonstrate a better understanding of the need to integrate GESI in different phases of the project. For instance, the Dana–Kusma project has integrated gender issues in all aspects of the project cycle: (i) preparation (e.g., social survey with disaggregated information, public consultations including with women); (ii) design (e.g., project objective focusing on improving access and affordability of energy services to vulnerable groups); (iii) implementation (e.g., separate GESI action plan with specific interventions for each project output, requirements for periodic consultations, capacity building, and awareness of project proponents and other stakeholders); and (iv) monitoring and evaluation (e.g., disaggregated data in the results and monitoring framework).

Other projects with a strong focus on GESI dimension in the design, main project objective, or implementation plan include the following:

- Kabeli Hydropower Project: Loan assistance to women-headed households through revolving fund for income generating projects, and linkages established with local credit groups, cooperatives, or field offices of the Agricultural Development Bank to ensure long-term sustainability of the program
- Dhalkebar–Duhabi Transmission Line: Priority consideration in potential benefit sharing for vulnerable communities
- Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka (Ghoda Ghodi): Increasing access for poor rural women to affordable and reliable clean and renewable energy sources and technologies
- Khimti–Dhalkebar Transmission Line: Developing Nepal’s hydropower potential in an environmentally and socially sustainable manner, and improving access of rural areas to electricity services
- Dhaubadi Wind–Solar System (WSS): Improving the economic, environmental, and health conditions of poor rural communities in remote windy areas

Various types of plans such as the resettlement framework or resettlement action plan, Vulnerable Community Development Plan (VCDP), Resettlement Plan, Indigenous Peoples Plan, and GESI Action Plan are also developed for most projects. These plans generally adopt the “do no harm” principle and seek to address the negative impacts on women and other excluded groups. Some examples include the following:

- Middle Bhotekoshi Hydropower Project: Fixed the weekly working hours of construction workers so that they can help women in their household with daily chores
- Tanahu Hydropower Project and Kabeli Hydropower Project: Preferential access of project-affected families for construction- and maintenance-related employment opportunities to support them with livelihood restoration
- Khimti–Dhalkebar Transmission Line: Policy of nondiscrimination against any people regardless of their social background and total ban of child labor

Despite great lengths the projects went in ensuring diverse participation during consultations, there is little information on the kind of interactions held. Nor is it clear what attempts were made to ensure that diverse voices were heard, specifically from women and the excluded, and what steps were taken to address any concerns raised. Instead, it becomes obvious that participation is often for the sake of participation since there is practically nothing in all the

project documents to indicate issues dealing specifically with gender equality and social inclusion. Instead, the project documents list down the feedback from these consultations in an unhelpful generic format.

The responsibilities of project proponents toward GESI are not consistent either, including for actions such as training, pilot interventions, maintenance of infrastructure, or meeting GESI targets, even when they are mentioned in the mitigation plans. In terms of enhancing the impact of the energy projects (i.e., in terms of welfare, efficiency, empowerment, and gender relations), the results are not always encouraging. As mentioned before, most of the activities that are in support of community development have been prepared as part of a risk mitigation strategy, and hence almost ancillary to the main objectives and outcomes of the project. Projects that systematically seek to improve the impact of energy development by articulating a commitment to GESI as a central feature of the project objective or project activities are limited (with a few exceptions such as the project Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka).

Further, the mitigation measures aimed at women and other excluded groups do not seem to venture far from the standard practice of employment generation schemes tied to some form of training. Besides training provided in modern agriculture, mainly vegetable farming and animal husbandry practices, these initiatives also tend to reinforce traditional gendered roles with a focus on activities such as sewing, knitting, tailoring, for women as opposed to masonry, carpentry, plumbing, house wiring, for men.⁷⁰

Finally, in terms of monitoring and evaluation, there are only a few projects that have GESI-specific indicators incorporated in the results framework (e.g., the Dana-Kusma Transmission Line has been designed to mainstream gender across the entire project cycle, including the monitoring framework; and the Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka project includes a project performance monitoring system that also comprises key gender performance indicators). For most projects, monitoring and evaluation relating to GESI issues are generally included as part of the mitigation plans (as in Tanahu Hydropower Project and Khimti-Dhalkebar Transmission Line). But, again, as mentioned earlier, these plans and interventions are designed more from a risk mitigation perspective as opposed to one that would lead to direct or transformative impacts.

Although projects that specifically include a separate gender-sensitive and/or inclusive interventions in the project design or as an important part of project implementation, the provisions for GESI included in the risk mitigation plans such as VCDP, Resettlement Plan, Indigenous Peoples Plan, and GESI Action Plan, are important first steps. Besides improving GESI outcomes, these are important also because energy projects, especially large hydropower projects, impose a disproportionate cost on women and indigenous and other excluded groups who are often more dependent on the common resources affected by projects, and/or more vulnerable to the social and cultural disruptions that occur during relocation and resettlement.

⁷⁰ To take one instance, among the trained relocatees affected by the Middle Marsyangdi Hydropower Project, the women had been trained in one of the following—reproductive health, herbal medicine, sewing, and poultry farming, whereas the men had been trained in house wiring, plumbing, and scaffolding, with just one man having received additional training in poultry farming. Nepal Electricity Authority. 2004. *Middle Marsyangdi Hydroelectric Project: Stage 2 Monitoring of Mitigation Plan during Construction, Environmental Impact Assessment. Bi-Monthly Progress Report No. 21*. May–June.

Table 4.1: Gender Equality and Social Inclusion Considerations in Project Cycle

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
1	Dudhkoshi Hydropower Project (construction not begun)	<p><i>Hydropower Generation</i></p> <p><i>Design Features</i></p> <ul style="list-style-type: none"> • Women and the Majhi indigenous groups recognized as disadvantaged groups. <p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> • Consultations held while conducting the EIA in 1997. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> • Since compensation for land acquisition will be paid to men, income generation activities are provided to women. • Employment in the project is likely to be cornered by men, which will also lead to increased workload for women. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> • Training to be provided to locals for employment in the project. <p>Since the EIA was completed in 1998, there has been very limited discussion of either the social dimensions of project impact or of the need to devise programs targeted at the socially excluded groups, which has now become the norm in Nepal.</p> <p>Information on other aspects of the project could not be obtained since the NEA began the process of inviting ‘expressions of interest’ to conduct further studies, including an updated feasibility study and environmental and social impact assessment, in 2014.</p>	<ul style="list-style-type: none"> • Nonrecognition of the socially excluded groups—except women and the Majhis—who were directly affected by the project.

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
2	Tanahu Hydropower Project (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> • Explicit objective to provide “expanded access to clean and sustainable energy.” • Issues of customary land entitlements and/or nontitle holders of land accounted for. • Project interventions include activities relating to community development, rural electrification, poverty reduction, and social development, with special attention to vulnerable persons. • Separate GESI Action Plan that contains specific activities for each of the main project outputs. • Awareness raising on gender, skills training related to enterprise development, financial support, and GESI-related indicators and targets for monitoring. <p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> • Consultations during project identification and preparatory phases. • Tools such as the Resettlement Framework, RIPP, GESI Action Plan, and Community Development Strategy developed for risk mitigation and implementation. • NEA or Tanahu Hydropower Limited and its contractors required to design interventions related to community, health, safety, and labor issues, including in consultation with locally affected peoples. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> • Disaggregated data provided in the RIPP. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> • Consultations at various stages of project cycle, especially with marginalized groups. • Collection and analysis of disaggregated data. • Recognition of different forms of land use, including those of nontitle holders. <p>Procedural considerations:</p> <ul style="list-style-type: none"> • Specific directives to developers and contractors to design and implement “culturally acceptable and sensitive” measures. • Focus of project activities on vulnerable populations with the objective of the project clearly emphasizing issues of access and affordability of vulnerable populations. • Effective GESI mainstreaming with GESI-specific interventions for each project outputs . • Specific interventions to enhance participation, voice, and agency through consultations and awareness raising. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> • Skills training related to enterprise development. • Financial support for GESI target groups. • GESI related indicators and targets for monitoring. 	<p>GESI target groups are included in different aspects of project cycle, but the relational aspect of gender inequality and social exclusion is not adequately emphasized. Groups called socially excluded persons are broadly defined to include almost everyone: “those suffering the effects of marginalization within or outside their community due to their ethnicity, religion, gender, caste, disability, health, education, or socioeconomic status,” diluting the focus of any intervention. Yet, Dalits are not recognized as one of the most vulnerable groups with the vulnerable defined as “indigenous peoples, landless, women, especially women-headed households, poverty groups, disabled, and senior persons” (PAM, Appendix 13, p. A13-1). Linkage between different plans and project documents is not clear, especially in terms of the ways in which they build on each other. Scope for transformative impacts could have been harnessed further by linking some of the interventions under community development with activities and benefits arising out of hydropower development in the area. Besides provision of vocation training, emphasis on indigenous group is limited primarily to “do no harm” and risk mitigation measures. Additional opportunity exists by recognizing differences among women (e.g., by ensuring the mandatory participation of women to mean women from different social groups).</p>

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
3	Kabeli Hydropower Project (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> The Indigenous and Vulnerable Community Development Plan (IVCDP) includes agriculture support programs; skills training; preferential employment; drinking water and health and sanitation programs; capacity building for women and indigenous communities, along with a strategy for enhancing their participation. <p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> Extensive public consultations were carried out at the field and district levels to provide information about project features, collect information, and understand local population's views, including some specifically with women's groups as well as Janajatis and Dalits. Comprehensive social assessment was carried out during project preparation. Cumulative impact assessment, Resettlement Policy, social action plan (SAP), and IVCDP were prepared as part of the project. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> Disaggregated data provisioned for in the SAP. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> Public consultations during different phases of project cycle and at various levels. Comprehensive social assessment during project preparation. Executive summary of SAP translated into four local languages for wider dissemination. <p>Procedural considerations:</p> <ul style="list-style-type: none"> During scoping exercise, public consultations were held not only to provide information to affected communities but also to collect information about the area and understand people's views about implementation. Capacity building activities for women and indigenous communities along with a strategy for enhancing their participation were included in the SAP and IVCDP. Internal and external monitoring to ensure fulfillment of SAP commitments. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> IVCDP includes agriculture support programs, skills training, preferential employment, drinking water, and health and sanitation programs. The SAP monitoring framework does not include clear GESI monitoring indicators but there is evidence of changes/course correction during implementation stage. On-the-job training and skills transfer to locals. 	<p>SAP, Resettlement Policy, SAP, and IVCDP were prepared primarily for risk mitigation purposes and to sustain project results. Activities included in the IVCDP do not reflect direct benefits from hydropower development apart from employment during construction. SAP monitoring framework does not include clear GESI monitoring indicators. Capacity constraints of implementing organization, led to delays so an independent organization was hired to implement the RAP. Limited interactions with women's groups, Dalits, and the marginalized within the Janajati groups.</p>

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Caps/Limitations
4	Middle Bhotekoshi Hydropower Project (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> Separate subsection called Status of Women. Mitigation plans mentioning gender and vulnerable groups. <p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> Extensive consultative meetings held with local people while conducting the EIA. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> Data by caste/ethnicity and gender collected. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> Consultative meetings held. Disaggregated information but limited primarily to project-affected families. <p>Procedural considerations:</p> <ul style="list-style-type: none"> Consultative meetings that would contribute toward enhancing voice, agency, and participation. Short subsection on Gender and Vulnerable Group recognizes increase in women's workload due to men being engaged in project. Vulnerable groups to be prioritized for project employment. <p>Enhancement of impact/benefit:</p> <ul style="list-style-type: none"> Provision for locals to buy project shares. 	<ul style="list-style-type: none"> No definition of who constitute the vulnerable groups. Caste/ethnicity- and sex-disaggregation of data missing. Explicit assumption that only men will be employed and women's consideration limited to providing weekly holiday to men to help women at home. No action with bearing on GESI (assumes only men will be employed but also promises gender balance among employees; vulnerable groups to be given priority for employment but also severely project affected families (SPAFs) and project affected families (PAFs); nonrecognition of low purchasing power of marginalized groups, particularly Dalits, vis-à-vis buying shares). Limited activities to enhance impacts/benefits for women and excluded groups.
5	Middle Marshyangdi Hydropower Project (completed)	<p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> Consultations with local people and community leaders. Upgraded feasibility study concentrated on relocation of a market center. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> RAP prepared as part of risk mitigation measure includes some sex-disaggregated data, but information on other vulnerable groups was wholly absent. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> Issues of gender and inclusion were not specifically mentioned unless women and excluded groups were among the project affected. <p>Procedural considerations:</p> <ul style="list-style-type: none"> Consultations were held in a select number of places. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> Some sex-disaggregated data in RAP. Provision of training to project affected without specifying vulnerable groups. 	<ul style="list-style-type: none"> As one of the older hydropower projects, issues of gender and inclusion were hardly included. Project did not go beyond a management approach. Specific focus on women and excluded groups was largely absent apart from mentioning the need to protect "poorest groups" and "indigenous groups and ethnic minorities."

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Caps/Limitations
6	Transmission Dana-Kusma sector of Kaligandaki Transmission Corridor (SASEC) (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> Designed with a view to improving inclusive access to electricity, with a strong focus on gender mainstreaming. Nontitle holders of land accounted for. <p><i>Implementation Arrangements</i></p> <ul style="list-style-type: none"> Socioeconomic survey was conducted based on the feasibility study and preliminary design to assess impacts relating to involuntary resettlement and indigenous people. Public consultations were carried out during project preparation at various locations, including separate consultations with women's groups. Provisions as well as terms of reference for social mobilizers and social development experts were included in the Project Administration Manual. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> GESI Action Plan with integrated indicators and GESI targets in the project objectives/outcomes and monitoring framework. RIPP contains disaggregated data to identify impact due to physical and economic displacement. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> Social survey conducted to assess impacts. Disaggregated data for gender and social groups to measure impact. Recognition of different forms of land use, including of nontitle holders. <p>Procedural considerations:</p> <ul style="list-style-type: none"> Public consultations in different localities, including separate ones with women. Emphasis on providing requisite expertise to promote gender and inclusion issues, including through "GESI-based community participation and management of energy systems." Provision of a GESI consultant. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> GESI mainstreamed. Separate GESI Action Plan with indicators and GESI targets that are also integrated in the project's monitoring framework. Project interventions are designed to benefit the poor through increased economic opportunity, knowledge, and rights. Skills training for PAFs. 	<p>Barriers that women, the poor, and excluded groups experience while participating in energy projects are not fully understood. Possible opportunities exist for leveraging RIPP, GESI Action Plan, and other project documents for transformative impacts, but the RIPP and GESI Action Plan were prepared primarily as risk mitigation instruments for the project.</p> <p>Responsibilities for implementing the various activities/interventions under the GESI Action Plan are not clarified.</p> <p>Disadvantaged groups are taken to mean all excluded communities but fail to recognize that special provisions have to be included for Dalits, given their extreme marginalization even among the disadvantaged.</p>

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
7	Dhalkbar–Duhabi Transmission Line (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> • Social Impact Management Framework, RAP, and VCDP have been prepared as part of risk mitigation plan for the project. <p><i>Implementation Arrangement</i></p> <ul style="list-style-type: none"> • Consultation with local population during project identification, project preparation, and while conducting SIA, with deliberate attempts to reach out to women and excluded groups. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> • Indicator on employment generation. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> • Understanding of local conditions through extensive consultations, including participatory rural appraisals. • Collection of some disaggregated data. • Need to support vulnerable groups (Janajatis and Dalits). <p>Procedural considerations:</p> <ul style="list-style-type: none"> • Understanding of local conditions through consultations but limited primarily to project affected populations. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> • Employment generation an expected outcome of the project. • Priority to vulnerable groups on project benefits, i.e., training. 	<ul style="list-style-type: none"> • Assumption that consultation with local communities in the project area would capture all voices, including marginalized groups. • Except for one indicator on employment generation, there are no other clear GESI-related monitoring indicators or targets in either the project document or other instruments prepared as part of the project. • Most indicators disaggregated by gender only, not caste/ethnicity. • Consultations with vulnerable groups ignore Dalit organizations.
8	Khimti–Dhalkbar Transmission Line (ongoing)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> • Among others, the main objectives of the project include developing Nepal's hydropower potential in a socially sustainable manner. • SIA, RAP, and VCDP were prepared for supporting the project during implementation. • Project preceded by a screening and ranking study aimed at reducing project implementation risks. • Vulnerable groups identified to include Dalits and some Janajati groups. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> • Disaggregated information for vulnerable groups but limited only to SPAFs. • Differential impacts of project considered in the SIA. • Definition of vulnerable groups expanded in updated VCDP to include all Janajati groups. <p>Procedural considerations:</p> <ul style="list-style-type: none"> • Screening and ranking study to select hydroelectric schemes through a transparent and participatory process alongside the application of techno-economic criteria. 	<ul style="list-style-type: none"> • Instruments like the RAP and VCDP focuses primarily on risk mitigation strategies. • Disaggregated information on vulnerable groups focused only on PAFs. • No recognition of gender differences. • Monitoring components are mentioned in RAP and VCDPs, but a clear framework for monitoring achievements and targets with regard to vulnerable groups and project affected families are missing. • Employment opportunities are much higher for men, but no clear pathway is outlined to employ more women.

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
8	Khimti-Dhalkebar Transmission Line (ongoing)	<p><i>Implementation Arrangement</i></p> <ul style="list-style-type: none"> • Consultation with relocatees conducted at various stages, including project preparation and people were made aware of the project impact. <p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> • There is also evidence of a strong evaluation and feedback framework—in 2014, upon realization that the VCDP prepared in 2006 was not very effective, a revised VCDP was prepared. • Identification of impacts to “vulnerable groups” but disaggregated data has been included only for PAFs in the VCDP. 	<ul style="list-style-type: none"> • Consultations carried out at various stages to inform people about challenges related to the project. <p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> • Objective of the project to develop hydropower in a socially sustainable manner, which provides scope for incorporating gender and inclusion issues more effectively. • Robust evaluation and feedback framework that allowed for course correction. • Priority to be given to PAFs, disadvantaged groups, and women. 	
9	Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka (Ghodi) (completed)	<p><i>Design Features</i></p> <ul style="list-style-type: none"> • Project designed to increase “access to affordable and reliable clean and renewable energy sources and technologies for poor rural women.” • Gender action plan was prepared for the project to ensure appropriate intervention design. <p><i>Implementation Arrangement</i></p> <ul style="list-style-type: none"> • Various types of trainings and livelihood opportunities for women and vulnerable groups were an integral part of the project’s implementation plan. 	<p>Recognition of existing conditions:</p> <ul style="list-style-type: none"> • Gender review of energy sector policies, documenting good practices in incorporating pro-poor and gender-related aspects of national energy policies, laws, and regulations. <p>Procedural considerations:</p> <ul style="list-style-type: none"> • Improving access and affordability of rural poor women to energy sources and technologies a main feature of the project. • Sex-disaggregated data was part of the baseline survey conducted during project preparation. 	<ul style="list-style-type: none"> • GESI issues partly mainstreamed in the project but the additional benefit of GESI was not clearly mentioned. • Apart from ensuring provision of electricity, no specific programs were designed to assist those from marginalized communities.

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Table 4.1 continued

SN	Projects	Key Gender Equality and Social Inclusion Features	Strengths/Opportunities	Gaps/Limitations
9	Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka (Ghoda Ghodi) (completed)	<p><i>Monitoring, Evaluation, and Reporting</i></p> <ul style="list-style-type: none"> Project performance monitoring system includes key gender performance indicators. For evaluation, impact-oriented surveys are planned. Sex-disaggregated data was part of the baseline survey conducted during project preparation. 	<p>Enhancement of impacts/benefits:</p> <ul style="list-style-type: none"> Ensuring electricity access to households headed by women and to marginalized groups. Implementation plan comprises different types of trainings and livelihood opportunities for women and vulnerable groups. Key gender performance indicators included as part of project's results framework. Provisions for impact-oriented surveys. Gender-sensitive user-education module for training on safe use of electricity and on end-use technologies along with reducing electricity leakage. 	

ELA = Environmental Impact Assessment, ESSD = Environment and Social Studies Department, GESI = gender equality and social inclusion, IVCDP = Indigenous and Vulnerable Community Development Plan, NEA = Nepal Electricity Authority, PAF = project affected family, RIPP = Resettlement and Indigenous Peoples Plan, RP = Resettlement Policy, SAP = Social Action Plan, SIA = social impact assessment, SPAF = severely project affected family, VCDP = Vulnerable Community Development Plan.

Note: Three of the study sites, Urja Upatyaka Mini-Grid, Kishedhi Khola Micro Hydropower Project, and Dhaubadi Wind-Solar System have been omitted from this analysis because of lack of sufficient documentation to carry out the analysis.

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Current Situation of Gender Equality and Social Inclusion in Energy Development

As described in earlier sections, GESI issues are being increasingly recognized as important considerations for policymaking and project design in the energy sector. This section will use findings from the fieldwork in relation to the framework presented in Figure 2.1 to discuss the existing situation of women and socially excluded groups in terms of their differential needs in relation to energy services and the ways in which existing social inequities condition their ability to participate in the planning and decision-making as well as benefiting from energy services.

5.1 Existing Gender and Societal Conditions Related to Energy

5.1.1 Differential Needs, Capacities, and Usage

Findings from the survey conducted for this study show that women have a disproportionately higher share of household work requiring the use of energy (cooking meals, obtaining water, etc.) (Figure 5.1 and Figure 5.2). On the other hand, in activities outside home (working in the fields, processing of crops, etc.), both men and women tend to share the work equally. Considering the increasing trend of men being away from home, particularly for foreign

When electricity is introduced in the household, it is definitely women that benefit the most. For instance, my mother is 85 years old. In order to prepare food she had to use firewood but now she uses a rice cooker to cook rice.

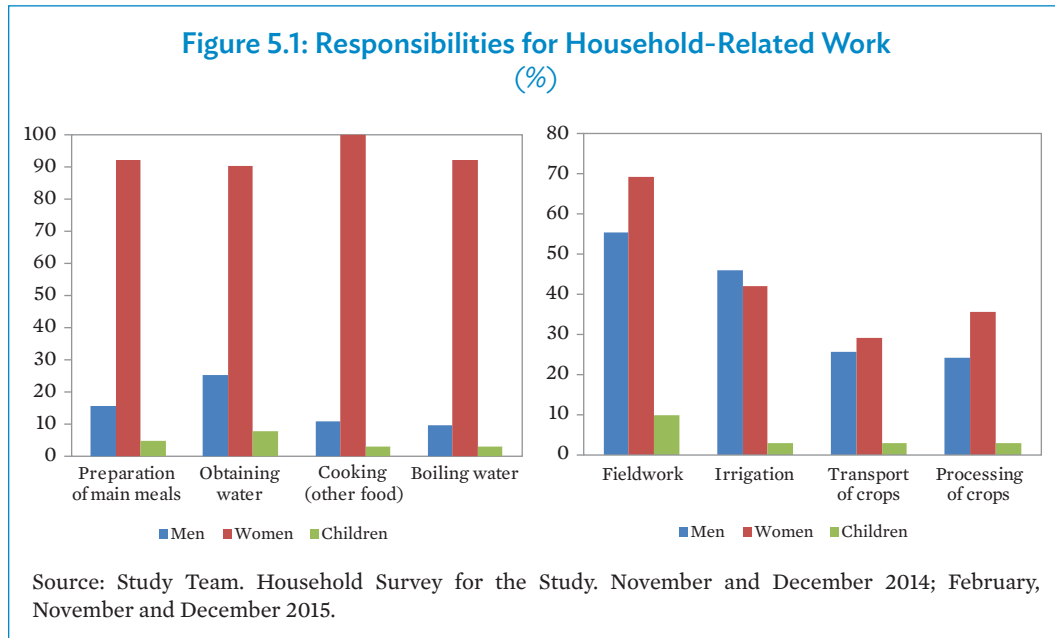
—Office-bearer, Ghoda Ghodi Rural Community Electricity Cooperative Organisation (GRCECO), Kailali

Though electricity benefits everyone in the family, what we have seen is that it directly benefits the women, elderly and the children.

—FGD, Dhaulagiri Community Resource Development Centre, Baglung

When talking about the project, the men are mostly focused on infrastructure. They say the road should be made, and then there is talk about the opportunity for petty contracts. But when I talk to women, all I hear is that they should be provided electricity.

—Kabeli Hydropower Project official



employment, women are being forced to single-handedly take on the responsibility of meeting energy needs within as well as outside of their households.⁷¹

Yet, energy preferences of men and women vary significantly. Men appear more interested in the potential economic opportunities to be derived from energy sources, while women are more concerned about reducing drudgery such as having to hand-grind grain every day. In this regard, it is not surprising that electric mills appear to be desired by women everywhere. For instance, in areas such as Middle Marshyangdi Hydropower Project, such mills have sprung up in some places following the completion of the project and the supply of more reliable power, providing relief to women who would otherwise grind grain using time-consuming and labor-intensive traditional milling techniques or travel great distances to the few mechanized mills.⁷²

While the needs as well as patterns of usage among men and women vary, men primarily determine decisions relating to investments and adoption of technologies. There are, however, some notable differences across different caste or ethnic groups as findings from the study show. For example, men from the hill caste groups (Bahuns and Chhetris) took decisions on energy investments not only in economic activities outside the household such as transport of crops or irrigation schemes, but also in household activities such as cooking and lighting. In fact, only four out of 14 respondents from this category indicated that women in their households decide on the technology to be used for cooking; the remaining mentioned that such decisions are taken by men (Table 5.1).

⁷¹ According to the 2011 census, a full 7.3% of the country's population was outside the country at the time of enumeration. Men constituted 88% of the Nepali population away from the country. Sanjay Sharma et al. 2014. *State of Migration in Nepal*. Kathmandu: Centre for the Study of Labour and Mobility.

⁷² Male local politician, Middle Marshyangdi Hydropower Project, interview by Ang Sanu Lama and Nabin Rawal. 22 December 2014. The importance of mills for agricultural communities is also clear from the strong demand for the establishment of a mill during consultations held for the Dhaubadi WSS although it was beyond the capacity of the project to do so. Project beneficiaries, Dhaubadi WSS. Interview by Nabin Rawal and Rekha Shreesh. 28 December 2015.

Table 5.1: Decisions Relating to Investments and Adoption of Technologies

	Decisions Relating to Cooking		Decisions Relating to Lighting	
	Male	Female	Male	Female
Hill Caste groups	10	4	6	1
Hill Janajatis	7	6	11	4
Hill Dalits	1	2 (female), 3 (children)	1	4 (female), 1 (child)
Tarai Groups	1	1 (female), 1 (child)	1	1 (child)

Note: The number of respondents is low compared with the total numbers surveyed because many respondents indicated that they could not tell precisely who made the decisions, or the issue was not relevant to them.

Source: Study Team. Household Survey for the Study. November and December 2014; February, November and December 2015.

On the contrary, among Janajatis, the decision-making powers seemed to be more equal with almost an equal number of males and females taking decisions relating to household energy sources and activities, and though the number of households from Janajati groups who indicated that women take decisions relating to productive functions (e.g., lighting, irrigation, food processing) were low, women were not conspicuously absent as was the case with hill caste groups. Notably, among the Dalits, it seemed to be the case that women (and notably children, which was not very evident in the case of other caste or ethnic groups) were the ones taking decisions on both productive as well as household energy sources. Noting these differences is significant since they can have a bearing on what form of energy is used, particularly because males predominantly oversee paying for the energy.

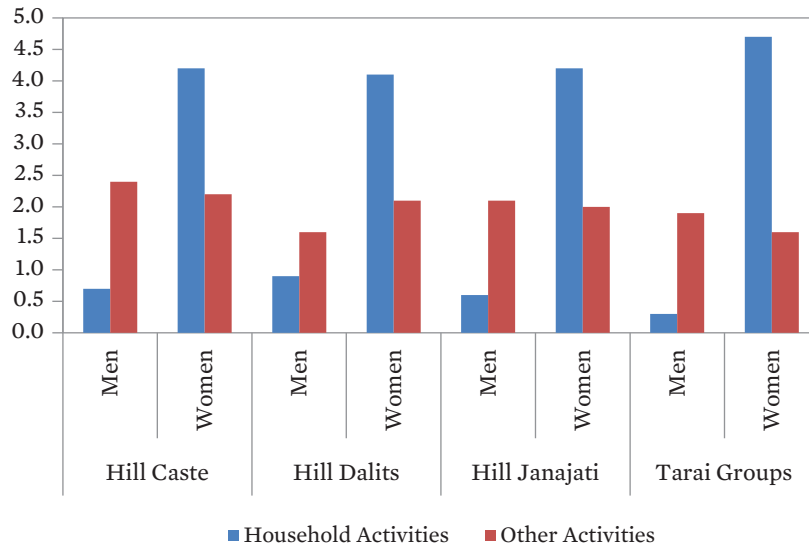
5.1.2 Societal Inequities

As described above, one of the immediate impacts of energy access with the adoption of energy-saving technologies is the reduction in female drudgery. Due to patriarchal values, the concept of men sharing household chores with women is quite alien as shown in Figure 5.2, which indicates that the proportion of men engaging in various types of housework is very low among all caste and ethnic groups, especially when compared with women. As mentioned, decisions relating to investment and adoption of technologies are generally not made by women. During group discussions, women often said that the time they can save with improved energy technology or services, in whatever form, is often used for other household chores, adding to the burden they already bear.⁷³

Besides gender and caste or ethnic differences, existing income inequities are also key factors preventing many households from benefiting from energy even when there are policies and other mechanisms in place to support them. For instance, in the current subsidy regime for renewable energy (see Chapter 3), there are no grant-financed arrangements for individuals or households who are unable to make the initial payment, thus excluding the poor. This problem is further exacerbated by electricity connections that are tied to land or house entitlements, which by default would exclude the landless poor from benefiting. In fact,

⁷³ FGD at Dhaulagiri Community Resource Development Centre, Baglung. Conducted by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 10 November 2015; Female project beneficiary, Dhaubadi WSS. Interview by Nabin Rawal and Rekha Shreesh. 28 December 2015; Lalita Balakrishnan. 2006. Women and micro-hydro systems. Himalayan Small Hydropower Summit. New Delhi.

Figure 5.2: Proportion of Women and Men from Different Caste or Ethnic Groups Engaged in Various Types of Household and Other Activities



Note: The data was calculated by adding the number of activities an individual is engaged in under household and others and taking an average for each population group. Five activities (cooking regular meal, collecting water, cooking other types of meal, boiling water, storing water) were included under “Household Activities” and four (lighting, studying, watching televisions, reading) under “Other Activities.”

Source: Study Team. Household Survey for the Study. November and December 2014; February, November and December 2015.

even the much-acclaimed community electricity distribution scheme, which has connected many rural households to the national grid through a government subsidy of 90%, does not explicitly address this issue of absence of land entitlements among women or the landless.

To address these differences, community members often take decisions to help those less well-off but not always successfully. For instance, in the Urja Khola First Micro-Hydropower Project (MHP) in Baglung, households unable to make financial contributions of NRs1,000 had the option of providing labor in lieu. However, there were households that just could not afford to provide their labor for free either, and hence unable to benefit from the project.⁷⁴ Likewise, the way discriminatory norms entrenched in community relations are dealt with also result in different outcomes. In the case of Theuli Khola User Committee, Baglung, even though it was agreed that Dalit and economically weak households would get access to electricity whether or not they contributed in labor, the proposal met strong opposition from others.⁷⁵ On the other hand, in the community electrification project in Kailali when it was realized

⁷⁴ One respondent from the area confirmed that three houses in her neighborhood do not have access to electricity since they did not contribute labor during construction. Female project beneficiary, Urja Khola First MHP. Interview by Rekha Shreesh. 6 November 2015; Former male user group office-bearer, Urja Khola First MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 5 November 2015. Similar to the experience in the Urja Upatyaka is the case of Dhaubadi: in the absence of special assistance, poorer households found it difficult to even pay the relatively monthly fee of NRs300.

⁷⁵ Sher Bahadur Thapa, Chairperson, User Committee, Theuli Khola MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 5 November 2015.

that not all households would be able pay the initial NRs1,500, a *tole* (hamlet) committee was formed to identify households that would not be able to contribute the amount. Community members, including the forestry user group, got together and made contributions such that all the poor households, comprising mostly of Dalits and Raji (a marginalized Janajati group), could access electricity.⁷⁶

5.1.3 Barriers to Participation and Decision-Making

There are several factors that hinder women and socially excluded groups from accessing energy sources, participating in decision-making, and benefiting from energy services. First, due to the difficult topography of Nepal, there is a tendency to focus on market centers while holding consultations. This strategy, adopted presumably to maximize participation, limits participation of groups who cannot travel any distance to attend meetings. Such market centers generally tend to be far from project-affected communities, especially in the case of larger hydropower projects which are generally run-of-the-river schemes (as opposed to storage), and seek to avoid densely populated areas and cover large stretches of land. The latter is especially true for transmission line projects. In the case of the Khimti–Dhalkebar Transmission Line project, as required by law,⁷⁷ the public hearing was conducted but only in two places along the 73 km-long transmission corridor.⁷⁸ Thus, one of the major grievances of the project affected groups was the absence of meaningful consultation and full disclosure; some of the community members had understood the project to be about mobile communication towers, others mentioned being told it was to supply drinking water.⁷⁹

Second, social norms, especially around household responsibilities, mobility, and social acceptance of women in public spaces, constrain women's participation. This is particularly

If there is a meeting in Bhalu Chowk [the market center], maybe there will be three women in attendance. If we go further down then it will be a bit more. For men it is easy because it is a political center, a business center. They come here to drink tea and talk. Women come here for some work or else they won't come.

—Amrit Regmi, official, Kabeli Hydropower Project

It is difficult for women to participate because usually only one person from a household takes part in meetings. Even when both husband and wife are educated, the husband participates in meetings and it is the wife that ends up taking care of household affairs.

—Local politician, Kabeli Hydropower Project

⁷⁶ The local forestry user group provided around NRs300 to their users who could not pay the entire amount, while some 20 household were also provided discounts in the purchase and installation of meters. Office-bearer, Ghoda Ghodi Rural Community Electricity Cooperative Organisation, Kailali. Interview by Nabin Rawal and Rekha Shreesh. 24 December 2015.

⁷⁷ Rule 2.7 of the Environment Protection Rules, 1977 requires the EIA to be submitted only after “a public hearing about the proposal at the area of Village Development Committee or Municipality where the proposal is to be implemented.”

⁷⁸ ESSD. n.d. Environmental Impact Assessment Report for the Khimti–Dhalkebar 220 kV Transmission Line Project. Executive Summary.

⁷⁹ FGD with community leaders, Ranibas VDC, Sindhuli District. Conducted by Nabin Rawal and Prakriti Thami. 11 February 2015. A news report quoted an affected individual as saying that the project had described it as a drinking water project initially. Ramesh Kumar. 2014. Prasaran Lain ma Najayaj Avarodh [Unnecessary Disruptions in Transmission Line]. *Himal Khabarpatrika*. 28 Chaitra 2070 [11 April].

the case when meetings are held in places far from home.⁸⁰ Patriarchal values mandate men to be the default head of households holding decision-making power and with the right to engage in extra-household affairs, while women are discouraged from participating in community activities.⁸¹ As one of the study respondents mentioned, “The household heads are generally males and the titles to the land are also in their names. So, during consultations the males are in a majority.”⁸²

Third, preexisting social relationships and power hierarchies also determine how the benefits of energy are shared.⁸³ For example, representation of marginalized groups such as Tamangs, Dalits, and Majhis in the Kabeli Concern Committee associated with the Kabeli Hydropower Project is very low and is dominated by the politically strong groups Limbu, Rai, Bahun, and Chhetri.⁸⁴ The lack of involvement of the large community of Tamangs near the Kabeli project site was explained in the following terms: “They are concerned about their day-to-day livelihood since [many] do not have enough food for more than 4 months in a year.”⁸⁵ Such deeply entrenched discriminatory attitudes limit the participation of women and excluded groups, which do not always get addressed with simple interventions relating to public consultation, awareness raising, or encouraging different committees at the community level to be inclusive.

Finally, financial constraints, as further elaborated in section 5.2.2, act as another major barrier. To provide an example, costs associated with community-based power plants are prohibitive for poor and marginalized groups, and neither do they fully meet households’ energy needs.⁸⁶ In Dhaubadi, no one is allowed to use rice cookers,⁸⁷ a very different scenario from areas receiving grid electricity where the use of rice cookers is quite common and is used to supplement traditional fuels such as animal dung⁸⁸ and firewood.⁸⁹

5.2 Addressing Concerns or Procedural Aspects

5.2.1 Access

Results from the study confirm the national pattern that rural communities in Nepal have very limited access to modern forms of energy, hence requiring them to continue relying on traditional sources of fuel to meet their energy needs. In the present study, only 16% of the

⁸⁰ Female schoolteacher, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 3 November 2014.

⁸¹ Male project-affected, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 31 October 2014.

⁸² Project personnel, Tanahu Hydropower Project. Interview by Nabin Rawal and Rekha Shreesh. 30 December 2015.

⁸³ Kavita Rai. 2007. The Dynamics of Social Inequality in Kali Gandaki ‘A’ Dam Project in Nepal: The Politics of Patronage. *Journal of Water, Energy and Environment*. 1 (1). pp. 22–28.

⁸⁴ Female community leaders, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 1 and 2 November 2014.

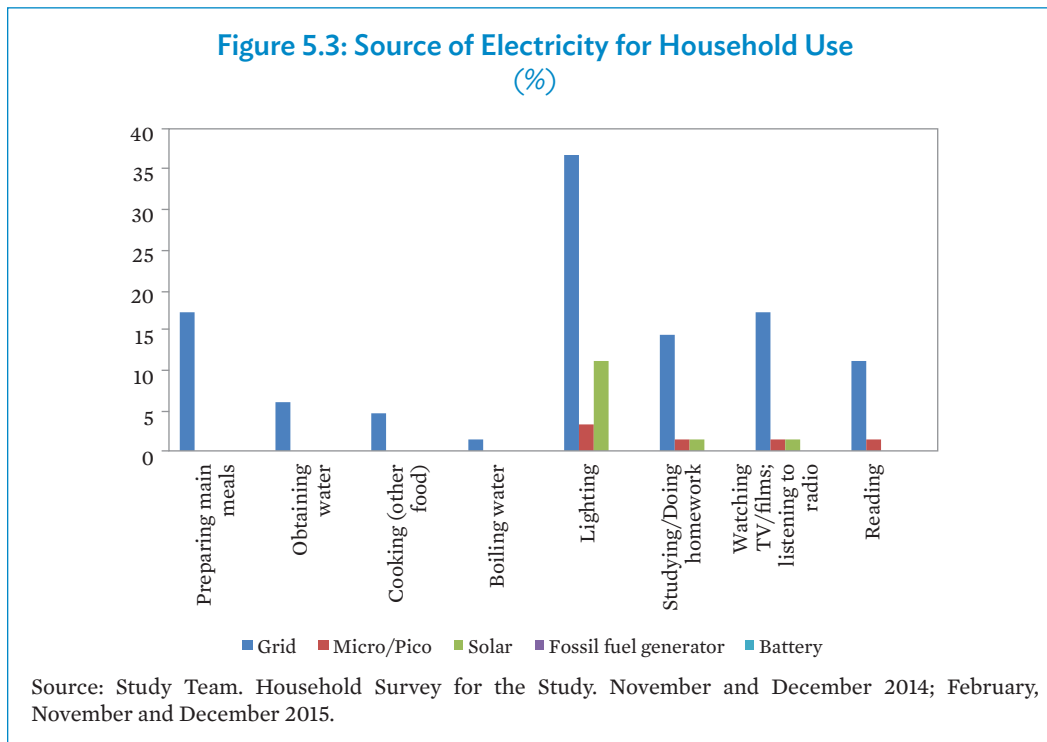
⁸⁵ Community leader, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 2 November 2014.

⁸⁶ User, Theuli Khola MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 3 November 2015.

⁸⁷ Female project beneficiary, Dhaubadi WSS. Interview by Nabin Rawal and Rekha Shreesh. 28 December 2015.

⁸⁸ This was the experience shared in Dhanusha. Two project-affected Dalit women, Khimti–Dhalkebar Transmission Line. Interview by Nabin Rawal and Prakriti Thami. 8 February 2015.

⁸⁹ Footnote 76; Gradual replacement of firewood by electricity was mentioned in Kailali District.



households surveyed mentioned using electricity to prepare main meals, and slightly more than 35% indicated that they have access to electricity even for lighting purposes (Figure 5.3).

Evidence from Nepal and other countries show that there are various factors constraining households' access to energy, including issues of costs, low capacity of community-based power plants, consumer preferences, absence of appropriate incentive structures, misappropriation of subsidies meant for the poor, etc. (see Section 1.2). As described above in Section 5.1, findings from the study confirm that of these various reasons, those relating to financial constraints is perhaps more crucial than others. The study also indicates that issues of social inequities interact with the energy sector in multiple ways, which can be very different from what a linear relationship between access and energy would suggest.

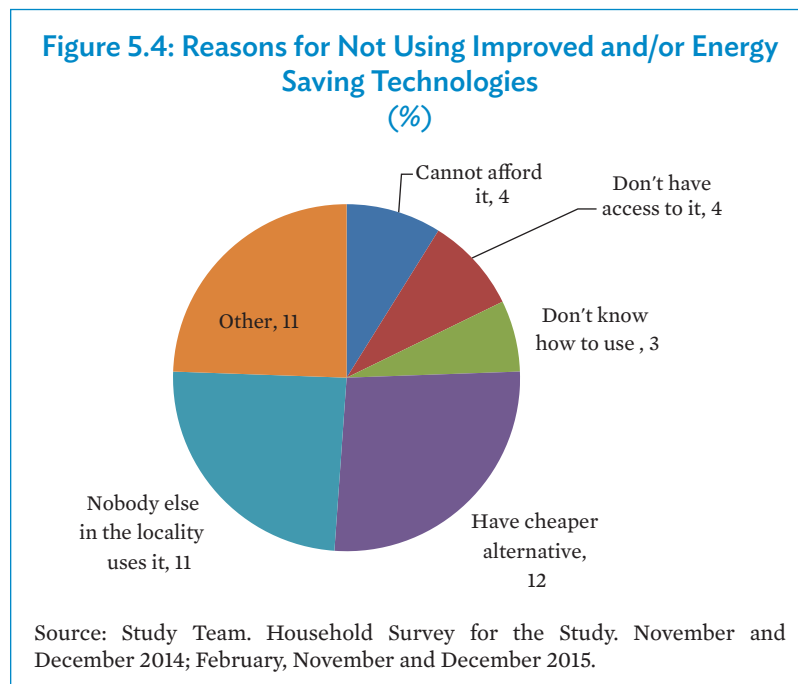
To cite an example, biogas is widely promoted as an alternative to firewood by both the government and the nongovernment sector, but their adoption varies despite subsidies available for the installation of biogas plants. Most households along the Khimti–Dhalkebar Transmission Line corridor were found to be using biogas even though there was no specific biogas promotion program apart from the usual one common to the entire country, whereas in the Urja Upatyaka in Baglung it is less common despite biogas promotion being a component of the Rural Energy Development Programme⁹⁰ that supported the microhydropower stations in the valley. By its very nature, biogas is limited to households with enough livestock as well as land for the biogas plant, a fact that automatically excludes the poor and the marginalized

⁹⁰ Sher Bahadur Thapa, Chairperson, User Committee, Theuli Khola MHP, and Bharat Paudel, ex-Chairperson, User Committee, Theuli Khola MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 5 November and 4 November 2015, respectively. Biogas plants were linked with the construction of toilets.

who generally do not have either, and this was found to be true in the case of the Urja Upatyaka in Baglung.⁹¹

5.2.2 Affordability

Besides access to energy, an equally important factor is the issue of affordability. Many people do not have the means to afford energy services even when they are near the supply. For instance, among household members who indicated that they do not use improved and/or energy-saving technologies—e.g., pressure cookers, rice cookers, biogas, improved stoves, and liquefied petroleum gas (LPG)—one of the most commonly cited reasons was either the inability to afford these technologies or the availability of a cheaper alternative (16 out of 45 responses fell in these two categories, compared with 4 out of 45 that indicated lack of access to such technologies as a reason) (Figure 5.4).



Evidently, due to the cost of electricity, LPG, and/or other forms of energy, people prefer using a resource like fuelwood, which is generally freely available, and since it is mostly women whose labor goes in its collection, the opportunity cost is not factored into any calculation either. Further, study results also indicate that even when people can afford improved energy supplies, they may not be able to afford the “conversion technology” that makes that energy useful (e.g., a stove, rice cooker, light bulb) which is borne by other studies as well (footnotes 23 and 25). From here, it can also be surmised that the inability to afford such technologies would be particularly acute for socially excluded groups who generally also tend to be poor. All those who raised the issue of unaffordability were either Dalits or Tarai Janajatis, two of the most excluded groups in Nepal.

⁹¹ Local politician, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 22 December 2014.

The provision of electricity from the national grid has substituted kerosene which would cost much more than what we are paying for the electricity now.

—FGD participant, Sindhuli

One can also cook using electricity. But we use firewood. As long as there is firewood why pay more. Electricity is used for lighting only.

—User, Urja Khola First MHP

In my home village people only pay NRs80 per month because they don't use much electricity. Almost everyone has access to electricity. If someone cannot afford a meter box then villagers have even come together and contributed NRs50 each to buy that household a meter box.

—Local politician, Middle Marshyangdi Hydropower Project

There are some important initiatives under way though to address the issue of affordability. The existing provision of subsidy in alternative energy is having an impact in areas such as Kabeli, which is not connected to any other source of electricity. Almost everyone has access to solar power, including the impoverished Majhi community.⁹² In Dhaubadi and Ghoda Ghodi, community efforts stand out for seeking innovative ways to ensure that everyone benefits regardless of their ability to pay. In Dhaubadi, each participating household had to deposit NRs5,000 in a fund meant for the project sustainability and those that could not afford the amount were allowed to earn it by working on the project, thus enabling their participation.⁹³ In Ghoda Ghodi, the cost of the meter and installation was waived for single women-headed households.⁹⁴ Such initiatives are encouraging but are also ad hoc in nature, and do not work where community cohesion is not strong and discriminatory practices are more deeply entrenched.

Another noteworthy issue raised by the study, which is indirectly linked to concerns around affordability and adoption and investment in energy technologies, is the number of respondents mentioning that the reason they are not using a particular form of energy is because others in their locality have not adopted it (Figure 5.4). Such responses indicate the importance of “demonstration effect,” which has yet to receive much attention in literature and programmatic interventions in the energy sector.

5.2.3 Participation

The lack of participation of women and the socially excluded at all levels of public life has been a well-established fact in Nepal (footnote 18, Unequal Citizens). This situation has changed considerably with measures such as mandatory participation of all beneficiary or affected households and mandatory representation of vulnerable groups in bodies such as users' committees (footnote 29). Yet, lack of participation of women and excluded groups is very pronounced in energy-related matters. As mentioned in Section 5.1, there are several barriers

⁹² Bhawani Lingden, local politician and Chairperson, Kabeli Concern Committee, Kabeli Hydropower Project, and project affected man from disadvantaged group, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 1 November and 3 November 2014, respectively.

⁹³ Two male project beneficiaries, Dhaubadi WSS. Interview by Nabil Rawal and Rekha Shreesh. 28 December 2015.

⁹⁴ FGD with female users, Ghoda Ghodi. Conducted by Nabil Rawal and Rekha Shreesh. 24 December 2015.

that women and excluded groups experience in terms of participation in decision-making while seeking to access benefits from energy services. Presently, the structure of the consultations in many cases reinforces preexisting gender norms and social inequities. Larger consultations seek the participation of a single member from each household, which by default means only men. These men who take part in consultations rarely discuss details of the project such as its status, objectives, impacts, and benefits with their spouse or other household members.⁹⁵ Sometimes, project personnel also uphold the same patriarchal views. A female respondent said that a project member came looking for the head of household and took her father-in-law for a meeting.⁹⁶

Participation in consultations is also determined by evidence of direct stake in the project, which generally means loss of land or livelihood. The limited ownership or lack of land among women and other marginalized groups like Dalits means that they are generally not counted among those affected even though their livelihoods are affected significantly. Because they are not listed as “project affected,” the participation of women and/or other excluded groups in the project consultation process automatically becomes limited.⁹⁷

Lack of free time for women to attend meetings was mentioned repeatedly⁹⁸ which was often construed by male members as a lack of interest on the part of women, and hence many saw no point in involving women in discussions.⁹⁹ Over the years, however, there has been an increase in female involvement in projects, largely as a result of the project design mandating female attendance and the migration of males for foreign employment that has resulted in women taking on roles that were traditionally the domain of males.¹⁰⁰

Another factor that affects participation is the extent to which project personnel can, and has the inclination to, engage with local communities. Officials such as the public relations officer (or, sometimes, grievance redress officer) are usually men, and women do not feel comfortable talking to them.¹⁰¹ Male project staff argue that even if they were to take the initiative, social norms do not allow them to engage directly with women.¹⁰² Of course, if the public relations officer were a woman or at least there was a woman in a similar capacity, it would have been easier for women to approach them.¹⁰³ Linked with this is also the underlying assumption

⁹⁵ Three project-affected women, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 1 November 2014.

⁹⁶ Project-affected woman, Khimti–Dhalkebar Transmission Line. Interview by Nabil Rawal and Prakriti Thami. 10 February 2015.

⁹⁷ Considering that only 10% of Nepali women own land, it is clear that many households are under the control of individuals who are not actually the title-holders, and hence not likely to be consulted or provided much information about the compensation process.

⁹⁸ Dalit woman, former office-bearer, Theuli Khola MHP. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 4 November 2015; Female project beneficiary, Dhaubadi WSS. Interview by Nabil Rawal and Rekha Shreesh. 28 December 2015; and Female community leader, Kabeli Hydropower Project Interview by Ang Sanu Lama and Nabil Rawal. 1 November 2014.

⁹⁹ Group of project personnel, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 3 November 2014.

¹⁰⁰ Sher Bahadur Thapa, Chairperson, User Committee, Theuli Khola MHP. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 5 November 2015; and Local politician, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 22 December 2014.

¹⁰¹ Two female community leaders, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 1 and 2 November 2014; Group of project personnel, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 3 November 2014.

¹⁰² Group interview with project personnel, Kabeli Hydropower Project. 3 November 2014.

¹⁰³ Member of Middle Marshyangdi Coordination and Concern Committee, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 24 December 2014; and Project-affected woman, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 24 December 2014.

When people from the World Bank came, we were called. At other times, when there are meetings, we are not invited.

—User, Kabeli Hydropower Project

If there were women among the project officials, local women would feel at ease talking to them. They would think that if women are also involved in a project like this, why should they be left behind. It would encourage women.

—Project officials, Kabeli Hydropower Project

When the project people came here to carry out the survey of the affected households, they asked us to only inform the people whose land will be acquired by the project. So, those people who had land titles to their name were called for the meeting. That is why the Dalits who are sharecroppers were not called for the meeting.

—Project affected women, Dana–Kusma Transmission Line

that work related to the energy sector is “masculine” and that women are not capable of being engaged in such activities. As a female teacher said, “I think it is mostly the men who are knowledgeable about electrification. Most of the time my husband changes bulbs and wiring in my house.”¹⁰⁴

Not having enough knowledge about the project or being able to participate in project-related activities have material impacts to women and excluded groups. A female community leader from the Middle Bhotekoshi Hydropower Project area said that there have been instances where men collect the compensation but do not tell their wives about it, and women are left wishing they could get at least that part of the compensation for the loss of crops and trees, which generally is part of women’s responsibility in rural Nepal.¹⁰⁵ Linked to that is the issue of households that survive primarily as sharecroppers and whose livelihood is at stake when land is acquired by projects. It is mainly Dalits and Janajatis who either do not have land or do not have access to very little land,¹⁰⁶ and are hence vulnerable to livelihood disruptions, especially those arising from large hydropower projects.

5.2.4 Voice and Agency

A corollary to the limited participation of women and excluded groups is the limitation of their decision-making powers. Two potential avenues currently in place for local communities to speak out and act are (i) public hearings, also commonly referred to as public consultations; and (ii) collective action, especially through the establishment of concern committees or user groups. The limited participation in public hearings or consultations, particularly of women and the excluded has already been mentioned in the previous section.

¹⁰⁴ Female project beneficiary, Dhaubadi WSS. Interview by Nabil Rawal and Rekha Shreesh. 28 December 2015.

¹⁰⁵ Project-affected female community leader, Middle Bhotekoshi Hydropower Project. Interview by Nabil Rawal and Prakriti Thami. 15 February 2015. Similar views were also expressed by women from project affected areas. Interviews with two project-affected women, Khimti Dhalkebar Transmission Line. Interview by Nabil Rawal and Prakriti Thami. 13 February 2015.

¹⁰⁶ Of the hill Dalits, 15% are landless, another 15% are semi-landless (with landholdings less than 0.2 acres), and 45% are marginal cultivators (Jagannath Adhikari. 2008. *Land Reform in Nepal: Problems and Prospects*. Kathmandu: ActionAid).

In the same manner, measures for providing space for women and excluded groups to voice their opinions and exercise their agency are also very limited. Notification of public hearings generally follows only the minimum requirement mandated by law,¹⁰⁷ that is, publication of a notice in a national daily newspaper 15 days in advance.¹⁰⁸ In some instances, newspaper notices are also supplemented by announcements on the bulletin boards of VDCs. There is no acknowledgment of the fact that newspapers, particularly national newspapers published out of Kathmandu, are out of reach of the vast majority of the population, or that VDC offices are not accessible equally to everyone within the VDC. There is an assumption that all can read the dominant language and that women, the poor, and excluded groups would access such information and be motivated to attend such meetings.

Even when consultations are held and people manage to attend them, there is the challenge of ensuring that all positions are heard. Numbers are crucial but the structure of these meetings, the way they are conducted, and the language used for delivery of information are also very important. Tanahu Hydropower Project held 12 consultations in affected VDCs and the district headquarters.¹⁰⁹ But, as often, such a gathering, with reportedly 200 individuals in at least one, does not allow people to speak up easily.¹¹⁰ As a result, even in sites where the consultation has been as extensive as in Tanahu Hydropower Project, misgivings remain. Said a respondent, “We got 8 lakhs (NRs800,000) for 8 ana (2738 sq ft). I do not know how the rate or the amount was determined. We did not try to inquire about it either.”¹¹¹

As for collective action, especially through the establishment of concern committees or user groups, the results are also mixed. Owing to their low social status, Dalits are generally not adequately represented in project activities and/or decision-making roles (Box 5.1).¹¹² But, caste or ethnic exclusion also appears to have decreased in favor of politicking. Whether these are the concern committees linked to big projects or user committees of community projects, the imperative for such committees to include individuals affiliated with different political parties means that these are not necessarily inclusive. Even something as large as the 151-member Kabeli Concern Group can be unrepresentative. The chairperson of Kabeli Concern Committee explained, “Most of the people are from political backgrounds. The same people are engaged in the social areas. There are no people who are working only in social area and not involved in politics.”¹¹³ In fact, it is only with political party affiliation that one can be part of such committees.¹¹⁴

¹⁰⁷ Rule 7 of the Environment Protection Rules, 1997 deals with the initial environmental examination and the environmental impact assessment, and outlines procedures for prudent notification and consultation.

¹⁰⁸ Ministry of Environment, Science and Technology. 2006. *A Handbook on Licensing and Environment Assessment Process for Hydropower Development in Nepal*. Kathmandu.

¹⁰⁹ NEA and Tanahu Hydropower Limited. 2012. *Resettlement and Indigenous Peoples Plan (Draft)*.

¹¹⁰ Project-affected woman, Tanahu Hydropower Project. Interview by Nabil Rawal and Rekha Shreesh. 30 December 2015.

¹¹¹ Project-affected woman 2, Tanahu Hydropower Project. Interview by Nabil Rawal and Rekha Shreesh. 30 December 2015.

¹¹² Female community leaders, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 31 October and 1 November 2014; and local politician and secretary, Middle Marshyangdi Coordination and Concern Committee, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 22 December 2014.

¹¹³ Bhawani Lingden, local politician and Chairperson, Kabeli Concern Committee, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 1 November 2014.

¹¹⁴ Gyanendra Sharma, Centre for Rural Technology, Nepal. Interview by Rekha Shreesh. 1 December 2015; Sher Bahadur Thapa, Chairperson, User Committee, Theuli Khola MHP. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 5 November 2015; and Hem Lal Paudel, operator, Theuli Khola MHP. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 3 November 2015.

Box 5.1: Concern Committees

Concern committees (*sarokar samiti* in Nepali), comprising representatives of the local population, act as interlocutors between the community and the power project.

Middle Marshyangdi Coordination and Concern Committee. The Middle Marshyangdi Coordination and Concern Committee (MMCCC) was formed in 2001–2002, consisting of representatives from the four directly affected village development committees (VDCs), local political leaders, district contractors, and the local business chamber. Even though the MMCCC secretary mentioned that there were two women in the 13-member committee, other MMCCC members do not recall having ever interacted with any women in MMCCC meetings. As one of the men in the MMCCC said, “Perhaps one was included but that would have been only for formality.”^a

Kabeli Concern Committee. The 151-member Kabeli Concern Group (KCG) was formed in 2011–2012, representing two VDCs from Panchthar District and two from Taplejung District. A 31-member Kabeli Concern Committee (KCC) was selected from the larger KCG during its first (and only) general assembly, with most of the members affiliated with major political parties. No one had a list of the 151 members in the KCG although everyone could remember the number. Neither could they be sure if the number of women in KCC was two or three. The KCC Chairperson said that there are two women in the KCC, but was not able to provide their names to the research team.

Dana–Kusma Transmission Line. A concern committee has also been formed for the Kusma end of the Dana–Kusma transmission line, but not all stakeholders have been included. Hence, while the committee includes people who will lose land, it also has local leaders who are not directly affected. On the other hand, a Dalit household standing to lose most its land was neither consulted nor invited to join the concern committee.^b A community leader confirmed that the committee was not representative, and the process of forming the committee was not transparent either.^c

^a Member of MMCCC, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabil Rawal. 24 December 2014.

^b Project-affected Dalit male, Dana–Kusma Transmission Line. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 7 November 2015.

^c Male community leader, Dana–Kusma Transmission Line. Interview by Deepak Thapa, Nabil Rawal and Rekha Shreesh. 7 November 2015.

Sources:

Krishna Adhikari (member, Middle Marshyangdi Coordination and Concern Committee), in discussion with the author, 24 December 2014.

Rajendra Bohara (secretary, Middle Marshyangdi Coordination and Concern Committee), in discussion with the author, 24 December 2014.

Bhawani Lingden (chair, Kabeli Concern Committee), in discussion with the author, 1 November 2014.

Gangadhar Paudel (community leader), in discussion with the author, 7 November 2015.

Rama Wagle (chair, Laliguras Women’s Group), in discussion with the author, 31 October 2014. Interview with Dalit male, 7 November 2015.

A good example of what happens because of politicking is in the Urja Upatyaka area, where there was fair representation from all caste and ethnic groups in the management committees in the earlier phase, reflecting the actual population distribution in the area, but later the positions were divided among political parties alone (Table 5.2 and Figure 5.5). Thus, while the first committee in the Urja Khola First MHP was quite inclusive, the committee active at the time of the study did not have a single Dalit, which also indicates the lack of political clout among Dalits.

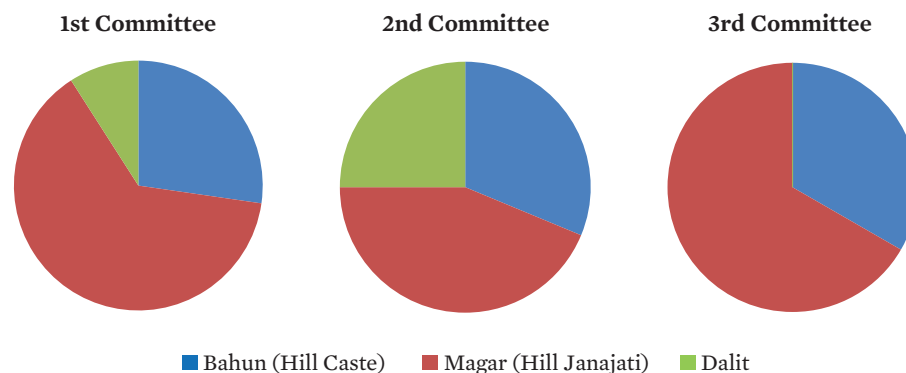
There are however significant initiatives under way to encourage participation of different social groups and women. One example of more intensive participation was seen in Ghoda Ghodi, where transformer subcommittees have been formed through public gatherings for all users receiving electricity from a transformer. Each committee had a mandatory 40% women with provisions for the inclusion of Dalits and Janajatis as well (footnote 76).

Table 5.2: Composition of Urja Khola Micro-Hydro Project Management Committees
(by gender)

	1st Committee	2nd Committee	3rd Committee
Total	11	16	13
Male	9	9	10
Female	2	7	3

Source: Study team.

Figure 5.5: Composition of Three Urja Khola Micro-Hydro Project Management Committees
(by caste or ethnicity)



Note: The social composition of the Urja Upatyaka is mixed with a strong presence of Magars, Bahuns, and Chhetris, and a substantial number of Dalits.

Source: Study team.

Gender Equality and Social Inclusion Impacts of Energy Programs and Projects

The extent to which policies and interventions in the energy sector have been able to bring about positive impacts on the lives of women, the poor, and the marginalized are yet to be fully examined. Using the fieldwork findings and the framework presented in Figure 2.1, this section examines the impacts of energy development on welfare, efficiency, empowerment, and gender relations, especially with regards to women and the socially excluded.

6.1 Welfare

The potential welfare gain for women and excluded groups from increased access to energy services is significant. Given their numerous responsibilities, especially around their households (Figure 6.1), the provision of modern forms of energy has the immediate effect of making life easier for women. Access to electricity helps women in their chores, especially by providing access to time- and energy-saving devices. In Urja Upatyaka, electricity led to the opening of mills and relieved women of their daily early morning duty of grinding cereal by hand. In Dhalkebar–Duhabi Transmission Line, women who would otherwise have spent hours at hand pumps to manage their households’ daily water needs are now using electric pumps to draw up well water.¹¹⁵

The safety aspect of electricity is also appreciated by women, particularly at night whether at home or elsewhere. “When you went out it used to be dark,” said a woman from Urja Upatyaka in Baglung. “Now, with electricity we have been able to go everywhere.”¹¹⁶ Use of other time- and energy-saving devices in the household becomes possible with electricity to the great benefit of women.

Besides saving time and reducing drudgery in their daily life, access to a variety of energy sources, especially electricity, has a direct benefit on women’s and children’s health. In Nepal, the main source of lighting used to be kerosene lamps, which not only had a negative impact on the health of household members but also made houses, especially those in vulnerable conditions, prone to fire accidents. It was no surprise that the most common response regarding the improvement in quality of life was the replacement of kerosene with electricity. Access to electricity has an immediate impact on school-going children by increasing the number of study hours, which is even more important in the case of girl children who have

¹¹⁵ Project-affected woman and project-affected man, Dhalkebar–Duhabi Transmission Line. Interview by Ang Sanu Lama and Mohan Bista. 9 and 10 February 2015.

¹¹⁶ Dalit woman, former office-bearer, Theuli Khola MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 4 November 2015.

Women have also benefited from the project since they are the ones that carry out the household chores. Now they have enough time to carry out their activities even when it is dark.

— Project beneficiary, Dhaubadi WSS

I think women have benefited the most from use of electricity. Since we started using electricity even night feels like day. It has become easier to carry out everyday household work, taking care of children.

—Female entrepreneur, Theuli Khola MHP

I think my son has benefited the most from electrification. He has been able to read. Earlier, we would use kerosene lamps. We had to go down south to get kerosene. In the hills, there is so much work, we don't get time to go and get it. We at times used corn husk for lighting. That is how we studied.

—Female project beneficiary, Dhaubadi WSS

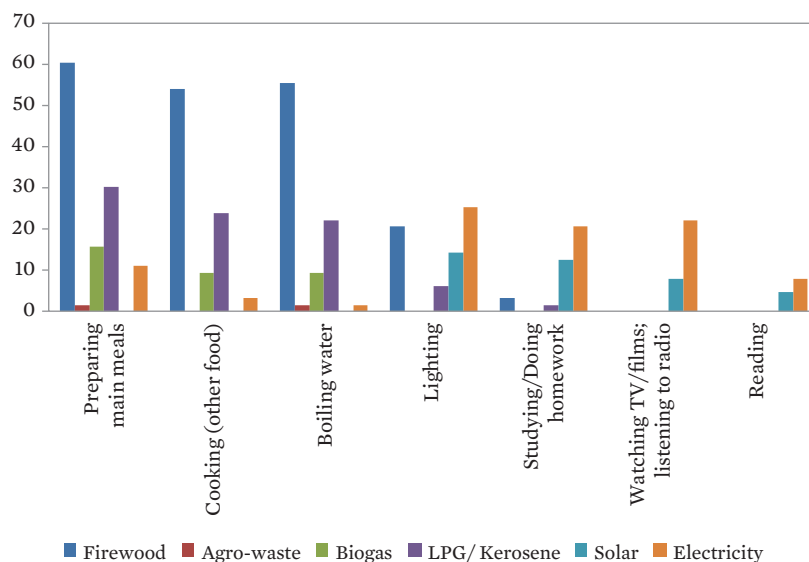
The use of kerosene for lighting is harmful to health for it emits smoke and students had to gather around kerosene light to study.

—Project beneficiary, Dhaubadi WSS

We have vegetable farms, and its income has enabled us to educate our children. In the earlier days, we had to carry water for the vegetables but now we use electric pumps to irrigate land.

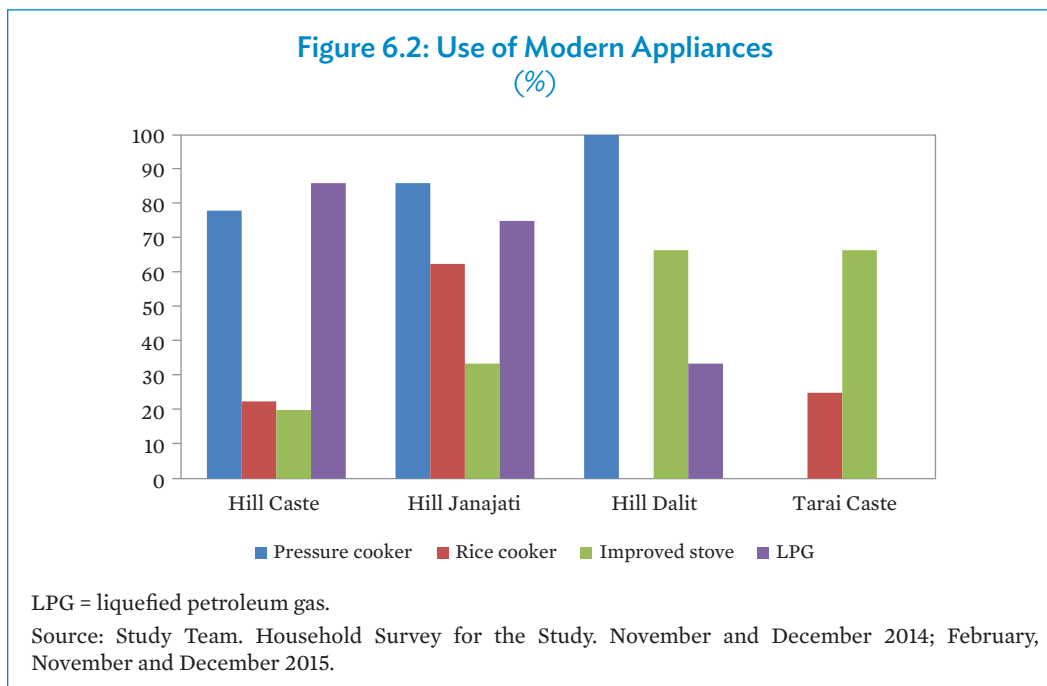
— FGD with women's group, Kailal

Figure 6.1: Source of Energy for Household Activities
(%)



LPG = liquefied petroleum gas.

Source: Study Team. Household Survey for the Study. November and December 2014; February, November and December 2015.



to lend a hand at home as well (footnote 21). Yet, the potential of electricity is not universally realized. Among households with access to electricity, electricity was mostly used for lighting and associated activities such as doing homework, watching TV, or reading.

The use of energy-saving, modern appliances also depends on social background (Figure 6.2). The household survey showed that hill caste and Janajati groups did quite well in terms of use of pressure cookers and LPGs. Tarai caste groups neither used pressure cookers nor LPGs although some did use rice cookers, probably due to their access to the national grid. All Dalit respondents said they had pressure cookers but no one used electric rice cookers. This disparity was underscored by the response from a Tarai Dalit woman who said that she has been using electricity for the past 7 or 8 years, but only for lighting. She still has to get up early in the morning and walk great distances to collect firewood.¹¹⁷ Evidently, the potential welfare gains from increased access to energy is notable but without careful design considerations, targeting, and support services, many in the margins are not always able to afford benefits from energy even when provided with access.

From a welfare perspective, another immediate benefit from power projects is employment during and after construction, which is always high on the agenda of the individuals and households affected by the project. It has also become standard practice for project documents to mention employment generation as one of the ways in which project impacts will be mitigated, particularly for those directly affected.¹¹⁸

¹¹⁷ Project-affected Dalit woman, Khimti-Dhalkebar Transmission Line. Interview by Nabin Rawal and Prakriti Thami. 8 February 2015.

¹¹⁸ For instance, the Dhalkebar-Duhabi Transmission Line IEE states categorically that “employment shall be provided to one member of each affected household during the construction phase.”

When the project people informed me that my land will be acquired, I also put forth my demand for employment when the project construction starts. The project people were positive.

—Project affected man, Tanahu Hydropower Project

Although my land has been acquired by the project, the project people have told us that they would give preference to affected people for employment in the project.

—Project affected male Dalit, Dana–Kusma Transmission Line

I think if the Kabeli project gets under way there will be employment opportunities. The project people stated that they would try their best to employ local people.

—Project affected man, Kabeli Hydropower Project

Demands are also made for all petty contracts to be steered toward the locals,¹¹⁹ and there was the perception among local population that the project personnel generally responded positively to such demands.¹²⁰ Employment opportunities for women, however, appear almost nonexistent due to well-entrenched gender roles mentioned even in project documents. The social impact assessment for Kabeli Hydropower Project states, “In general the employment opportunity will be more to men in comparison to women in development projects implemented so far in Nepal and this trend may continue in this project also.”¹²¹ It is no surprise that the Middle Marshyangdi Hydropower Project gave men training on project-related work as in scaffolding, plumbing, and masonry, whereas women were encouraged to take up activities such as beekeeping and herbal medicine.¹²² In Khimti–Dhalkebar Transmission Line and Dhalkebar–Duhabi Transmission Line, the few women involved were engaged to simply carry construction material.¹²³ Lack of systematic effort to provide women and socially excluded groups with employment opportunities, or their employment in stereotypical occupations, only reinforces existing gender norms and social hierarchies instead of contributing toward transforming gender and societal relations.

A major difficulty for women as professionals in energy projects is that the work sites are usually in remote locations where security concerns are high, said a GESI expert from Baglung. Likewise, there is also a tendency of women dropping out of projects when they get married.¹²⁴ (See also Appendix 3 on women in the engineering sector in Nepal.) Like women, Dalits face difficulties while working in rural areas where social norms regarding caste are still quite prevalent. In the experience of the GESI expert cited above, even if they are engineers and highly qualified, Dalits find it difficult to work in a village setting, especially while finding

¹¹⁹ Community leader, Dana–Kusma Transmission Line. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 9 November 2015.

¹²⁰ Project personnel, Tanahu Hydropower Project. Interview by Nabin Rawal and Rekha Shreesh. 30 December 2015.

¹²¹ Kabeli Energy Limited. 2013. *Social Assessment (SA) of Kabeli-A Hydroelectric Project*.

¹²² Community leaders and project-affected individuals, Middle Marshyangdi Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 23–24 December 2014.

¹²³ FGD with mixed group of project affected individuals, Tulsichandra, Khimti–Dhalkebar Transmission Line. Conducted by Nabin Rawal and Prakriti Thami. 10 February 2015; Project-affected woman, Khimti–Dhalkebar Transmission Line. Interview by Nabin Rawal and Prakriti Thami. 10 February 2015; and Project personnel, Dhalkebar–Duhabi Transmission Line. Interview by Nabin Rawal and Prakriti Thami. 11 February 2015.

¹²⁴ Shalik Ram Sharma, GESI officer, Dhaulagiri Community Resource Development Centre, Baglung. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 2 November 2015.

Even though women may be capable, there are many in the project who feel that women should not do this kind of work. Women should also get employment according to their capabilities and qualifications. If they are not capable, if capacity-enhancing programs are brought a year before they start construction there is nothing women cannot do.

—Local female politician, Middle Marshyangdi Hydropower Project

All those who have some technical skills are boys. The reason girls did not get involved in such work is at first we did not send them to trainings. It would have been easier if one or two had shown that it is possible. And the mind-set is that it is not considered girls work. I have not heard till now of girls doing small repair works.

—Former office-bearer, Theuli Khola MHP, Baglung

accommodation, dining, entering houses, or even simply drinking water. He recalled the case of a Dalit outreach expert who quit his job because he could not cope with the discrimination he faced from the community he had been assigned to (footnote 124).

Findings from the study also indicate that communities can gain in many other ways without deliberate planning. One example comes from the Marshyangdi Valley, which saw the growth of new markets with the increase in the number of hydropower projects being constructed, beginning with the Marshyangdi Hydropower Project in the 1980s (footnote 112, local politician). Another is the proliferation of cash crops in Kabeli Hydropower Project with the construction of the project access road,¹²⁵ which has also begun to benefit the marginalized Majhis, who have taken to tomato farming now that there is access to markets.¹²⁶

6.2 Efficiency

Another impact of access to energy is that it improves efficiency. For example, the low efficiency of biomass fuels is one of the reasons why women spend long hours cooking. Biomass also has health risks induced by smoke and emissions from traditional stoves, reduces women's capacity to undertake productive activities, and limits voice and agency of women. Thus, women quickly recognize the benefits of electricity and the direct impact it has on their lives. As the household survey shows, a lot of time is saved by women from activities such as processing (i.e., grinding) crops, and increasingly the source of energy for such time-intensive activities is grid electricity.

Even the small power plant of Kishedi Khola MHP (21 kilowatts) in Lamjung had been able to make a marked difference in the 5 years of its operation. There is an electric mill in one of the wards,¹²⁷ and the other three wards with electricity are in the process of setting up their own mills. Most importantly, the cost of grinding has become four times cheaper.¹²⁸

¹²⁵ Project-affected woman, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 1 November 2014.

¹²⁶ Schoolteacher, Kabeli Hydropower Project. Interview by Ang Sanu Lama and Nabin Rawal. 3 November 2014.

¹²⁷ Each VDC comprises nine wards.

¹²⁸ Bicha Bahadur Ghale and Fokta Bahadur Gurung, office-bearers, Kishedi Khola MHP. Interview by Ang Sanu Lama and Nabin Rawal. 27 December 2014.

Access to energy also means access to other low-cost but efficient energy technologies suitable for the rural poor such as improved biofuel cook stoves, low-cost solar pasteurizing units, ramp pumps for irrigation, pico- and micro-hydro technologies suitable for agroprocessing, and efficient manually operated water pumping and agroprocessing technologies, which not only benefit women but also the excluded groups.

Good quality light allows women greater flexibility and increases efficiency since they can choose to spread their tasks according to when it best fits their schedule. Improved efficiency also means much-needed leisure time for women and those whose daily sources of livelihoods are derived from drudgery.¹²⁹

However, there are social constraints and barriers as well as cultural biases that limit women's and excluded groups' access to education, training, and decision-making processes, and access to assets, credit, and support services. This could mean that they might not perceive the gains from technologies and services that would enhance their efficiency.

6.3 Empowerment and Gender Relations

In Ghoda Ghodi, women's involvement in different entrepreneurial activities was already leading to reduced dependence on their menfolk for money.¹³⁰ In Urja Upatyaka, Baglung, electricity has enabled women to set up knitting and tailoring enterprises, and in some cases women have even used electric machines,¹³¹ while others have also started electric mills, carpentry shops, and poultry farms.¹³²

However, such opportunities for empowerment and improved gender relations are realized when there are systematic efforts to empower communities and affect changes. In Kailali, given that the Ghoda Ghodi project was part of the Improving Gender-Inclusive Access to Clean and Renewable Energy project, the implementing partner, the Centre for Rural Technology, Nepal, provided training on poultry farming, pig rearing, mill operation, vegetable

Because of solar power, people are now engaged in raising broiler chicken. It takes light to raise broiler chicken because you have to maintain a certain temperature. Even if you don't have a lot to invest, you can raise a few at very low cost. Women are also engaged in it independent of men.

—Community leader, Kabeli Hydropower Project

There used to be poultry farming using kerosene lanterns but it was very expensive. Kerosene used to cost NRs50–NRs60 per liter. With NRs50 you can use electricity for a whole month. The economic status of people involved has improved.

—Former office-bearer, Urja Khola First MHP

¹²⁹ Female entrepreneur, Theuli Khola MHP. Interview by Rekha Shreesh. 4 November 2015.

¹³⁰ FGD with female users, Ghoda Ghodi. Conducted by Nabin Rawal and Rekha Shreesh. 24 December 2015.

¹³¹ FGD with project staff, Dhaulagiri Community Resource Development Centre, Baglung. Conducted by Deepak Thapa, Nabin Rawal and Rekha Shreesh. (10 November 2015).

¹³² Male user, Theuli Khola MHP. Interview by Deepak Thapa, Nabin Rawal and Rekha Shreesh. 3 November 2015.

farming, with a strong focus on involving women. “In fact, in all our training programs there was representation of 95% of women,” said an official (footnote 76). As a result of the training, women reported feeling empowered to become skilled entrepreneurs who can contribute to household income and well-being.

Besides economic empowerment, some energy projects have also contributed to social empowerment of women, the poor, and other marginalized groups. For instance, in the case of Dhaubadi, the project helped the community set up an agriculture cooperative. Each member household saves Rs50–Rs1,000 every month, building up a kitty from which loans are given out.¹³³ Members of the cooperative are also part of the Leasehold Forestry Programme, which leases government land to groups for income generation (footnote 133). However, to achieve such results, social mobilization is essential, and the initiative adopted by the Middle Bhotekoshi Hydropower Project is notable. Specifically, the project hired nine social mobilizers from the affected VDCs to act as a bridge between their VDCs and the project. And, for public hearings, the project made use of the different institutions active in the project area such as clubs, schools, mothers’ groups, women groups, community forestry groups, local leaders, and community leaders.

But, again, there are risks associated with some of these social mobilization and self-help group formation approaches further exacerbating inequities. To cite an example, in Theuli Khola MHP, the Rural Energy Development Programme grant was used to provide loans but only to cover the partial cost of starting an enterprise even though such an approach would have prevented poorer households from taking advantage of the opportunity.

A woman was carrying out vegetable farming in two *kattha* [676²m] of land. Now, with the introduction of electricity [and the possibility of using water pumps for irrigation] she has expanded her vegetable farm to 12 *kattha*. There are eight electric mills in operation out of which four are operated by women. Five households have also opened poultry farms.

—Office-bearer, Ghoda Ghodi Rural Community
Electricity Cooperative Organisation, Kailali

¹³³ Male project beneficiary, Dhaubadi WSS. Interview by Nabin Rawal and Rekha Shreesh. 28 December 2015.

7

Lessons Learned and the Way Forward

In conclusion, the study indicates that consideration of GESI issues in energy is crucial from an equity perspective and to ensure the long-term sustainability of projects. It is clear from the findings that the experience in the sector in Nepal is mixed, ranging from practices that border on indifference or even ignorance to ones that show promise on how interventions can prove beneficial to women, the poor, and socially excluded groups. This section attempts to highlight some of these elements with some occasional reference to international experiences, and ends with some recommendations on the way forward.

7.1 Good Practices and Lessons Learned

Legal and policy frameworks provide the enabling environment for addressing gender equality and social inclusion

Supportive policy and institutional frameworks are essential to incorporate GESI issues in the energy sector. Despite some limitations, existing policies that have positively incorporated GESI issues are the series of relatively recent rural energy policies, namely, the Rural Energy Policy, 2006, Renewable Energy Subsidy Policy, 2016, and the Rural Energy Subsidy Delivery Mechanism, 2013, which recognize that for socially excluded groups, access to energy can be made affordable only with significant subsidies and/or external support.

Equally important are political commitments and other national and regional processes that provide the scope for creating a conducive legal and social environment. Again, the constitutional provisions relating to GESI, the focus of development plans on inclusive development and growth, and the government's commitment toward universal energy access under SDG-7 provide a strong foundation required for enacting and implementing GESI-sensitive policies in the energy sector.

Institutional framework, including staff profile and organizational capacity, is important for improving gender equality and social inclusion outcomes

Addressing GESI issues requires systematic efforts, including awareness raising and capacity building of the organization and staff. The fact that AEPC adopted a GESI strategy as far back as 2008 indicates an early recognition of how one of its key objectives of raising the standard of life in Nepal's rural hinterland can be better achieved. Additional efforts are required within AEPC as well as other institutions engaged in the energy sector to ensure that there are dedicated staff or units with expertise on gender equality, social inclusion, and social development in general; that provisions are available for continued training and capacity building of staff; that resource material on GESI are readily available; that the organization promotes gender balance and representation from all groups, including at management

and field levels; and that policies are in place to create a GESI-sensitive work environment (e.g., affirmative action, antidiscrimination, policies against sexual harassment, etc.).

Mainstreaming of gender equality and social inclusion must be integrated throughout the project cycle

Mainstreaming of GESI would mean the systematic incorporation of such considerations into all levels of the project, namely, design, implementation, monitoring, and evaluation. While this kind of systematic integration throughout the project cycle has not been commonly adopted in the energy sector yet, the example of the Ghoda Ghodi community distribution scheme under the project provides one of the best examples of how to adopt a gender-inclusive approach to project design, implementation, monitoring, and reporting. Improving Gender Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal, and Sri Lanka, provides an opportunity for learning how to undertake a gender inclusive as well as socially sensitive approach, and possibly also a scale up and expansion looking at better inclusion of excluded social groups.

Risk mitigation plans (also known as safeguards instruments) serve as good entry points for addressing gender equality and social inclusion issues

Risk mitigation plans or safeguards instruments (e.g., resettlement action plan, VCDP, and GESI Action Plan) generally reflect a “do no harm” approach. However, experience from some of the projects analyzed (e.g., the Tanahu Hydropower Project, Kabeli Hydropower Project) indicates that these instruments or plans can be expanded into a comprehensive “do good” document, and thus contribute to improving gender and social inclusion outcomes in the energy sector. Understandably, using safeguards as an entry point is more feasible for projects financed by institutions such as ADB or the World Bank, which mandatorily require safeguards instruments or risk mitigation plans to be developed during project preparation. However, with the introduction of the new Land Acquisition, Rehabilitation and Resettlement Policy for Development Projects, 2015, government and private projects are also being asked to fulfil similar requirements, expanding the scope for more effective integration of GESI issues in development projects, including those in the energy sector.

Impacts of activities supporting gender equality and social inclusion are stronger when linked to utilizing benefits from energy projects

Project community outreach efforts generally focus on income generating activities such as vegetable farming or goat keeping, because that is generally the preference expressed by the target population. The experience in different project sites has shown only little lasting impact of these efforts. But, where energy projects are linked to initiatives that tap into the new source of energy (e.g., electricity-operated mills in Baglung’s Urja Upatyaka, use of electricity to irrigate cash crops in Ghoda Ghodi), the impact is magnified many times over.

Decentralized decision-making and community engagement are critical to the success of energy projects

Involvement of local communities in energy projects enhances access to energy, helps secure public acceptance, and improves impacts of energy services and technologies.¹³⁴ This was

¹³⁴ A. Yadoo and H. Cruickshank. 2010. The Value of Cooperatives in Rural Electrification. *Energy Policy*. 38.

particularly evident in Ghoda Ghodi and Dhaubadi where decisions taken by the community were central to ensure energy access for all.

Implementation has to be supported through social mobilization efforts

Linked to the benefits of having decentralized decision-making structures and greater community engagement is a robust community mobilization process. Ideally, community mobilization needs to have happened from an early phase and continued through project implementation (e.g., Middle Bhotekoshi Hydropower Project).

Monitoring and evaluation frameworks, including mechanisms for feedback, are important

To assess and address differences in the impact of energy-related interventions on women and men, as well as across different social groups, monitoring and evaluation mechanisms need to be robust. In the existing energy projects, GESI issues are generally not well incorporated in the main project document or in the design and monitoring framework. For instance, project benefits are tracked through supply-driven measures (e.g., MW of energy produced) instead of demand-driven approaches like use of energy. Over time, however, there has been a shift toward including GESI indicators in related documents such as the Vulnerable Community Development Plan (VCDP), Resettlement Plan, Indigenous Peoples Plan, and GESI Action Plan. But an effective framework for monitoring and evaluation also requires an equally robust mechanism for feedback and course correction. A good example of a project that includes gender-sensitive targets and indicators for monitoring GESI impacts is the Dana-Kusma Transmission Line under South Asia Subregional Economic Cooperation.

7.2 Way Forward

The discussions on good practices and lessons learned already point to some recommended areas for revisions, amendments, and course corrections. Thus, by way of conclusion, this subsection highlights action areas requiring attention in the short and medium terms to bring about transformative changes in the energy sector. These recommendations are presented in accordance with the different dimensions of inclusion or exclusion that formed the main framework for this study.

7.2.1 Improve Gender Equality and Social Inclusion Features in Legal, Policy, and Institutional Framework

- GESI considerations have to be built into macro policies relating to energy, hydropower power, tariff determination, water resources, hydropower royalty distribution, etc. To achieve this, a more comprehensive analysis of the existing policies from a GESI perspective needs to be undertaken, and, moving beyond the pro forma approach, energy sector objectives need to be aligned with national development goals that emphasize not only GESI but also pro-poor growth.
- Since some laws and policies, such as the Energy Act, the National Energy Strategy, the Energy Efficiency Strategy, and the Rural Energy Policy are due for adoption or amendment, there is an opportunity to incorporate GESI into energy sector plans and policies. Lessons from the rural energy policies would serve as good practices

to review and reflect on while introducing new laws and policies or amending existing ones. In particular, there is a need to clearly articulate GESI as one of central objectives of these policies, which would entail the following: (i) identify women, the poor, and the excluded groups as target groups; (ii) articulate concrete measures to enhance access, affordability, voice, agency, and participation of the excluded groups; (iii) emphasize the need for gender and social diversity of government institutions responsible for implementing the policies; and (iv) develop GESI-sensitive monitoring framework to track the outcome of the said policies.

- Develop GESI-friendly institutional capacity of implementing agencies responsible for policies and programming. This can be achieved by adopting a policy of positive discrimination during the hiring process and promotions, and by ensuring capacity development and orientation training of existing staff and other personnel. In an effort to strengthen the institutional infrastructure of the energy sector from a GESI perspective, there is a need to (i) develop a specific TOR for the GESI focal person, which includes reviewing and evaluating EIAs or IEEs; (ii) strengthen the capacity of the GESI focal person at MOEN; and (iii) assign senior-level GESI focal persons or establish GESI units at DOED and NEA (and not only in the ESSD as is the case of the latter) to assist with and guide the process of mainstreaming GESI in the energy sector with clearly laid out roles and responsibilities.
- Prepare user-friendly guidelines, tools, manuals, and training materials for GESI-sensitive planning, programming, and budgeting to support government institutions and other stakeholders. These initiatives are to be preceded by orienting potential partner organizations and individuals on how project interventions can be viewed through a GESI lens and how adopting a GESI strategy would help achieve broader development objectives such as economic growth, poverty reduction, and energy for all.
- While the Government of Nepal has already adopted gender-responsive budgeting as a tool for budgetary analysis, the MOEN's budgetary allocations do not show any of its undertakings directly dealing with gender and inclusion issues. It becomes essential that the MOEN allocate part of its budget to programs that directly benefit women and excluded groups (e.g., holding orientation trainings to central, regional, and local level staff on GESI; preparing and implementing pilot programs that can be used for scaling up; hiring experts to develop generic GESI-related monitoring and impact indicators; etc.). It will also be necessary to draft a GESI Action Plan to cover the energy sector, as has been done with other sectors, with appropriate costing carried out and budget allocations made accordingly.
- Convene national and international forums to exchange information and experiences on GESI issues in the energy sector. This would allow relevant stakeholders from other areas to share their insights and collectively build on innovative and emerging good practices. Since GESI in the energy sector has just begun to receive national and international attention, there is a considerable knowledge gap on what works and what does not.

7.2.2 Recognize Existing Gender and Social Conditions

- The Environment Protection Act, 1997, which has provisioned for an impact assessment of different interventions, does not specifically mention analysis of impacts specific to women and excluded groups. Recent social assessments collect disaggregated data based on gender and caste/ethnicity, but these seem to have

- been cursory exercises since such assessments are not a legal requirement. The DOED's guidelines on the incorporation of gender considerations in the EIA are so far optional. It takes just one more step to make such a guideline mandatory in EIAs and IEEs and to include an analysis of differential impacts based on social identity.
- Public hearings in Nepal's energy sector are gendered and elitist, where the active participants are almost always men, primarily from "upper caste" groups. Even when women and the excluded participate, they are marginal to the whole process. There is a need to develop project- and site-specific methodologies for public consultations. However, it should be made mandatory that announcements of public hearings be made locally through community radios, community groups, etc.; that both men and women from all social and economic groups are represented and heard during such meetings by checking the participation at the hearing against the basic demographics of the area; and that such consultations can be convened regularly and not just during project preparation.
 - Explore opportunities for collaborating with women's groups such as mothers' groups, Dalit organizations, district bodies of the Nepal Federation of Indigenous Nationalities, savings and credit groups, and women leaders in the community (e.g., social mobilizers, members of paralegal committees, and female community health volunteers) while conducting the baseline survey, social impact assessment, GESI audits, etc. Such collaboration can provide meaningful entry points for communicating with women and other excluded groups and can also help verify the results of such studies.

7.2.3 Incorporate and Improve Gender Equality and Social Inclusion Features in Projects

- Mainstream GESI issues in all aspects of project cycle, including project development objectives, outputs, activities, and monitoring frameworks. This would help ensure that GESI considerations are not relegated to risk mitigation measures only, and hence considered ancillary to the overall project objectives and goals.
- Include social mobilization activities geared toward information dissemination, awareness raising, and inclusive decision-making to enhance participation, voice, and agency of women, poor, and excluded groups at all phases of energy interventions.
- Set quotas for women and excluded groups in user groups and concern committees, especially in decision-making positions, so that there is effective representation and participation of all concerned. Setting quotas in these groups would also strengthen their access to project resources and benefits.
- Provision for financing schemes that can help poor and excluded groups afford energy access, services, and technologies. This would be essential to ensure that the current subsidy arrangements for the energy sector become more effective.
- Introduce energy solutions that reduce women's household responsibilities and provide them with opportunities for livelihood enhancement activities, community engagement, and leisure, among others.
- Design interventions that view women and excluded groups not only as beneficiaries of interventions but also as "change agents" by providing them with the necessary training to enable them to become producers and retailers of energy products.

7.2.4 Enhance Impacts of Energy Projects and Services

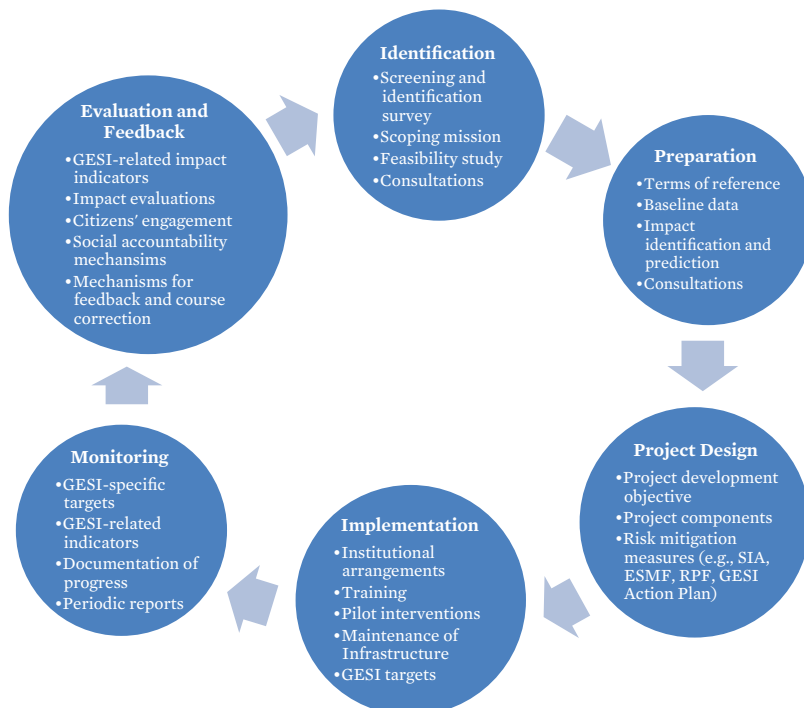
- Provide training to women and excluded groups on technical, business, and leadership development skills so that they can secure direct employment in energy projects as well as maximize benefits from improved access to energy services and technologies. The latter can be achieved through collaboration and partnerships with local governments, civil society groups, private sector, and financial institutions.
- Develop a regular monitoring and evaluation system that tracks disaggregated information for the entire project and for supporting measures such as Vulnerable Community Development Plan (VCDP), Resettlement Plan, Indigenous Peoples Plan, and GESI Action Plan. This would help monitor resource allocation and progress from a GESI perspective, and inform corrective action, if required. Developing a robust monitoring and evaluation framework—which covers the entire project cycle from initial project identification phase to project design, implementation, monitoring, and evaluation to identify the differential needs as well as concerns, needs, and barriers to access and participation—will improve project performance during implementation. Requirements to report on the same framework periodically will allow for course correction when necessary. This approach will also make it possible to derive lessons for future projects so that the goals, objectives, outcomes, and activities address the GESI goals of energy projects.
- Some backward and forward linkages with energy development can be explored to enhance GESI outcomes. For instance, in terms of backward linkages, employment opportunities during construction and market development, especially when large projects are under way, can be explored. In terms of forward linkages, regular skills training for project-related employment; support services that capitalize on prospects of electrification (e.g., income-earning opportunities through energy-based enterprises and livelihoods); and investments in community facilities (e.g., refrigerators in health centers, computers in school classrooms) would create an enabling environment to increase human development outcomes. While developing such strategies, it is important to recognize that communities are not homogeneous and that differences in terms of resources, capacity, ability, and needs should be accounted. For instance, any agro-farming intervention as a form of income generating activity (cash crops) would not work for Dalit women since they rarely have access to farmland.
- To further support the government's determination to provide universal energy access, building a broader evidence base is necessary. This is also to enrich the general understanding about different energy projects and energy delivery models. This will require supporting rigorous impact evaluations to examine how different energy projects work (or fail) in different contexts and how successful examples can be scaled up.

APPENDIX 1

Gender Equality and Social Inclusion in Project Cycle

For the integration or mainstreaming of a gender equality and social inclusion (GESI) perspective throughout the operational cycle (Figure A8.1), the entire project cycle needs to be attuned to an approach that leads to sensitivity to GESI concerns rather than incorporate some aspects only in some phases. A review of documents of the projects included in this study shows that some patterns are discernible albeit usually in the initial phases and the same amount of diligence is missing later on (Table A1.1). The better integration of GESI issues during these early stages appear to be due to requirements by national regulation as well as policies of funding agencies. Various types of impact mitigation plans are generally developed, and these do tend to incorporate gender and inclusion-related issues.

Figure A1.1: Project Operation Cycle for Gender Equality and Social Inclusion Mainstreaming



ESMF = Environmental and Social Management Framework, GESI = gender equality and social inclusion, RPF = Resettlement Policy Framework, SIA = social impact assessment.

Source: World Bank. 2012. *Steps to Strides: The Sustainable Development Network's Companion to the World Development Report 2012*. Washington, DC.

Table A1.1: Existing Projects and Gender Equality and Social Inclusion Considerations in Project Cycle

SN	Project Documents analyzed ^a	Project Identification ^b	Project Preparation ^c	Project Design ^d	Risk Mitigation ^e	Implementation ^f	Monitoring ^g	Evaluation and Feedback ^h
Hydropower Generation								
1	Dudhkoshi Hydropower Project EIA (1998)	Yes Feasibility study	NA	NA	NA	NA	NA	NA
2	Tanahu Hydropower Project PAM (2013), RIPP (draft 2012), GESI Action Plan (2013), EIA (2009)	Yes Consultations, feasibility study ⁱ	Yes Stakeholder consultations, ^j disaggregated data in RIPP, terms of reference	Yes ^k Expanded access to clean energy, rural electrification, community development program	Yes Resettlement Framework, RIPP, GESI Action Plan, Community Development Strategy	Yes Gender equity awareness consultations, training on informal cottage industry skills, microenterprise development training and financial support ^l	Yes GESI framework with GESI indicator and targets	NA
3	Kabeli Hydropower Project PAD (2014), SAP (2013) and Social Assessment (2011)	Yes Feasibility study, ^m Consultations, ⁿ screening ^o	Yes Consultations, ^p impact identification, ^q disaggregated data in social assessment	No	Partially RPF, SAP, Indigenous People and Vulnerable Community Development Plan	Yes Trainings, employment opportunities ^r	Partially ^s SAP monitoring framework	Partially Evidences of changes in implementation arrangement ^t
4	Middle Bhotekoshi Hydropower Project EIA (2013)	NA	Yes Public consultations, ^u impact identification, ^v disaggregated data in EIA	NA	Yes Implementation plan for adverse impact and mitigation measures (in EIA)	NA	NA	NA
5	Middle Marshyangdi Hydropower Project RAP (1999), RP (1998)	Yes Feasibility study ^w	Yes Consultations, ^x impact identification, ^y gender disaggregated data in RAP	NA	Yes RP	NA	NA	NA

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Table A1.1 continued

SN	Project Documents analyzed ^a	Project Identification ^b	Project Preparation ^c	Project Design ^d	Risk Mitigation ^e	Implementation ^f	Monitoring ^g	Evaluation and Feedback ^h
Transmission								
6	Dana-Kusma Transmission Line (SASEC Power System Expansion Project) PAM (2014), RIPP (2014)	Yes Stakeholder consultation, feasibility study ^z	Yes Stakeholder consultation, ^{aa} gender disaggregated data in RIPP, impact identification, ^{bb} TOR for social mobilizer and social development expert ^{cc}	Yes Improving inclusive electricity access ^{dd}	Yes Combined RIPP, GESI Action Plan	Yes GESI-based community participation and trainings with GESI target ^{ee}	Yes GESI-related monitoring indicators and targets ^{ff}	NA
7	Dhalkebar-Duhabi Transmission Line PAD (2011), RAP (2011), SIMF (2011)	Yes Feasibility study ^{gg}	Yes Public consultation, ^{hh} disaggregated data in RAP, impact identification ⁱⁱ	No	Yes SIMF, RAP, VCDP	NA	Partially ^{jj} Monitoring framework with gender-related indicator	NA
8	Khimti-Dhalkebar Transmission Line PAD (2003), RAP (2006), VCDP (2006), Updated VCDP (2014)	Yes Screening and ranking study ^{kk}	Partially ^{ll} Consultation, ^{mm} impact identification, ⁿⁿ disaggregated data in VCDP (for SPAF only)	Yes Develop Nepal's hydropower potential in an environmentally and socially sustainable manner, improve access of rural areas to electricity services	Partially ^{oo} SIA Framework, RAP, and VCDP	NA	Partially ^{pp}	NA

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Table A1.1 continued

SN	Project Documents analyzed ^a	Project Identification ^b	Project Preparation ^c	Project Design ^d	Risk Mitigation ^e	Implementation ^f	Monitoring ^g	Evaluation and Feedback ^h
9	Ghoda Ghodi Rural Community Electricity Cooperative (Improving Gender-Inclusive Access to Clean and Renewable Energy in Bhutan, Nepal and Sri Lanka)	NA	Yes Gender disaggregated data in baseline survey	Yes Increase poor rural women's access to affordable and reliable clean and renewable energy sources and technologies, gender review of energy, interventions on energy-based livelihood women	Yes Gender action plan	Yes Trainings, livelihood opportunities	Yes Project performance monitoring system with key gender performance indicators	Yes Conduct impact oriented project survey ⁹⁽ⁱ⁾

ADB = Asian Development Bank, ELA = environmental impact assessment, ESMF = Environmental and Social Management Framework, GAP = gender action plan, GESI = gender equality and social inclusion, NA = information not available, PAD = project appraisal document, PAM = Project Administration Manual, PDO = project development objective, RAP = Resettlement Action Plan, RIPP = Resettlement and Indigenous Peoples Plan, RPF = Resettlement Policy Framework, SAP = social action plan, SASEC = South Asia Subregional Economic Cooperation, SIA = social impact assessment, SIMF = Social Impact Management Framework, SPAF = severely project affected family, VCDP = Vulnerable Community Development Plan.

- Three of the study sites, Urja Upatyaka Mini-Grid, Kishedi Khola Micro Hydropower Project, and Dhaubadi Wind-Solar System, have been omitted from this analysis because of lack of documentation.
- Screening and identification survey, scoping mission, feasibility study, consultations.
- Terms of reference, baseline data, impact identification and prediction, consultations.
- PDO, project components.
- SIA, ESMF, RPF, GESI Action Plan, etc.
- Trainings, pilot interventions, maintenance of infrastructure, GESI targets.
- Documentation of progress, targets, GESI-related monitoring indicator/data.
- GESI-related impact indicator/results framework, impact evaluations, citizens engagement, social accountability, public audit, evidences of changes in project design and/or implementation arrangements.
- We do not have access to feasibility study or other documents from project identification stage, but based on the RIPP, it is assumed that it was done during this stage.

- j. “NEA/THL [Tanahu Hydropower Limited] and its contractors will be responsible for designing and implementing culturally acceptable and sensitive measures to manage and address significant community, health, safety, and labor issues, in consultation with locally affected peoples, and in accordance with national laws and ADB safeguard requirements.” PAM (2013). “During socioeconomic surveys and census and consultations, *jama’jati* populations in the project areas were directly consulted by the EA and consultants to check whether they claim any project-affected land or their own land on the land they cultivate without title as their ancestral domain.” RIPP (draft 2012).
- k. The project also includes the community development, rural electrification, and social development programs with special attention to vulnerable persons, contributing to poverty reduction in the project area. PAM (2013).
- l. GESI Action Plan (2013).
- m. The original feasibility study of the project was commissioned by the Government of Nepal and carried out in 1998 as part of the Medium Hydropower Study Project, which sought to identify viable projects with minimal negative impacts. The updated feasibility study and EIA were carried out by Kabeli Energy Limited during 2010–2011 and updated in 2013. PAD (2013).
- n. Kabeli Energy Limited commenced community-level consultations early in the project preparation and has strengthened its communications infrastructure as the project preparation advanced. PAD (2014).
- o. The Kabeli-A Hydroelectric Project was identified as one of the most promising projects in the range of 10 MW–300 MW based on technical, economic, environmental, and social screening and ranking exercises for 138 potential hydropower projects carried out in 1997. PAD (2014).
- p. During the scoping exercise, a series of public consultation meetings were carried out at the field and district levels to inform about the project features and its implementation; to collect the information about the project area; and to know the local population’s views, suggestions, and comments regarding the implementation of the project. Social Assessment (2011).
- q. The execution of Kabeli-A Hydroelectric Project will have an impact on four village development committees—Amarpur and Panchami of Panchthar District, and Thechambu and Nangkholyang of Taplejung District. Social Assessment (2011).
- r. The Vulnerable Community Development Plan includes agriculture support program, skills training, preferential employment, drinking water, health and sanitation programs, capacity building programs, women and indigenous community focused programs, and strategy for their participation. SAP (2013).
- s. SAP monitoring framework does not include clear GESI monitoring indicators. The execution of Kabeli-A Hydroelectric Project will have an impact on four village development committees—Amarpur and Panchami of Panchthar District, and Thechambu and Nangkholyang of Taplejung District. Social Assessment (2011). The Vulnerable Community Development Plan includes agriculture support program, skills training, preferential employment, drinking water, health and sanitation programs, capacity building programs, women and indigenous community focused programs, and strategy for their participation. SAP (2013).
- t. Hiring of independent firm or nongovernment organization for implementation of RAP due to poor performance of the Environment and Social Studies Department. Aide Memoire, Kabeli Transmission Project (January 2014).
- u. During the field study, the study team organized consultative meetings with the local people and local leaders in the nearby settlements of the headworks site, access road, and powerhouse site. EIA (2013).
- v. The property owners within the direct impact area were identified and categorized as the project affected families. EIA (2013).
- w. Upgraded feasibility study concentrated on relocation of Phaliya Sangu. RAP (1999).
- x. Group discussion at Phaliya Sangu, Udipur, and Bhoté Odar. RAP (1999).
- y. All the 43 families living in Phaliya Sangu settlement will be affected by loss of houses and land. Resettlement Plan (1998).
- z. A social survey was carried out based on feasibility study and preliminary design to assess the impacts on involuntary resettlement and indigenous peoples. PAM (2014).
- aa. The RIPP is based on preliminary engineering design/feasibility level design and has been prepared in due consultation with project stakeholders. Public consultations were carried out at various locations in the project area. Additionally, separate consultations were carried out among the women groups at various project locations. RIPP (2014).

- bb. The project will have impacts due to land acquisition and involuntary resettlement, which will primarily be economic displacements and will have limited impacts due to physical displacement. PAM (2014).
- cc. PAM (2014).
- dd. Project focus in line with ADB Country Partnership Strategy.
- ee. GESI Action Plan (2014).
- ff. The project has been designed to be classified as effective gender mainstreaming. It includes a gender and social inclusion action plan with integrated indicators and targets in the project design and monitoring framework. PAM (2014).
- gg. IL&FS as the lead developer of the project initiated and completed the detailed project reports (feasibility studies) of the Dhalkebar–Muzaffarpur line, including environmental and social assessments through POWERGRID. PAD (2011).
- hh. The SIA team carried out extensive consultations with local communities and governments to identify project-related impacts and possible mitigation, as well as recorded their expectations and recommendations for the project. PAD (2011).
- ii. The project will directly affect 133 households of seven districts of the project area. RAP (2011).
- jj. Except for one indicator on employment generation, there are no other clear GESI-related monitoring indicators or targets in PAD or RAP.
- kk. A screening and ranking study aimed at reducing project implementation risks by selecting hydroelectric schemes through a transparent and public process, in addition to application of techno-economic criteria. PAD (2003).
- ll. Project identifies impact to “vulnerable groups” but includes disaggregated data for “severely project affected families” only.
- mm. Consultation with relocatees was conducted in various stages, and the people are aware of impending challenges. RAP (2006)
- nn. The present abbreviated RAP study of the proposed project shows that 17 residential houses are found within 30-meter right of way, and thus need to be relocated to suitable sites. RAP (2006).
- oo. Gender action plan is not prepared.
- pp. Monitoring component is mentioned in RAP and VCDPs, but there is no clear monitoring framework.
- qq. Final impact survey is yet to be carried out.

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APPENDIX 2

Policy and Legal Framework

Most energy projects in Nepal have not taken into consideration gender equality and social inclusion (GESI) issues during project design and implementation. As the policy review below outlines, this is possibly because the principles of GESI have not been incorporated comprehensively into the policy to guide the rolling out of programs. The policy provisions that can provide the space for realizing gender sensitive and socially inclusive policies are discussed below.

Water Resources Act, 1992 and Water Resources Rules, 1993

The Water Resources Act, 1992 and the Water Resources Rules, 1993 are the umbrella laws and regulations governing water resource management in Nepal. The act declares that the ownership of water is vested in the state (and the same is true for other natural resources) (Article 3). Among others, this means that the constitutional provision regarding “right to property” would differ from this stipulation. While the said provision in the act does not mean that the state has “unfettered right to use water,” the state has the “right to control the use of water, sell water or levy fees in relation to water.”¹

Neither the act nor its rules explicitly mention gender or inclusion. However, there is some recognition of differential needs as well as existing inequities, at least in terms of initial analysis required while developing water resources. For example, while applying to obtain license for the use of water resources, issues such as social and economic effect of project, utilization of local labor, benefits to local people after the completion of the project, and training for locals in relation to construction and maintenance, are addressed (Article 17, Water Resources Rules). The priority order on the utilization of water resources places emphasis on water sources that are supportive of women’s reproductive and productive roles, such as drinking water, domestic usage, irrigation, agriculture (Article 7, Water Resources Act), thus reducing negative impacts on women and enhancing benefits. Likewise, there are provisions for the establishment of various local committees such as Water Users’ Association (Article 5, Water Resources Act), Consumers’ Association (Article 3, Water Resources Rules), and Water Resources Committee (Article 8, Water Resources Rules), although there is no recognition of the need to make these local institutions participatory and inclusive.

In terms of impacts and benefits, both laws explicitly mention that the public are the real beneficiary of water usage, and even though the state has rights over ownership of water resources, the interests of the public must be taken into consideration while developing and utilizing water resources (Preamble and Article 10, Water Resources Act). Additionally, while applying for license for utilization of water resources, the Water Resources Rules explicitly

¹ Water Aid Nepal. 2005. *Water Laws in Nepal: Laws Relating to Drinking Water, Sanitation, Irrigation, Hydropower and Water Pollution*. Kathmandu.

emphasize the number of beneficiaries as criteria for issuing license (Article 12, Article 17, Water Resources Rules), but no mention is made of the category of beneficiaries (e.g., poor, marginalized, women, etc.).

Electricity Act, 1992 and Electricity Regulation, 1993

The Electricity Act and the Electricity Regulation were enacted to govern the production, management, and distribution of electricity in Nepal. In this regard, they establish a system of licensing and set out the powers, functions, and duties of a license holder as well as the government. The act and the regulation are, however, largely silent on social issues, and instead focus primarily on issuance and regulation of licensee even though the process of generating, distributing, and providing electricity services has important social dimensions.

By requiring licensees to submit application that includes economic, technical, and environmental reports as well as information on the area where the electricity is to be distributed and the estimated number of consumers to benefit from it (Article 4 of the Electricity Act; and Articles 3, 6, and 12 of the Electricity Regulation), the act and the regulation provide some room for considering socioeconomic issues. Further, as Nepali producers of hydropower electricity of up to 1,000 kilowatts is exempt from obtaining a license—though different documents do need to be submitted to the Department of Electricity Development (Article 3, Electricity Regulation)—it could potentially mean that electricity generation and production is much more affordable to small-scale producers and, by that token, access to electricity services more plausible for rural communities.

But other than that, provisions relating to royalty (Article 11), assessment of electricity tariff and other charges (Article 17), interruption of electricity services (Articles 19 and 27), effects on the environment (Article 24 of the Electricity Act, and Articles 12 and 13 of the Electricity Regulation), and provisions relating to public use (Article 29) are matters that could potentially impact socioeconomic conditions and benefits of electricity. However, the act and the regulation provide very little recognition of the matter. For instance, Article 17 of the Electricity Act states, “while fixing electricity tariff and other charges. . . , the commission. . . may classify the types of consumer and fix the tariff accordingly.” In this regard, while the law says that electricity tariff and other charges may be fixed according to the type of consumer, it does not however define clearly the “types of consumers.”

Hydropower Development Policy, 2001

The rationale for the development of the hydropower policy is framed in the context that the “majority of people are still deprived of electrical energy,” and for the “maximum utilization of the available water sources,” to “tie-up electrification with economic activities,” and for the “development of rural economy,” all of which provide the basis for a gender-aware and socially inclusive hydropower policy. However, the policy indicates very little sensitivity to recognizing the differential needs of different population groups, including males and females, as well as limited measures for enhancing participation of different groups. The following provisions open possibilities to women and excluded groups to improve access to, affordability of, and benefits from hydropower development: (i) measures and strategies for extending hydropower services to the rural economy (Article 4.1); (ii) provisions for “appropriate benefits” at the local level (Article 5.14); (iii) utilization of Nepali labor, skills, means, and resources (Articles 5.20 and 6.8.3); (iv) 1% of the royalty from hydropower for

expanding rural electrification (Article 6.4.4); (v) technology transfer (Article 6.8.2); (vi) and creating awareness among consumers on the increased use of energy-conserving equipment and special exception on custom duties for such equipment (Article 6.10.5). But, in the absence of policy specifications on community engagement, provisions that would enhance voice and agency are lacking.

Community Electricity Distribution Bylaws, 2003

The Community Electricity Distribution Bylaws seek to “promote public participation for bringing effectiveness in the present distribution arrangement,” “encourage community management,” and “promote technical and managerial capability of rural community.” While these objectives are sensitive to supporting inclusive and equal benefits, specific measures for realizing these objectives have not been fully spelled out. For example, there are provisions for “community rural electrification fund” (Article 13), “tariff for bulk community customers,” (Article 28), and “application form for the operation of community electricity distribution service” (Article 7(a) and Schedule 1). These are important measures that could potentially lead to greater inclusion and access of rural communities to energy services, but the absence of specific requirements to (i) support gender and social inclusion, (ii) address the barriers that create the energy divide in the first place, or (iii) empower and provide agency to women and excluded groups to participate means that policy provisions contained in the bylaws fall short of the objectives stated.

Rural Energy Policy, 2006

The Rural Energy Policy is considered a flagship policy for the energy sector. The overall goal of this policy is to “contribute to rural poverty reduction and environmental conservation by ensuring access to clean, reliable and appropriate energy in the rural areas.” By stating its objective to “reduce dependency on traditional energy,” “increase employment and productivity,” and “increase living standards of the rural population,” there is an assumption that all people affected by the policy will benefit equally. Under the section on subsidy arrangement, the policy, recognizing clearly the existing societal inequities, mentions (i) classifying village development committees based on poverty levels, remoteness, and presence of Dalits and “backward caste and tribes” (Article 5.1) and (ii) identifying and providing “poor and backward families” with additional support for use of rural energy systems (Article 5.5). However, the barriers faced by women, the poor, and the excluded, and their differential needs, capacities, and usage are not given equal weightage.

The policy also emphasizes, though not quite clearly in most instances, the participation of women and the marginalized caste and ethnic groups. For example, Article 3.10 of the policy states that community management through social mobilization will be encouraged in activities of rural energy development. The need to (i) develop affordable energy resources (Article 3.4); (ii) improve access and choices, especially in relation to different energy technologies and services (Article 2.1, Article 3.17, Article 10.3); and (iii) enhance participation, voice, and agency of local communities, including by mobilizing women and socially excluded groups are also stressed (Article 3.10, Article 3.13, Article 4.1.9, Article 5.3, Article 5.4, Article 6.1.4, Article 10.1).

In terms of impacts, by focusing on improving access to energy in rural areas, the policy brings energy projects closer to local communities, thus providing space for addressing gender

and social inclusion issues more effectively. The emphasis on (i) increasing employment and human resource capacity (Article 2.2, Article 3.6); (ii) improving health of women and children (Section 1.1); (iii) enhancing economic activities (Article 2.3, Article 3.7, Article 3.9); (iv) providing for concessional loans (Article 4.1.2); and (v) empowering communities to manage energy projects as stated before clearly seeks to enhance impacts and benefits of rural energy development for local communities. However, because the policy does not explicitly talk about the barriers to participation or involvement of socially excluded or disadvantaged groups, some of the factors that could possibly limit the effectiveness of the policy in bringing about transformative changes in terms of GESI are the following: (i) the inability of poor households to pay for services; (ii) the constraints to provide labor for single women-headed households and the ultra-poor; (iii) the inequities that exist within a community; and (iv) the limited capacity of these groups to influence decisions made by users' committees and construction companies, or other issues in accessing benefits.

Renewable Energy Subsidy Delivery Mechanism, 2013

The Renewable Energy Subsidy Delivery Mechanism, 2013, which was formulated to support the Renewable Energy Delivery Policy, 2013, is slated for amendment with the introduction of the Renewable Energy Subsidy Policy, 2016. Provisions are mentioned for different social groups, but these groups are not clearly defined even though the terms “backward group,” “targeted group,” and “deprived group” are interspersed across the document. There is also very little, if any, ensured representation of these groups in various institutional mechanisms envisaged by the policy, such as “microenterprises development fund,” “service center,” “public institution,” “community institution,” “consumer group,” and “technical committee.” These would have been effective mechanisms for improving participation, voice, agency, and community empowerment. The only exception is the Rural Community Solar Water System (Article 4.2.2) that mentions that to install the solar water system, consumer groups have to be formed, and while forming such groups, special priority should be given to the “poor, single woman, victim of natural calamities, conflict-affected and endangered ethnic nationalities.”

To enhance impacts and benefits, the policy also includes provisions for additional subsidy to “target group” for electricity connection to their households, but what comprises the “target group” is not clearly defined. Despite the potential impact of subsidy mechanisms in enhancing benefits to poor and marginalized groups, the provisions have not been framed accordingly such as, for instance, in not clearly defining who or what a “backward group” is, or not having mandatory presence of women in the Central Renewable Energy Fund Committee, which is to “mobilize the subsidy amount to be available for the various renewable energy technologies and systems.”

The policy has given the mandate of forming different technical committees to evaluate projects based on technical, financial, and social criteria, and thereby approve subsidies (Article 8.4). The formation of technical committees is also mentioned, but there is no mention of any requirement regarding representation of women or excluded groups in such committees or availability of expertise in GESI issues. The criteria for approving subsidy are also vague in that “social aspect” is mentioned but not clearly defined. The only exception is the Solar Energy Evaluation Technical Committee, which is required to evaluate proposals for subsidies on the bases of “remoteness, majority of deprived people, number of service recipients, commitment of the concerned institution,” among others (Article 4.2.1.2).

Renewable Energy Subsidy Policy, 2016

In a context where the national grid has been unable to reach the poor segments of the population or large parts of the rural areas, and energy services are not equitably distributed across the country, the main objective of the Renewable Energy Subsidy Policy is to “reduce dependence on traditional and imported energy by increasing access to renewable energy for improving the livelihoods of people and create employment opportunities especially in rural areas” (Article 7). The continued barriers experienced by the “very poor households” in use of rural energy technologies have been identified as one of the reasons for introducing this new policy (Article 5). Some subsidy schemes, e.g., mini- and microhydropower, improved water mill, solar thermals, biogas plants, etc. are outlined, and clarify how they can play a role in energy access and technology uptake among women.

The policy has recognized and sought to address differential needs, societal inequities, and barriers to participation, including income-related barriers. Accordingly, it has provisioned for (i) reduction in up-front cost (Article 8.1); (ii) varying amounts of subsidies according to geographic regions (Article 10.2); (iii) additional subsidy for “targeted beneficiary groups” for mini/micro hydro projects (Article 11.1.3), solar mini-grids, (Article 11.2.4), biogas (Article 11.5.1.2), metallic improved cook stoves (Article 11.6.7), and wind energy (Article 11.7); and (iv) prioritization of projects and programs dedicated to ensuring access of targeted beneficiaries to energy services (Article 12.6).

Departing from earlier policies and laws, this policy (i) defines explicitly its “targeted beneficiary group” as “women-led households with dependent children, earthquake victims from earthquake affected districts, endangered indigenous community identified by [the Government of Nepal] and Dalit” (*Clarification* under Article 11.1.3); (ii) defines geographic locations in terms of remoteness (*Clarification* under Article 11.1.1); and (iii) recognizes that women’s access to renewable energy services needs to be encouraged for “reducing the drudgery of rural women thereby increasing their productive time and improving health and educational status of the households” (Article 9.3).

The policy designed to enhance benefits of rural energy technologies and services emphasizes welfare and efficiency, as stated above. However, the policy assumes that communities or households will be able to raise 30% from financial institutions and 30% by themselves (Article 10.2) besides the 40% of subsidy amount, not recognizing that women and excluded groups have limited access to credit and financial institutions, and that they might have difficulty contributing 20% of the total costs in kind or in cash. Further, the policy does not ensure representation in subject-wise committees, supervision and monitoring committee, or in the formation of users’ committee, which would have otherwise been important avenues for empowering the policy’s targeted beneficiary groups. Likewise, there is no provision to analyze projects from a GESI perspective in periodic and annual reviews or in impact evaluations of projects.

Other Laws and Policies

Besides the aforementioned laws and policies that relate directly to energy services, including generation and distribution, there are other laws and policies that govern the energy sector, including the Environment Protection Act/Rules, 1997; National Environment Impact Assessment Guidelines, 1993; Local Self-Governance Act, 1999; Land Acquisition Act, 1977;

and Land Acquisition, Rehabilitation and Resettlement Policy for Development Projects, 2015. However, these regulatory policies are also largely silent on gender and inclusion issues, and even in the instances that they do, they are not explicit. For instance, the Environment Protection Act, 1997 defines the environment as an “interaction and interrelationship among the components of natural, cultural and social systems, economic and human activities and their components” (Article 2(a)). While there is no explicit mention of women and other excluded groups, the interaction and interrelationship between different social systems, etc. could be taken to mean different population groups, including the GESI target groups. Likewise, the National Environmental Impact Assessment Guidelines, 1993² recognizes women as special interest group, but there is no explicit reference to other GESI target groups (Chapter 12, Section 48). The Local Self-Governance Act/Regulation, 1999 is perhaps one of the most sensitive policy instrument that (i) recognizes existing social inequalities (Article 28(k), Article 189(f), Article 201(1)(e), Article 234(1)); and (ii) seeks to enhance participation as well as voice and agency of local population (Article 35(2), Article 190(2)) while also ensuring maximum benefits to community members (Article 43(3)(b), Article 45(b), Article 47(d), Article 111(4)(b)(c), Article 113(b), Article 115(d), etc.). However, the extent to which local government institutions can exercise powers over other government institutions in matters relating to energy is not clear. Further, in the absence of a legal definition of GESI target groups, the Local Self-Governance Act also suffers from definitional issues concerning socially excluded groups—terms like “backward groups,” “helpless people,” “backward ethnic communities,” “women” to name a few are interspersed across the document but not clearly defined.

² The National Environmental Impact Assessment Guidelines, 1993 comprises the objectives, methods of screening projects requiring the level of environmental assessment (initial environmental examination or environmental impact assessment), scoping, impact identification and prediction, report review, monitoring and evaluation, and impact auditing. The guidelines also contain methods for ensuring public participation during the preparation of the environmental impact assessment report, and require that measures be proposed to mitigate negative impacts.

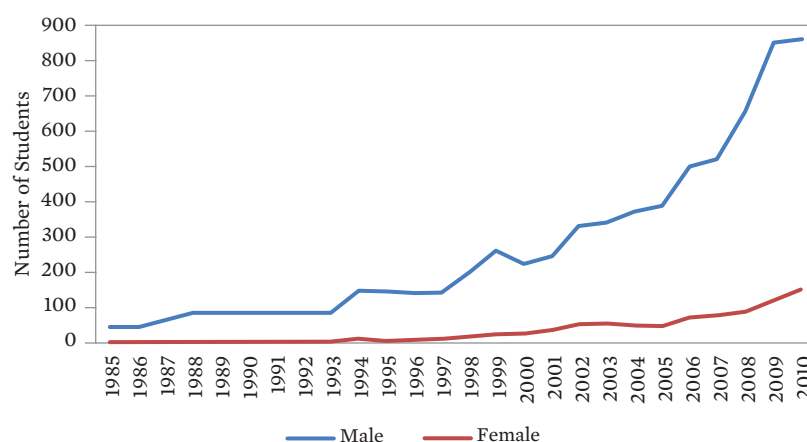
APPENDIX 3

Gender Equality and Social Inclusion in Engineering

The gender equality and social inclusion (GESI) analysis of the major energy sector institutions, Nepal Electricity Authority, and Alternative Energy Promotion Centre reveals that there is serious dearth of women staff, more so in the higher management levels. As institutions with a strong technical orientation, they lack women in the engineering profession.

According to the Nepal Engineering Council, in disciplines related to the energy sectors, such as civil, mechanical, and electrical engineering, women make up less than 10% of the total engineers in each discipline, with only 1.7% in mechanical engineering.¹ Another indication of male domination in the sector comes from the Nepal Engineers' Association. Of the 75 who served five of its executive councils in the past 10 years (2006–2016),² there were only 13 women (17%), without a single woman president or vice president and only on one occasion was a woman elected general secretary. However, in keeping with the general trend, all five executive councils had women as treasurer.

Figure A3.1: Number of Students in Civil Engineering (by gender)



Source: J. Liebrand. 2014. *Masculinities among Irrigation Engineers and Water Professionals in Nepal*. PhD dissertation, Wageningen University, Netherlands.

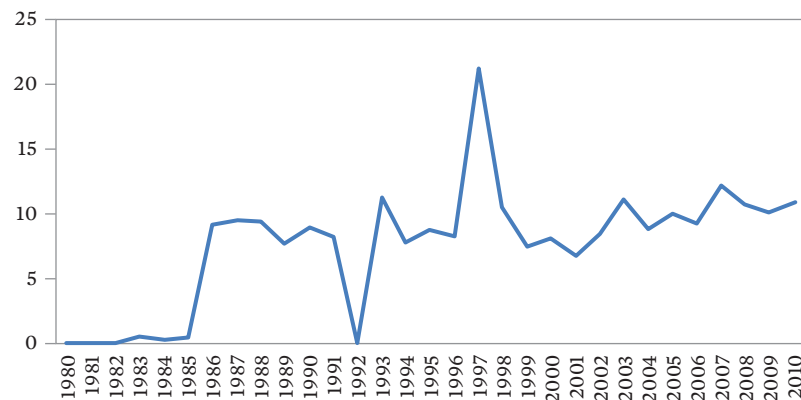
¹ All figures cited here are from J. Liebrand. 2014. *Masculinities among Irrigation Engineers and Water Professionals in Nepal*. PhD dissertation, Wageningen University, Netherlands. Liebrand has compiled data from the four campuses of the Institute of Engineering and seven other engineering colleges.

² Corresponding roughly to the years from 2062–2064 to 2070–2072 according to the Nepali calendar, i.e., from 2005–2007 to 2013–2015.

The roots of this gender bias lie in access to engineering education. Student enrollment in bachelor's level in civil engineering³ reveals that although there is steady increase in female student enrollment, especially after 2000, gender imbalance persists.

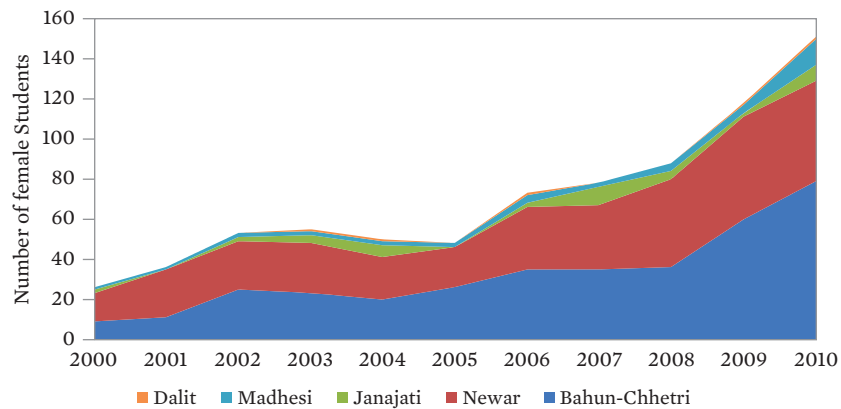
The situation is no different at the diploma level of 2 years' training, which provides the base for technicians in the field, with the share of women students crossing 20% only once in 31 years and generally hovering around 10%.

Figure A3.2: Number of Female Students in Civil Engineering



Source: J. Liebrand. 2014. *Masculinities among Irrigation Engineers and Water Professionals in Nepal*. PhD dissertation, Wageningen University, Netherlands.

Figure A3.3: Number of Female Students in Civil Engineering (by caste and ethnicity)



Source: J. Liebrand. 2014. *Masculinities among Irrigation Engineers and Water Professionals in Nepal*. PhD dissertation, Wageningen University, Netherlands.

³ Data from 2000–2010 also include those studying agricultural engineering, which is about 20 students per year.

The intersection between gender, caste, and ethnicity among female students additionally mirrors divisions that persist in Nepali society. It is mostly women from upper caste, urban Bahun-Chhetri and Newar groups who have accessed engineering education.

Why Are There So Few “Women Engineers”?

In Nepal, both engineering education and professional organizations appear to connote masculine institutions. Essentially there seem to be institutional and sociocultural factors that serve as barriers or deterrents for women entering engineering profession. The sector seems to be (re)producing a form of social exclusion, creating a space which inhibits professional growth of women and in the sector. Along with access to academic and professional institutions, participation in “informal milieu” of these institutions is equally important,⁴ where a process of knowledge production occurs through “interactions among peers, and between student and supervisor.” Unfortunately, informal milieu in these institutions in Nepal reflects the “cultural norms” and “social stereotypes” that exist in the society. These institutions do not provide equal treatment. Both men and women have to struggle in their early years, but there is “extra layer of work” for women.⁵

The low number of female engineering students heightens their invisibility, and hence requires specific courage to adapt and perform to the standards of the profession. Despite the extra effort women put in, more often than not, they are more visible as women than as engineers. At the same time, they are also expected to conform to their femininity and being a “good” woman. In negotiating her way into engineering profession, a woman could potentially be putting her social reputation at risk as well.

Women face additional challenge within the family sphere. For example, “fieldwork” exists as one of the biggest taboo for women. And this creates a major problem for junior “lady engineers” as fieldwork essentially provides the basic foundation for their career path. Moreover, educated women in Nepal seem to decline fieldwork.⁶ This suggests that “women themselves and their families” who regard it as “unsuitable” and “risky” could have contributed to a gendered construction of engineering profession.

Caste and Ethnic Groups

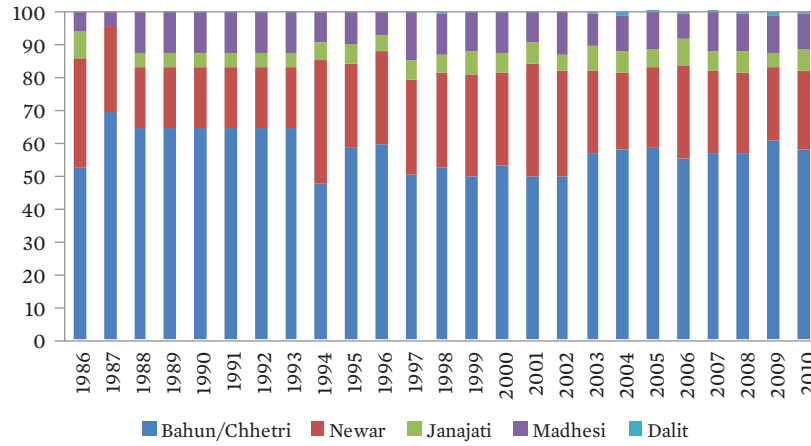
Although men from the marginalized groups do not face the same issues as women, they are also grossly underrepresented in the engineering profession. This is particularly acute in the case of Dalits, who do not exceed the 1% mark during 1986–2010.

⁴ N. Gupta. 2007. Indian Women in Doctoral Education in Science and Engineering: A Study of Informal Milieu at the Reputed Indian Institutes of Technology. *Science, Technology and Human Values*. 32 (5). pp. 507–533

⁵ W. Faulkner. 2006. *Genders in/of engineering*. University of Edinburgh Economic and Social Research Council.

⁶ M. Adhikary. 1995. *Women Graduates in Agriculture and Forestry Development in Nepal*. Research report series no. 33. Policy Analysis in Agriculture and Related Resource Management. Kathmandu: Winrock International.

Figure A3.4: Caste or Ethnic Breakdown of Students in Civil Engineering (%)



Source: J. Liebrand. 2014. *Masculinities among Irrigation Engineers and Water Professionals in Nepal*. PhD dissertation, Wageningen University, Netherlands.

Gender Equality and Social Inclusion Assessment of the Energy Sector *Enhancing Social Sustainability of Energy Development in Nepal*

In Nepal, deeply embedded structural conditions determined by gender, caste or ethnicity, religion, language, and even geography have made access to and benefits from energy resources highly uneven. Women, the poor, and excluded groups experience energy poverty more severely. To address this imbalance, the government and other stakeholders have introduced measures to achieve greater gender equality and social inclusion. This study is an attempt to understand the factors affecting the outcomes and extent to which the initiatives have fostered gender equality and social inclusion. The study recommends measures to facilitate the distributive impact of energy sector development if Nepal is to meet its target of ensuring energy access to all.

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