GREEN AND INCLUSIVE ENERGY (GIE) PROGRAMME IN NEPAL

LESSONS LEARNT DOCUMENT
ACKNOWLEDGEMENT

I first would like to extend my sincere gratitude to the Centre for Rural Technology, Nepal (CRT/N) for granting this opportunity to document lessons learnt on the very important subject matter in improving access to green and inclusive energy (GIE) services. I am also very thankful to the entire team of CRT/N for their invaluable guidance, constructive comments and feedback while preparing this document.

I also would like to offer my sincere appreciation to the GIE Brand Ambassador/ Former Minister Mr. Ganesh Shah, Senior Celebrity Icon Ms. Laxmi Giri and the Deputy Executive Director of Alternative Energy Promotion Centre (AEPC) Mr. Nawa Raj Dhakal for their kindness to express their invaluable thoughts very openly. My sincere thanks also goes to all thematic leaders of the partner organizations who shared their learning and practical experiences while implementing the GIE programme in the changing context of state federalization, climate change and male out-migration.

I envisage this document to be valuable reference material for many stakeholders including the governments at all levels, development partners, private sectors, media, and civil society organizations to understand the key energy issues, and to orient their programs towards gender responsive for bringing transformative changes in the livelihoods of the rural people.

Asha Ram Gurung
On behalf of GrowInnova
This document on Lessons Learned from the Green and Inclusive Energy (GIE) Programme in Nepal project is aimed to capture the experience in course of its implementation. The project was implemented in six districts of Nepal during the period 2016-2020. It was led by Centre for Rural Technology, Nepal (CRT/N) and executed in partnership through a consortium represented by organizations from selected on the basis of different thematic areas but crucial for the sector. The study attempted to assess the key strengths and challenges of the programme, gaps in activities, and implementation strategies in enhancing access to energy services. The study has also attempted to assess the effectiveness of broad range of stakeholders’ participation, and conclude with recommendations for achieving desirable outcomes and long term goals for the future.

The assignment was conducted through document review, interview with partners, ambassador and celebrity icon and focus group discussion at the project site, however, the on-site focus group discussions were not possible due to the Corona crisis. The study was therefore limited to key informant interviews through Skype and telephone calls with the relevant stakeholders followed by literature review of the documents which included the Theory of Change (ToC), progress reports, outcome harvesting reports and research studies made available by consortium partners as well as those available in their respective webpages.

The consultant also conducted a consultative meeting with the thematic leaders of the project in CRT/N followed by a number of virtual meetings through Skype with other key stakeholders to deep dive into the project. Upon consultation, three different sets of checklists were developed and administered at different intervals.

Most importantly, the study has thoroughly reviewed all the specific outcomes harvested so far with a view to assess how they were achieved and whether the programme activities were executed as per the strategic need of the project. The review also included the research documents and policy briefs in selected six core areas which presented evidences for policy influencing and action.

The study selected a total of 17 key outcome harvests identified as successful interventions. They were then thoroughly assessed, analysed and interpreted as per their case specific implications on the effectiveness of the GIE programme. The key outcomes given below are the major ones that have demonstrated very positive effects in improving access to inclusive energy services:

» The development of course curricula on green and inclusive energy matters for school students;
» The advocacy agenda to feed into the "Energy White Paper" declared the period 2018-2028 as "Energy Decade" with a slogan 'Every House: Energy House';
» The revision of bylaws on "Renewable energy subsidy delivery mechanism 2013";
» Bringing customer oriented electricity bill and energy policy;
» Replacement of wrecked wooden electricity poles with the steel tubular ones;
» Mainstreaming GIE agendas in local government plans with the allocation of budget for clean cooking solutions and other energy programme;
» Declaration of smoke-free villages at Musikot and Chandrakot municipality in Gulmi district;

» Support in the dissemination of over 25,000 improved cook stoves in Sindhuli district alone, and

» The dissemination of inclusive energy related information to over 15 million people.

The four year programme has also some key lessons learnt and or good practices as given below:

» Working together in consortium instead of working in isolation for making the consortium efforts very strong,

» Mobilization of Female Community Health Volunteers (FCHVs) for educating women household heads on clean cooking solutions which proved to be effective throughout the project period;

» Engaging with media to disseminate the message of GIE programme to a larger mass;

» Sensitization of local government on GIE and the need of GESI integration to local planning with necessary budget.

From the assessment, most of the programme interventions focused more on software aspects such as raising awareness, advocacy, capacity building, campaigning and research. So, most partners expressed their concern for more hardware related activities too in future which could have a balanced fund for both the software and hardware parts mainly for demonstrating visible change in enhancing access to inclusive energy services particularly for the poor and disadvantaged groups of people.

In a nutshell, the study recommends for more collaborative partnership with a view to ensuring more supports in hardware parts could be a key to success in the future. Further, there is a need to guide the local governments about where the resources are available and how they can collaborate with others for more technical and fiscal support for inclusive green energy programs. Most importantly, this programme has generated evidences for actions which are valuable for future programs. Care however must be given to fulfil the knowledge and implementation gaps where possible. Finally, value for money is also an important aspect which must be taken into account.
# TABLE OF CONTENTS

Acknowledgements
Executive Summary
Abbreviations

## BACKGROUND

### INTRODUCTION

The Programme Approach
Theory of Change

## STUDY AIM AND OBJECTIVES

## STUDY METHODS

## KEY FINDINGS ON OUTCOME ACHIEVEMENTS

1. Community sensitization and capacity building
   1.1 Enabling access to improved cook stoves (ICS) and women empowerment
   1.2 Mainstreaming GIE agendas in the local government plan and policy
   1.3 Integration of clean cooking solutions in local government plan
   1.4 Development of course curricula on gender and energy matters in schools
   1.5 Building youth capacity on gender and energy studies

2. Awareness creation at grass-root level
   2.1 Mobilizing FCHVs to raise awareness on clean cooking solutions
   2.2 Engaging media in awareness creation
   2.3 Media tools for awareness creation on GIE initiatives

3. Lobby and advocacy
   3.1 New tariff revised for increasing electricity access to remote places
   3.2 Wooden electricity poles replaced to prevent from the risk of danger
   3.3 Renewable Energy Subsidy Delivery Mechanism 2013 revisited
   3.4 Development of White Paper on Energy Strategy
   3.5 Draft document on renewable energy for 15th Five Year Plan
   3.6 Lobbying for tax provisions on renewable energy technologies (RETs)
   3.7 Enabling access to finance for women entrepreneurship
   3.8 Integrating GESI in energy policies

4. Institutionalization with good governance
   4.1 Representation of women by at least 33 percent made compulsory
   4.2 Institutionalization of Community Rural Electrification Entities (CREEs)
5. Building evidence for policy influencing
   5.1 Financing for green and inclusive energy in Nepal 20
   5.2 Role of good governance for green and inclusive energy access in Nepal 21
   5.3 Effective communication tools to promote energy access in Nepal 21
   5.4 Capacity assessment of local governments for effective energy planning 22
   5.5 Effectiveness of subsidy to increase energy access in Nepal 22
   5.6 Energizing agriculture in Nepal 23

OVERALL OBSERVATIONS 24
   1. Key programme strengths 24
   2. Major successes and changes 25
   3. Key implementation gaps 26
   4. Challenges and unintended consequences 26
   5. Lessons learnt and or good practices 27

CONCLUSION 28

SUGGESTIONS 30

RECOMMENDATIONS 30

REFERENCES 32

ANNEXES 33
   Annex 1: Checklists for assessing GIE lessons learned with consortium partners 33
   Annex 2: Checklists for interview with Ambassador and Celebrity Icon 33
   Annex 3: Checklists for interview with AEPC representative 34
   Annex 4: Research documents submitted by graduates under the GIE programme 34
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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</thead>
<tbody>
<tr>
<td>AEPC</td>
<td>Alternative Energy Promotion Centre</td>
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<td>BS</td>
<td>Bikram Sambat (Nepali year)</td>
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<td>CFUG</td>
<td>Community Forest User Group</td>
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<td>CREE</td>
<td>Community Rural Electrification Entity</td>
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<td>CRT/N</td>
<td>Centre for Rural Technology, Nepal</td>
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<td>CSO</td>
<td>Civil Society Organization</td>
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<td>DCC</td>
<td>District Coordination Committee</td>
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<td>DERCV</td>
<td>District Education Resource Centre</td>
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<td>DoHS</td>
<td>Department of Health Services</td>
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<td>ETFC</td>
<td>Electricity Tariff Fixation Committee</td>
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<td>FCHV</td>
<td>Female Community Health Volunteer</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FY</td>
<td>Fiscal year</td>
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<td>GESI</td>
<td>Gender Equality and Social Inclusion</td>
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<td>GEWNet</td>
<td>Gender Energy and Water Network</td>
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<td>GIE</td>
<td>Gender and Inclusive Energy</td>
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<td>H/IAP</td>
<td>Household or indoor Air Pollution</td>
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<td>IAPHF</td>
<td>Indoor Air Pollution and Health Forum</td>
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<td>ICS</td>
<td>Improved Cook Stove</td>
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<td>IDCRET</td>
<td>International Conference for Development in Rural Energy Technology</td>
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<td>IIED</td>
<td>International Institute for Environment and Development</td>
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<td>IOE</td>
<td>Institute of Medicine</td>
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<td>KII</td>
<td>Key Informant Interview</td>
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<td>KU</td>
<td>Kathmandu University</td>
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<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MFI</td>
<td>Micro Finance Institution</td>
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<td>MHP</td>
<td>Micro Hydropower Plants</td>
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<td>MOEWRI</td>
<td>Ministry of Energy, Water Resources and Irrigation</td>
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<td>NACEUN</td>
<td>National Association of Community Electricity Users Nepal</td>
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<td>NCDP</td>
<td>National Curriculum Development Board</td>
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<td>NAST</td>
<td>Nepal Academy of Science and Technology</td>
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<td>NEA</td>
<td>Nepal Electricity Authority</td>
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<td>NEFEJ</td>
<td>Nepal Forum of Environmental Journalists</td>
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<td>NAMI</td>
<td>Naya Aayam Multi-disciplinary Institute</td>
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<td>NPC</td>
<td>National Planning Commission</td>
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<td>NPR</td>
<td>Nepalese Rupee (currency)</td>
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<td>PAN</td>
<td>Practical Action Nepal</td>
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<td>PSA</td>
<td>Public Service Announcement</td>
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<td>RECON</td>
<td>Renewable Energy Confederation of Nepal</td>
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<td>RET</td>
<td>Renewable Energy Technology</td>
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<td>RM</td>
<td>Rural Municipality</td>
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<td>SDC</td>
<td>Sustainable Development Goal</td>
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<td>SE4All</td>
<td>Sustainable Energy for All</td>
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<tr>
<td>SLREC</td>
<td>South Lalitpur Rural Electrification Cooperative</td>
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<td>SWC</td>
<td>Social Welfare Council</td>
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<td>ToC</td>
<td>Theory of Change</td>
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<td>ToT</td>
<td>Training of Trainers</td>
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<td>TU</td>
<td>Tribhuvan University</td>
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<td>UN</td>
<td>United Nations</td>
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<td>WEE</td>
<td>Women Economic Empowerment</td>
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<td>WFTO</td>
<td>World Trade Fair Organization</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Energy is a basic requirement for any nation in today's world as it serves the needs of its growing population for enabling socio-economic development and ultimately reducing poverty. Energy makes a vital contribution to people's quality of life, to society and to human progress (Energy Matters, 2018). It is very essential to drive economies and to sustain societies. So, increasing energy access to the people is a key to sustainable development.

The overall socio-economic development of any nation is limited by the lack of energy services for lighting, cooking and heating, mechanization in agriculture, manufacturing, transportation and communications etc. The disproportionate effect of which largely hampers the progress of women, girls and the most disadvantaged. It is estimated that 70 percent women of 1.2 billion people who lack access to electricity are living under less than one dollar a day (Winther T. et. al., 2017). Energy is therefore perceived as a key variable to promoting women's empowerment and to achieving gender equality (Panjwani A, 2005).

The United Nations (UN) believes that sustainable energy intervention promotes an opportunity to transform lives and economies while safeguarding the planet. So, it has launched its Sustainable Energy for All initiative and declared 2014–2024 the Sustainable Energy for All Decade (SE4All 2016). World Bank (2016) further suggests that clean cooking and heating are pivotal to achieving desired goals in public health, gender equality, and climate-sensitive development. Exposure to indoor air pollution (IAP) from smoke emitted by inefficient cook stoves is the fourth greatest risk factor for premature death in the world (Lim et. al., 2012 cited in WB 2016). So, the adoption of clean cooking and heating solutions can bring transformative change in health and economic benefits for the most vulnerable groups. Moreover, it can contribute to reducing ambient air pollution and climate change.

Several reports estimate that even today over 25 percent households in Nepal lack electricity access and only about 10 percent of rural households have access to improved cook
stoves. Electricity is mainly for lighting so not available even for cooking and heating in many rural parts of the country. So, over 80 percent population who live in rural areas (IFAD 2019) have to depend on fuel wood, agricultural residues and dung for cooking and heating. This is why most people are exposed to a variety of health hazards from smoke while cooking on inefficient biomass in poorly ventilated houses.

Energy access initiatives can have a greater impact on women’s empowerment. However, most women in Nepal are inhibited from accessing affordable energy services mainly because of their household responsibilities, traditional roles, and low socio-economic and political (household and community) status. So, increasing access to energy services for lighting, cooking, and other household and productive purposes can have dramatic effects on women’s lives and their journey for empowerment, which can also have positive impact to their families and communities.

**INTRODUCTION**

The Green and Inclusive Energy Programme hereinafter referred to as ‘GIE programme’ is one of the four themes amongst others - ‘Sustainable Diets 4 All’, ‘Decent Work for Women’, and ‘Open Contracting’ of the Citizen Agency Consortium Program which is an outcome of the partnership between UK-based organization - the International Institute for Environment and Development (IIED) and the Netherlands based humanitarian development organization – ENERGIA/Hivos International to support the transition towards the green and inclusive energy in target nations (viz. Guatemala, Indonesia, Myanmaar, Kenya, Malawi, Nepal, Nicaragua, Tanzania and Zimbabwe).

In Nepal the programme was implemented under the leadership of Centre for Rural Technology, Nepal (CRT/N) and in partnership with a consortium of key stakeholders which included Nepal Forum of Environmental Journalists (NEFEJ), Indoor Air Pollution and Health Forum (IAPHF), Renewable Energy Confederation of Nepal (RECON) and National Association of Community Electricity Users Nepal (NACEUN).

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1. CRT/N has been a pioneering organization with over 31 years of experience in development, promotion and dissemination of rural and renewable energy technologies in Nepal.
2. NEFEJ is a forum of environmental journalists and experts which has been raising public awareness on sustainable development, and lobbying and advocacy for environment-friendly public policies for the past 28 years.
3. With a network of over 45 member organizations, IAPHF has been active in indoor air pollution alleviation, health, environmental advocacy and awareness at local as well as policy level.
4. RECON is a common forum of associations of private sectors involved in supply and delivery of alternative energy systems and services in Nepal.
5. NACEUN is a national federation of Community
In addition, Practical Action Nepal\(^6\) was working as a research partner, and the programme was honoured by the policy support from Alternative Energy Promotion Centre (AEPC)\(^7\).

The GIE programme in Nepal was implemented in six districts: Gulmi, Palpa, Nawalpur, Sindhuli, Udaypur and Kavrepalanchowk districts (please visit map). The project was expected to support national Civil Society Organizations (CSOs) to advocate and lobby for policy changes, and programs to facilitate Nepal's transition towards green and inclusive energy systems. In other words, the programme focused on achieving specific lobby and advocacy goals aimed to contribute to the creation of an enabling policy environment for addressing the domestic and productive energy needs of the poor, women, and marginalized groups through decentralized renewable energy (RE) and clean cooking energy systems while mitigating climate change.

The programme also aimed at achieving the long term goals:

» to meet both domestic and productive energy needs of everyone,
» to mitigate climate change, and
» to ensure productive participation of women in politics, economic and social development.

» The core activities of this programme were to capacitating CSOs, energy entities, schools and the media; and engaging them in advocacy and lobby for inclusive access to energy for poverty reduction and empowering women.

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6 Practical Action Nepal is committed to poverty alleviation in Nepal by bringing sound technical knowledge and global experience to the field of appropriate technology development.

7 A government entity of its own under the Ministry of Energy, Water Resources and Irrigation (MoE-WRI).
The Programme Approach

The GIE programme in Nepal started its journey in October 2016 when the country was just in a state of restructuring as per the new constitution (2072 BS) declared on 20 September 2015. The then development discourse emphasized the need for green and clean energy systems for ensuring inclusive and sustainable development. The transition of a society demanded a strong partnership between the key stakeholders such as decision makers, private sectors, and other non-governmental entities such as organizations that are engaged in issues concerning women, consumer rights, climate, health, education and livelihood including agriculture. This programme was therefore designed to work in a strategic partnership model with key stakeholders from different sectors to strengthen lobby and advocacy capacity of CSOs to meaningfully participate and to voice their concerns in decision making (Table 1). The partnership however was made contingent with the ability of CSOs to come in the forefront and meaningfully participate in policy-making and implementation processes as advocates, actors, innovators, private sectors etc.

Table 1: List of Consortium Partner Organizations and their strategic areas

<table>
<thead>
<tr>
<th>Name of organizations</th>
<th>Strategic areas</th>
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<tbody>
<tr>
<td>Centre for Rural Technology, Nepal (CRT/N)</td>
<td>Lead CSOs</td>
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<tr>
<td>Renewable Energy Confederation of Nepal (RECON)</td>
<td>Private Sector</td>
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<tr>
<td>The National Association of Community Electricity Users-Nepal (NACEUN)</td>
<td>Consumers</td>
</tr>
<tr>
<td>Nepal Forum of Environmental Journalists (NEFEJ)</td>
<td>Media</td>
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<tr>
<td>Indoor Air Pollution and Health Forum (IAHPF)</td>
<td>Health</td>
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<tr>
<td>Gender Energy and Water Network (GEWNet) under CRT/N</td>
<td>Gender</td>
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<td>Practical Action Nepal (PA Nepal)</td>
<td>Research</td>
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Green and Inclusive Energy (GIE) Programme in Nepal: Lesson Learnt Document

which included NEFEJ, NACEUN, IAPHF, RECON and Practical Action Nepal in September 2016.

The Theory of Change (Please visit diagram) has also attempted to build on the theme “Energy: Empowering Women, Uplifting Lives” in order to strengthen CSOs and the programme itself contributing to SE4All initiative in Nepal. The GIE programme then planned the key activities in order to achieve the following outcomes given below:

- Assess capacity need and build the capacity of partner CSOs to effectively implement lobby and advocacy for green and inclusive energy in Nepal;
- Develop lobby and advocacy focus agendas;
- Develop strategies for the operationalization of the Theory of Change;
- Implement communication, lobby and advocacy, transparency and accountability strategies;
- Identify the focus of private sector engagement in the renewable energy sector;
- Identify research questions to support evidence-based policy influencing; and
- Report project outcomes using Outcome Harvesting and Learning Methodology.

**Expected Outcome**

- Stronger network in terms of improved buy-in and active participation of network members;
- Knowledge and skill enhancement of network members along with stronger interest to involve in gender and energy discussions;
- Contribute in various forms of the network members to create an enabling
policy environment to meet domestic and productive energy needs of the poor, women and marginalized groups through decentralized renewable energy and clean cooking energy solutions;

» Contribution to the SE4All initiatives of the country through awareness creation, capacity building, and advocacy; and

» Alliances with media groups established to support the dissemination of GIE stories/ issues to the target audience.

**STUDY AIM AND OBJECTIVES**

The main purpose of this lessons learned document was to capture the implementation experience of the programme partners, and to document the learning gained from project design to execution in a formal document for use by others in similar projects. So this study was mainly aimed to assess the key strengths and weaknesses of the designed activities that integrated gender and inclusive energy issues, and to identify key implementation gaps with reference to community awareness and sensitization, capacity building, policy lobby and advocacy towards increasing access to energy services. The study has also attempted to assess the effectiveness of a broad range of stakeholders’ participation, and to suggest or recommend ways to achieving desirable outcomes and long term goals of the accomplished project.

**STUDY METHODS**

The programme was designed to work in a "Strategic Partnership Model", and the "Theory of Change" which was employed to ultimately formulate lobby and advocacy strategies mainly to identify linkages between key actors and national contexts. Most importantly, the case specific outcomes harvested so far were thoroughly reviewed with a view to assess how they were achieved and whether the program activities were executed as per the strategic need of the project.

Consultative meetings with the thematic leaders of CRT/N followed by a number of virtual meetings through Skype with the GIE programme team helped deep drive into the project. Upon consultation, three different sets of checklists (Annex 1-3) were developed and administered at different time intervals. The questionnaires used for all consortium partners focused particularly on assessing key strengths, implementation gaps or challenges and learnings of the programme activities. The set of checklists used for brand ambassador and senior celebrity icon was aimed to explore their experiences and views on gender and inclusive energy issues. Since AEPC is a Government entity, another set of checklist was prepared to get an overall view of the government towards the programme. All the above change makers were also requested to provide their valuable suggestions and constructive feedback to further improvement in the programme.
The proposed study had initially planned to visit nearby programme sites and to conduct focus group discussions (FGD) which however was not possible due to the Corona crisis. The study was therefore limited to carrying out key informant interviews (KIIs) through Skype or telephone calls with the relevant stakeholders followed by literature review of the available project’s documents which included theory of change (ToC), programme brochure, progress reports, case studies and research papers made available from the consortium partners and through web search.

KEY FINDINGS ON OUTCOME ACHIEVEMENTS

This section highlights the key outcome achievements of the GIE programme implemented from 2016 to 2020 with the aim of contributing to the creation of an enabling policy environment to meet the domestic and productive energy needs of the poor, women, and marginalized groups through decentralized renewable energy and clean cooking energy solutions. These outcomes are case specific and therefore grouped under the strategic actions of the project: given as community sensitization and capacity building, awareness creation, advocacy and lobby, institutionalization with good governance, and generating evidence for policy influencing.

1. Community sensitization and capacity building

1.1 Enabling access to improved cook stoves (ICS) and women empowerment

In 2016, CRT/N in close coordination with NEFEJ, NACEUN, and a local Community Rural Electrification Entity (CREE) organized series of events at Katari Rural Municipality (RM) in Udaypur district as follows: a half day orientation program on 6 September for eight local government representatives; a half day interaction program on 10 September at District Coordination Committee (DCC) for 50 local CSOs including municipality officers and energy officers; follow-up of discussions on the commitments made by the municipality; mass awareness campaigns for the general public including women’s group and school children in selected areas which was also aired by three local FM radio stations for about a week, followed by a training programme for teachers and local media persons from five media.

Finally, Kataari urban municipality allocated NPR 2,000,000 (Two million rupees equivalent to Euro 16,950) budget for improved cook stoves and economic empowerment activities for the marginalized groups of people including leadership training for rural women representatives of the local government bodies. The municipality further committed to allocate certain amount of budget in the coming years too.
The available budget was aligned with the government’s campaign for clean cooking solutions and the movement for creating “indoor air pollution free villages”. The budget has also increased access to funds for organizing other specific skill based training to women. Most importantly, the commitment made by the local authority was a very good indication towards creating enabling environment for the GIE movement.

1.2 Mainstreaming GIE agendas in the local government plan and policy

The GIE team of CRT/N conducted an interaction meeting-cum-capacity building programme with the officials of Dudhauli Municipality on 29 December, 2018. The programme was participated by the local government officials including the representatives of private sectors, media, bank, micro-finance, small cottage industry, Community Forest Users Groups (CFUGs), Female Community Health Volunteers (FCHVs), Women Forums and other associations.

The team further conducted similar programme in Marin, Hariharpur-Gadhi and Phikkal municipalities on 21 June, 22 June and 24 June in 2019 respectively. During the programme, the team also got the opportunity doing necessary follow-up with the Chairperson (Mr. Ghan Shyam Raut) of Dudhauli Municipality on 23 June 2019 again just a day before when the municipality was launching a programme plan for FY 2020/21. The chairperson was very positive towards the information shared and committed to integrate gender and inclusive energy issues in the upcoming programme plan of his municipality. All these set a milestone for mainstreaming GIE agendas in the local government plans of the respective municipalities (Box 1).

Box 1: Mainstreaming GIE agendas in local government plans and policy

**Dudhauli Municipality** has planned for the establishment of Deputy-chair Women Entrepreneurship Fund to implement women empowerment programs for engaging women on tailoring, Dhaka hand-loom, mobile repairs, haircut, plumbing, computer repair and maintenance etc. The municipality has also planned for developing certain policies to mainstream women in development works, installation of solar street lamps within the municipality area, and ‘one house two trees’ to move towards green city.

**Marin Rural Municipality** has planned for the rural electrification in cooperation with NEA within three years of period; formulate policy to identify and explore all the possible alternative energy resources to displace the use of firewood, Solar Tuki and traditional kerosene lanterns through the installation of improved cook stoves at all wards as a campaign for smoke free municipality; trainings for women entrepreneurship ensuring 33 % women, and provision for 25 % discount to enterprises registered in the name of women.

**Phikkal Rural Municipality** has a concrete plan with a total budget of NPR 3,932,000 (equivalent to Euro 33,204) for the promotion of tourism and community forest enterprises (NPR 100,000): installation of ICS (NPR 20,000); solar energy technology (NPR 473,000); biogas installation (NPR 84,000); capacity building on gender based violence (GBV) for municipality committee members (NPR 50,000); and activities under GESI issues (NPR 3,025,000).
1.3 Integration of clean cooking solutions in local government plan

Several documents including the reports of WHO (2015) and Nepal Health Research Council (2016) reported that women and children are most vulnerable to indoor air pollution that caused through burning of solid biomass fuels (such as firewood, dung, kerosene etc.) while cooking amongst the low and middle income households in Nepal. Household air pollution poses a great threat to causing chronic lung diseases in adult and acute respiratory infection in children. So, the construction of open ventilated houses and the adoption of clean cooking solutions such as the use of ICS and renewable energy sources are very essential to prevent them from the risk of indoor air pollution.

IAPHF under the GIE programme, conducted two trainings on 1-2 September 2018 to 46 participants that included Chairperson, Secretary, CSO representatives, Health Officers, FCHVs, members of mother groups etc. at Resunga Municipality in Gulmi district. The trainings were about the use of clean cooking solutions against the adverse effect of indoor air pollution to human health based on the manual developed by IAPHF in 2015. After the training, IAPHF further worked together with the chairperson and secretary to integrate clean cooking solutions in local government plan (Box 2).

IAPHF further coordinated with the local government of Tansen municipality in Palpa district and conducted three trainings from 3-8 September in 2018 for 121 participants including 25 government officials. During the period, senior management of IAPHF had a series of consultation meetings with the senior level decision makers, and finally reached to an agreement (Box 2).

**Box 2: Integration of Clean cooking solutions into local government plans**

Resunga municipality in Gulmi district allocated budget equivalent to Euro 40,000 for the installation of ICS and other clean cooking solutions at Netakharka village-6 for the year 2019.

Tansen municipality of Palpa district finally reached to an agreement on 4 September 2018 to integrate clean cooking solutions into the municipality plan for the year 2019.

Similarly, Marin rural municipality of Sindhuli district committed to formulate a policy for promoting clean cooking solutions with the allocation of budget equivalent to Euro 10,000 for the year 2020.
In 2019, IAPHF had similar kind of coordination meetings from 21-24 June with the municipality officials of Marin Rural Municipality in Sindhuli district, and conducted an orientation workshop with the municipality officials including representatives from other local government offices, CSOs and health workers. Finally on 25 June 2019, under the Chairmanship of Mr. Pani Raj Bamjam and the Chief Administrative Officer, Mr. Tarjan Kumar Limbu, the municipality committed to formulate a policy for clean cooking solutions (Box 2).

### 1.4 Development of course curricula on gender and energy matters in schools

On 29 and 30 October in 2016, CRT/N and NACEUN jointly conducted 2-days training on gender and inclusive energy matters for the local teachers, students and representatives of the District Education Resource Centre (DERC) at Gothikel of Mahankal Rural Municipality (RM) in south Lalitpur. This area is a part of Kathmandu valley where the majority of people are still living in the dark since ages. Upon their cordial request, CRT/N and NACEUN further provided technical expertise and resource materials for the development of new course curricula to selected teachers that made up a curriculum development team who participated in a number of trainings that organized in between January to September 2017.

The DERC finally developed course curricula for the first time on gender and energy issues for school children from Grade 1 to 5 as per the norms of the National Curriculum Development Board (NCDB). The course curricula were then tested, revised and formatted again. Following this, a consultative meeting was held again to finalize the content of the course books on 23 September in 2017 with the NCDB, and published the course books in consultation with the government curriculum expert, school teachers, municipality, district resource center, and South Lalitpur Rural Electrification Cooperative (SLREC). The NCDB applauded this initiative and suggested for developing more course curricula for Grade 6 to 8 which are also under progress.

Finally in May 2019, the Chairperson (Mr Ram Chandra Dahal) of Mahankal RM publicly launched the course books on gender and energy matter that developed for Grade 1 to 5. During the launch program, the chairperson further committed to provide more support for printing and implementing them at all schools very effectively.

This development was made unexpectedly as the DERC got the authority to design and develop local context specific course study materials at
schools up to 20 percent of the total credits after the recent state re-structure. According to DERC and school teachers, these course books are now in use across 28 schools of Mahankal RM from the academic year 2019/20, which are important resource materials for imparting knowledge on gender and energy matters in South Lalitpur. Further, the streamlined knowledge are believed to be a guide to students in developing their prospective career on gender and energy sector.

1.5 Building youth capacity on gender and energy studies

There is a growing interest among graduate students in Nepal to further develop their career on gender, energy and environment studies. Though there is a gradual progress in the development of human resources on these sectors, the availability of workforce at senior level is yet scarce. So, encouraging graduates to carry out some research works on them can have double advantage while proliferating the essence of GIE programme and developing experienced workforce on these sectors. Further, their ground based research works could be useful in harnessing the attention of planners and policy makers.

GEWNet under the GIE programme in Nepal has been continuously engaged in networking and interacting on “Gender, Energy and Water” theme at different levels. It has included academicians as active members of the network and invited them regularly in the programme meetings. In early 2018, it was deemed strategic to support graduate students on these themes with the aim to contribute to the development of human resources and to generate evidence based research documents. This strategy was also expected to draw the interest of other students in the future.

During a meeting, Dr. Narayan Prasad Koju (R&D Head), Ms. Rajana Maharjan (Module Leader, Environment Science) and Mr. Amardeep Mandal (Senior Manager, Business Development, Marketing & Admission) from Naaya Aayam Multi-disciplinary Institute (NAMI) College; Prof. Dr. Bindu Pokharel from the Institute of Gender Studies, Tribhuvan University (TU) and Mr. Narahari Khatri from the Pulchowk Institute of Engineering (IOE) requested for engaging their students in the research works. They also suggested to conduct studies on the nexus between gender and other development sectors. Consequently, agreements were made on 1 September and 5 August in the year 2018 and 2019 respectively in between CRT/N and the academic institutions for research supports to six bachelor and master level students as given in Table 2.

GEWNet in coordination with the teachers then conducted an orientation programme for the selected students. During when they were briefed on what the GIE programme is all about and what the programme is expecting from the research. Accordingly, the students were offered...
research topics for their studies. The students were also guided for conducting their research works and to present their findings upon completion. The research documents submitted by students are given in Annex 3.

2. Awareness creation at grass-root level

2.1 Mobilizing FCHVs to raise awareness on clean cooking solutions

Female Community Health Volunteers (FCHVs) are the products of Department of Health Services (DoHS) of Nepal government’s FCHV programme which was initiated in 1988/1989 in 27 districts and expanded it to all districts thereafter. It is estimated that there are over 51,000 FCHVs in total who are recognized as role models in enhancing the health of women and children, and in reducing both the maternal and child mortality through community health programmes.

The continuous lobby and advocacy made with the Department of Health Services (DoHS) finally resulted to include “Indoor (household) air pollution (IAP) and clean cooking solutions” as additional topics in the training course curricula of FCHV programme. The department also accepted mobilizing FCHV to raise awareness on clean cooking solutions from October 2017. IAPHF was quite sure that FCHV can certainly value add on imparting access to knowledge and information on household health and clean cooking solutions in the programme districts.

Since then, IAPHF has been organizing Trainings of Trainers (ToT) to FCHVs including other health professionals for raising awareness on this important agenda. The trained FCHVs who further train others in the communities may include local leaders, members of mothers’ groups and youth clubs. Under this programme, IAPHF organized two ToT events on 22 and 24 July in 2019 to 40 FCHVs and 29 mothers’ group

<table>
<thead>
<tr>
<th>Academic institutions</th>
<th>Name of students</th>
<th>Degree</th>
<th>Year</th>
</tr>
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<tbody>
<tr>
<td>Naaya Aayam Multi-disciplinary Institute (NAMI) College</td>
<td>Mr. Nirdistha Amatya</td>
<td>MSc</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>Ms. Rashmita Raut</td>
<td>BSc</td>
<td>2019</td>
</tr>
<tr>
<td></td>
<td>Ms. Shanti Maya Tamang</td>
<td>BSc</td>
<td>2019</td>
</tr>
<tr>
<td>Tribhuvan University (TU)</td>
<td>Mr. Pragati Adhikari</td>
<td>MSc</td>
<td>2018</td>
</tr>
<tr>
<td>Institute of Engineering (IOE)</td>
<td>Ms. Kanchan Laxmi Rai</td>
<td>MSc</td>
<td>2018</td>
</tr>
<tr>
<td></td>
<td>Ms. Kabita Rai</td>
<td>BSc</td>
<td>2019</td>
</tr>
</tbody>
</table>

Participant from FCHV sensitization programme.
members of Binayee-Tribeni Rural Municipality-5 (Dhurkot) in Nawalpur district; the trained participants who further imparted their learning to 322 women of the same community through series of events (eight) that were organized from 28 July to 30 August in 2019.

2.2 Engaging media in awareness creation

According to a report of WEE-Nepal project, there has been a sale of about 15,000 ICS in Sindhuli district during 2016. Ms. Niru Shrestha who is the sole proprietor of a women-led energy enterprise in Sindhuli sold over 6,100 ICS alone. With increasing installation of ICS, there is a decrease in indoor air pollution contributing to the health of women and children was reported. Since cooking requires less time with the use of ICS, women now have more time for doing other productive businesses such as goat/ poultry keeping, kitchen gardening, educating children etc. has also been reported.

The GIE team of NEFEJ visited Sindhuli in consultation with CRT/N, and produced four Public Service Announcements (PSA) entitled Sudhariyeko Chulho-1, Sudhariyeko Chulho-2, Sudhariyeko Chulho-3, and Sudhariyeko Chulho-4 on the importance of clean cooking solutions for improving the health of women and children, which were aired through FM stations at various time intervals in collaboration with Radio Sindhuli-Gadhi and Sagarmatha FM from July 2016 till September 2017.

Similarly, the team developed a video documentary entitled "Women Entrepreneurship through Energy" highlighting the success case stories of women entrepreneurs on energy sector which was broadcasted weekly through ‘AANKHIJHYAL’ (Episode 1069) from two national TV stations (Avenues and NTV Plus) along with 14 other local TV stations from April to May 2018. The video documentary on women energy entrepreneurship was an important strategy to address gender inequalities in the context of social transformation in Nepal as 43 percent of the population has daily access to television. It was broadcasted in both the rural and urban areas of Nepal through the national and local television stations to cover nationwide audience. A separate version of it was also developed with English subtitles so as to reach the international audience. https://www.youtube.com/watch?v=CuTalB1ooXQ&t=4s

Further the team explored AVASS Television as it has a good coverage in the programme districts (Nawalpur, Parasi and Palpa), a Memorandum of Understanding (MoU) was developed on 2 October 2017 to work together. As soon as the MoU was signed, AVASS TV started to broadcast contents related to gender and inclusive energy initiatives. This attempt went very well and the team received a number of telephone calls from viewers requesting to repeat the telecast "Women Entrepreneurship through Energy". So, this documentary was repeated five times and expected to reach over 15 million people. https://www.youtube.com/watch?v=XkVtH6FYjLk
2.3 Media tools for awareness creation on GIE initiatives

There are several barriers to scale up clean energy solutions in Nepal. One of them is the lack of appropriate information on the use of clean cooking solutions amongst the rural people. This problem is also compounded by the availability, affordability and unfamiliarity of the available products. Further, the social norms and cultural taboos prohibited women to be engaged in productive purposes though the government policy is favorable to promoting these all. NEFEJ and CRT/N therefore jointly organized a number of workshops for radio journalists on 20 July 2017, and follow-up workshops from 20-21 November 2017 to developing an effective media tool for the promotion of clean energy solutions with respect to GIE programme. The workshops finally concluded to develop a radio drama called “JUNELEE” which may have series of episodes for broadcasting at regular intervals with a view to raise awareness on gender and inclusive energy initiatives.

The main script of this drama was written by Mr. Niraj Subedi (Freelancer) in consultation CRT/N, NACEUN, NEFEJ and Sindhuli-Gadhi FM; and broadcasted nationwide weekly twice at 7:15 pm every Friday and at 2:00 pm every Saturday in the direction of Mr. Nawaraj Budathoki from Radio Sagarmatha. This radio drama has 17 episodes in total, of which four of them (episodes 54, 55, 56 and 57) broadcasted from the start of January 2018. This drama was also expected to reach over 15 million people.

LOBBY AND ADVOCACY

3.1 New tariff revised for increasing electricity access to remote places

NACEUN held series of consultation meetings with Nepal Electricity Authority (NEA); Ministry of Energy, Water Resources and Irrigation (MoEWRI); National Planning Commission (NPC) and Electricity Tariff Fixation Committee (ETFC); and advocated for doing necessary revision on the new tariff that implemented by NEA on behalf of the government in July 2017. This tariff was costly and so found not practical and or reasonable for the Community Rural Electricity Entities (CREEs) as they could not afford to operate their daily service for distributing electricity in the remote areas. CREEs are those private entities which are affiliated with NACEUN and responsible for rural electrification in the remote areas of Nepal.

So, the lobby and advocacy was made for establishing affordable tariff which could enhance increasing access to electricity for most of the rural people. As a result, the ETFC formed a ‘Tariff Analyzing Committee’ together with the representatives of NACEUN to further examine and analyze the situation, and established a new tariff with respect to CREEs in August 2017.

3.2 Wooden electricity poles replaced to prevent from the risk of danger

The wooden poles used for the supply of electricity or electrification date back to 2010 were almost decomposed posing a great threat to any form of disasters such as loss of lives, outbreaks of fire etc. Since this was a matter
of safety and security, NACEUN raised this issue very strongly and started doing lobby and advocacy with the authorities of NEA including MoEWRI and NPC from the start of January 2017 in order to replace the risky wooden poles with the steel tubular ones. The replacement of wooden poles was very important not just for securing safety and security but also for increasing energy efficiency and the reliability in the distribution of electricity. So this matter was taken very positively and seriously by the responsible authorities. Consequently, NEA decided to replace the wooden poles by 50 percent from June 2017 and the rest by subsequent years in Bagmati province.

NACEUN raised this concern in Gandaki Province as well. NACEUN further organized a consultative meeting on 31 July in 2018 with the presence of parliamentary members, representatives of provincial and local governments, representatives of NEA Regional Offices including all the chairpersons and secretaries of CREEs registered in Lamjung, Tanahun, Syangja, Gorkha and Nawalpur districts of Gandaki Province. During the programme, the Chief Minister Mr. Prithivi Subba Gurung declared to replace all the wooden poles by the steel ones throughout all districts of the province. The event news of this programme was also remarkably aired and broadcasted through all kinds of media.

3.3 Renewable Energy Subsidy Delivery Mechanism 2013 revisited

Of the various kinds of renewable energy systems, solar energy can be seen as a more reliable source of energy in Nepal than the traditional electricity. The installation of solar energy system however becomes very costly so the Nepal government has provided subsidies up to 55 percent who wish to install. The subsidy delivery mechanism however was not suitable for the majority of the rural poor. So, RECON lobbied with the AEPC and the then Ministry of Population and Environment (MoPE) through meetings and in discussion forums to review, and suggested to make some amendments during the policy review meetings.

In October 2016, AEPC amended the then “Renewable Energy Subsidy Delivery Mechanism 2013” with the following statement under article “4.2.2.2 Subsidy Delivery” (Box 3). This mechanism which was approved on 4 June 2013 was to ensure the representation of marginalized groups as a priority in user groups, and to access the benefits of solar water system at the village level. This now is made very responsive as per the need and interest of marginalized groups in remote area.

Box 3: New Renewable Energy Subsidy Delivery Mechanism 2013

“If the people in the rural area, where there is no national transmission line and there is problem of water supply, want to install the rural community solar water system, they have to form a user’s group and have to contact with the Centre or Section/Unit or Service Centre for detail information. While forming users’ group, special priority should be given to the poor, single woman, victim of natural calamities, conflict-affected and endangered ethnic nationality”.
3.4 Development of White Paper on Energy Strategy

RECON and CRT/N contributed financially and content wise to the 5th International Conference on Developments in Renewable Energy Technology (ICDRET 2018) that was hosted by the School of Science of Kathmandu University (KU), Nepal Academy of Science and Technology (NAST) and the Alternative Energy Promotion Centre (AEPC) from 29 to 31 March 2018. The conference was very successful in essence that consolidated the recommendations from the workshop discussions during when the conference participants called on the Government of Nepal to endorse one year dedicated program to energy access and to promote the year using the slogan 'Every House: Energy House'.

On 8 May 2018, the Ministry of Energy, Water Resources and Irrigation (MoEWRI) in Nepal published its “White Paper on Energy Strategy” which declared 2018-2028 (2075 to 2085 BS) as the “Energy Decade” with the slogan ‘Every House: Energy House’. The decade provides a time frame within which the central and local governments of Nepal have committed to intensifying policy commitments and the mobilization of resources to ensure access to energy in rural communities of Nepal. This commitment is another milestone contributing to the Sustainable Development Goal-7 on energy sector.

3.5 Draft document on renewable energy for 15th Five Year Plan

The engagement of private sectors in the national renewable energy planning process holds special importance as it fulfills the objectives to influencing government on several issues related to clean energy solutions. Hence, RECON with the support of GIE Brand Ambassador Mr. Ganesh Shah organized series of consultative meetings (Box 4) with the provincial level ministers, executive members and energy experts during when advocacy were made for meeting domestic and productive energy needs of the poor, women, men and marginalized groups in order to create the economic opportunities through green and inclusive energy systems.

As a result in April 2019, Prof. Dr. Pushpa Raj Kandel, Vice-Chairman of National Planning Commission (NPC) invited RECON to contribute to drafting a document on the renewable energy sector which is known as “Approach Paper for 15th Five Year Plan”. This draft document highlights the appropriate technologies and addresses key aspects of renewable energy including finance and service delivery mechanism for inclusive energy services.

<table>
<thead>
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<th>Date</th>
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<td>Pokhara</td>
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<tr>
<td>03 Apr 2019</td>
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3.6 Lobbying for tax provisions on renewable energy technologies (RETs)

Affordability is the key obstacle to accessing clean energy technologies. As most renewable energy technologies are imported, a mechanism such as tax rebate will play a crucial role in making the technologies more affordable for the poor.

Under the GIE programme, RECON hence lobbied for tax exemptions on RE technologies at various levels. In this endeavor, interaction meetings were organized with member associations. Perspectives were also collected to specify the items for tax relaxation on 13 April 2019, and a document was presented to AEPC on 17 April 2019. AEPC in turn, submitted to higher authorities for actions. Consequently, on 21 April 2019, the Finance Minister Dr. Yuva Raj Khatiwada announced some provisions on tax exemptions during his budget speech for Fiscal Year 2019-20 (Box 5).

Box 5: Provisions for tax on RETs

“Institutions having license to generate, transmit, and distribute electricity shall be allowed if the commercial activities started in terms of electricity generation, transmission and distribution before April 2023, and these exemption shall also be available for solar, wind and other alternative energy companies as 100% tax exempt up to ten years and 50% rebate on subsequent five years.”

3.7 Enabling access to finance for women entrepreneurship

Women entrepreneurs in Nepal are facing a number of problems, and of them, enabling access to finance is the major one. The GIE team of CRT/N with GEWNet has been engaged in lobbying and advocating for enabling access to finance for women to engage them on value chain, and establishing linkages in between organizations and women entrepreneurs since 2018.

On 2 August 2019, a memorandum of understanding (MoU) was signed between CRT/N and Manushi Nepal to work further in collaboration for promoting women-led enterprises. Manushi Nepal, is a Guaranteed Fair Trade Organization that follows a social business platform grounded with the objective of improving economic conditions of the poor, disadvantaged and marginalized producers primarily women through sustainable development.

This organization has been actively involved in micro-credit, providing loans to the poor encouraging micro-enterprise development since 2002. Their loans are distributed to women within a group network that encourages and maintains a high level of repayment, consistent communication and strong support. Since there is common interest, both organizations can jointly contribute to empowering women on business practices, entrepreneurship skills, access to finance and market support for their sustainable livelihood through this partnership.
3.8 Integrating GESI in energy policies

Through continuous effort, the GIE team of CRT/N finally had a cordial meeting with Honorable Minister Mr. Barshaman Pun at the premises of Ministry of Energy, Water Resources and Irrigation (MoEWRI) in Singh Durbar on 30 September 2019. During when, the team had an excellent opportunity to brief the minister about GIE programme and to advocate for integrating GESI in energy policies. The meeting was facilitated by GIE Brand Ambassador Mr. Ganesh Shah who emphasized on adopting four principles of A’s: Accessibility, Affordability, Affordability and Acceptibility for RE Technologies. Further, the GIE Programme Manager Dr. Indira Shakya highlighted the need of gender budget and gender indicators for reducing gender gaps in energy program.

During the meeting, Honorable Minister together with the Secretary Mr. Dinish Kumar Ghimire (MoEWRI) committed to integrate GESI in energy policies and programmes, and to further coordinate with Small-scale Renewables Financing Facility (SREF) and AEPC for necessary policy revisions.

4. INSTITUTIONALIZATION WITH GOOD GOVERNANCE

4.1 Representation of women by at least 33 percent made compulsory

Since women are also equally important for bringing changes leading to economic growth and development of a society, women have equal rights to take participate and represent any functions or activities. This is why the United Nations (UN) Member States in 2015 made a universal call for collective action to end poverty through 17 Sustainable Development Goals (SDGs), of which Goal # 5 is to bring gender equality ending discrimination against women and girls. As a member state of the UN, Nepal government has given this agenda on top priority.

On 16 August 2017, NACEUN organized a workshop and oriented all its member organizations, the Community Rural Electricity Entities (CREEs), on the importance of above UN declaration. NACEUN further requested to revise their bylaws to achieve the representation of women by at least 33 percent in their executive committees and also to act accordingly. This was made mandatory and the message was communicated accordingly via letter and other means of communication such as Facebook. Though the development is still under progress, most CREEs of Tanahu, Gorkha and Nawalparasi districts amended their bylaws and started to act accordingly from September 2017.
**4.2 Institutionalization of Community Rural Electrification Entities (CREEs)**

Institutionalization focuses to strengthening of organizations on how they are positioned within their context in relation to other stakeholders. It calls for a new way of ‘doing business’. Under the GIE programme, NACEUN conducted 2-days training on ‘Transparency and Accountability Management’ to its member organizations (CREEs) in Palpa from 3 to 4 September in 2018. The main aim of this training was to make them accountable towards their work and to adopt good governance principles and practices.

The training was provided to 18 selected staff including the executive members of CREEs available around Palpa and nearby of Province 5. NACEUN further conducted the same training in January 2019 to 15 selected CREE members of Chitwan, Dhading, Dolakha, Lalitpur, Kavre, Sindhuli and Sindhupalchowk districts. The CREEs were also supported for preparing their organizational development plan, and to formulate an inclusive policy which could provide space for women in the executive body as per UN framework in gender mainstreaming.

Consequently, the CREE in Palpa (Bhuwan-Pokhari) now has established its own office space and improved its management practices for rural electrification to over 500 consumers. Similarly, many CREEs now have over 33 percent women representation in their executive committees. They also have established "Women Empowerment Fund", with over NPR 1.5 million rupees (equivalent to Euro 12,096), which is made available for women entrepreneurs in their respective municipalities. The CREEs have also organized awareness campaign on the safe use of electricity ensuring the productive use of energy.

### Table 4: Researches carried out by Practical Action

<table>
<thead>
<tr>
<th>Year</th>
<th>Research topics</th>
</tr>
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| Effective communication tools to promote energy access in Nepal. Available at [https://policy.practicalaction.org/resources/publications/item/effective-communications-tools-to-promote-energy-access-in-nepal](https://policy.practicalaction.org/resources/publications/item/effective-communications-tools-to-promote-energy-access-in-nepal) |

| 2019 | Capacity assessment of local governments for effective energy planning and implementation. Effectiveness of subsidy to increase energy access in Nepal. Energizing agriculture in Nepal |

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*Green and Inclusive Energy (GIE) Programme in Nepal: Lesson Learnt Document*
5. BUILDING EVIDENCE FOR POLICY INFLUENCING

Research is very important to generate evidence based knowledge. Being a research based organization, Practical Action Nepal joined this consortium in 2018 in order to generate the evidence so that the consortium members can influence policy makers and or change agents for increasing access to green and inclusive energy initiatives in Nepal.

Of the several issues identified on green and inclusive energy access in Nepal, Practical Action conducted a total of six researches in consultation with the consortium members as given in Table 4. After the completion of above researches, policy briefs with key research insights and recommendations were produced with a view to use them for lobby and advocacy with the relevant stakeholders. Then a lobby and advocacy plan was made to jointly implement the research findings in order to build the capacity of local governments through meetings/ workshops at certain period of time intervals.

The policy briefs were thus shared with the key policy makers at National Planning Commission (NPC) and other relevant stakeholders at 21 rural municipalities of the programme implemented districts. The first three research briefs are also archived in Practical Action’s website and made available for wider dissemination.

The key research highlights with policy recommendations of the above six researches (policy briefs) are summarised as given below:

5.1 Financing for green and inclusive energy in Nepal

Key research highlights:

In Nepal, approximately 25 % of the population (approx. 7.4 million) mainly in rural areas has no access to electricity and about 74 % people are dependent predominantly on solid biomass fuels for cooking. The public sector investment in energy sector is increased by 8.5 % at present compared to 2013/14, while the private sector investment on energy provision is largely concentrated on household level installation such as improved cook stoves, biogas and solar home system largely dependent on access to finance and other enabling environment. As business usual, there seems to be a significant investment gap (approx. USD 10 billion) in energy sector to achieve the SEforALL goals. Lack of adequate investment in energy infrastructures and services at different level of energy market system is a major barrier towards poor energy access.

Key policy recommendations:

It is essential to design innovative financing instruments which would effectively address the barriers and risks, and in which the public...
finance would effectively leverage the private sectors’ financing. There should be public-private partnership in economically viable but not in financially viable projects. The company asking for the lowest capital subsidy should be awarded the contract and provided requested capital subsidy as the incentives for private sector. Loan guarantee mechanism should also be designed and implemented in order to carry out proper due diligence and pursue loan recovery effectively through the provision of rigorous financial analysis including tariff analysis.

5.2 Role of good governance for green and inclusive energy access in Nepal

Key research highlights:

There are more than 2,500 Micro hydropower plants (MHPs) and Pico hydropower plants installed for rural electrification in Nepal. Likewise, there are 278 Community Rural Electrification Entities (CREEs) in 52 districts that use on-grid electricity to electrify rural and some urban areas. In addition, 64 additional CREEs are in the contractual process. Both the MHPs and CREEs have been playing an instrumental role for ensuring access to green energy to the people of remote areas. However, the level of awareness and capacity of the community institutions to maintain good governance was below average, and similarly, GESI mainstreaming is not at satisfactorily level. The major barriers to good governance include irregularities in the public hearing and public auditing practices, weak on institutional strengthening, weak grievances redress mechanism, and the lack of insurance policy in case of injuries.

Key policy recommendations:

Develop specific governance criteria and indicators for the periodic assessment on the status of good governance (particularly transparency, accountability and GESI integration). Community empowerment including women and socially marginalized groups in the decision making process is a must. Prioritize and integrate community-based energy systems into the energy plan of local government for proper monitoring and ensuring their sustainability.

5.3 Effective communication tools to promote energy access in Nepal

Key research highlights:

Lack of adequate awareness at different level of energy market system (supply chain, support services and enabling environment) is one of the key barriers for poor energy access. About 43.2 % of survey respondents perceive that lack of information about RETs is the main reason for low adoption. Other perceived barriers include lack of finance (by 23.1 % respondent) and operation and maintenance problem (by 15.9 % respondents). Use of mobile is quite high (90.6 %). Due to high out-migration of men, women’s responsibility is increasing day by day. These facts suggest that gender responsive communication tool must be designed and implemented to meet green energy requirement of the target audiences.

Key policy recommendations:

There is a need to design communication tools as per the access, preferences and capacity of the target audiences carrying out community need and capacity assessment to design target audience focused specific communication
content and channels. The local governments, particularly rural and urban municipalities should also develop and implement communications strategies to promote renewable energy technologies. Use of smart phone and internet is increasing. Hence, the promotion of mobile apps would be useful.

5.4 Capacity assessment of local governments for effective energy planning

Key research highlights:
Currently, there are no separate Municipality Energy Plans (MEPs) in the surveyed municipalities. However, the municipalities are incorporating energy plan and allocating budget for it following the seven step process as per the guidelines of Ministry of Federal Affairs and General Administration (MoFAGA), which however does not have some important steps (such as energy resource mapping, need assessment, energy efficiency auditing and planning of integrated solutions) compared to the AEPC suggested nine-step process which required for effective energy planning. Inclusion issue has been ignored in electricity access as the existing energy plans are GESI neutral. Similarly, productive use of electricity is very low, and providing clean cooking solutions is at low priority for most municipalities. There is also a gap between plan, budget allocation, need and actual expenditure mainly due to lack of proper planning. Lack of adequate human resources with relevant skills and clear responsibility for renewable energy promotion is another constraint in most of the municipalities.

Key policy recommendations:
There is a need to formulate a separate Municipality Energy Plan (MEP) and to integrate the MEP in overall municipality development plan. For this, capacity development support should be provided to municipality representatives to better understand significance of energy access in terms of health, education, environment, household and livelihood opportunities. Engage communities and CSOs from early stages of planning process through a formalized path to understand their needs and ensure bottom-up planning approach by local governments. Efforts should also be made for leveraging private sector investments and promoting public-private partnership for the effective implementation of energy projects.

5.5 Effectiveness of subsidy to increase energy access in Nepal

Key research highlights:
The financing in RETs in Nepal is largely subsidy driven. Existing subsidy provision has both positive and negative aspects. On the positive side, there is an increasing beneficiary trust on the technologies and their demand is good which has attracted private sectors in the business. The provision is also contributing positively to narrow down the energy access gaps, and take affirmative actions to provide reliable and affordable RETs to disadvantaged households in remote locations minimizing gender inequality to some extent. On the negative side, the market of RETs is currently limited due to the over reliance on subsidy. Subsidy also increases the ‘free rider’ problem benefitting the well-off consumers and limiting the most marginalized group to be benefitted.

Key policy recommendations:
The government needs to develop a roadmap for comprehensive subsidy reforms with an end goal and should be implemented in stages,
gradually to avoid any negative impact on private sectors, enterprises and ultimately the consumers. Subsidy rate, particularly smart subsidy should be fixed based on an analysis of multi-dimensional factors like budget forecast, energy access situation and gaps, cost, capacity to pay, inclusion issues, value for money, among others. Attention must be given to achieving scale and not distorting the RETs market. The government also needs to allocate dedicated fund which could act as a stimulus for banks and private sectors to access it at cheaper rates. Credit mobilization for RETs should be endorsed through a dedicated Deposit and Credit Guarantee Fund which can provide loan insurance mechanisms to private sector companies.

Key policy recommendations:
The growth of agriculture largely depends on various factors, so a systemic approach is required to address the needs and challenges prevalent in energy sector. Possibility for energy intensive agricultural mechanisation should be considered as one of the criteria for identification of agricultural pockets, zones and super zones. Solar irrigation systems have many positive externalities so must be promoted with adequate financing though requires high upfront capital cost to install. Bank and Financial Institutions (BFIs) should provide easy access to soft loan without any collateral requirement. Information and communication technologies (ICTs) should be encouraged for market information and extension services. There is also a need to create awareness among farmers about the possibility and availability of agro-technologies for increasing their confidence in agri-businesses at commercial scale.

5.6 Energizing agriculture in Nepal

Key research highlights:
The government has made enabling policy environment for energising in agriculture sector. There is a provision of grants for the purchase of farm tools and machineries, irrigation and storage facilities like modern agricultural technologies. The central bank has given a directive to the Micro Finance Institutions (MFIs) to provide at least one-third of total loan portfolio. As of now, the commercial banks should lend 10% of total loan portfolio in agriculture sector, 5% in the deprived sector and 15% in energy and tourism sectors combined. There is also a provision of concessions in electricity bill for water and irrigation users committee. Further, the Renewable Energy Subsidy Policy 2016 has provisioned subsidy for solar water lifting and other productive end uses of electricity.

There however are a number of barriers limiting energy application in agriculture. For instance, there is no access to electricity in rural areas; people have to go through a very lengthy process to have three-phase electricity connection and irrigation meter in grid-connected areas; solar powered systems require high upfront capital cost to install etc. Fragmented land holding is another constraint to adopt modern energy technologies and achieve economies of scale. Most importantly, majority of farmers are not aware about financial and technical viability of energy application in agriculture sector. Similarly, limited access to information, difficulties in accessing loans or credits, weak market system of agricultural products, gender equality and social inclusion issues are other types of barriers in energising agriculture.
OVERALL OBSERVATIONS

The information given below are the implementation experiences shared by the consortium partners and the views expressed by relevant experts, based upon which conclusions and recommendations are drawn.

Key programme strengths

All consortium members said that the beauty of this programme was working with consortium members of various background in close coordination. The consortium has provided a good platform to share and exchange the learning which has increased the ownership of programme and enhanced the capacity of partners. This consortium was therefore effective in making the voice stronger for lobby and advocacy to influence the governments at all levels.

CRT/N said that the strategic partnership together with the involvement of Senior Celebrity Icon Ms. Laxmi Giri was very effective for raising awareness and community sensitization at local level, which has helped to mainstreaming GIE agendas in local government plans for enabling access to clean energy solutions at five rural municipalities in Bagmati province. Similarly, the consortium effort made with the coordination support of Brand Ambassador Mr. Ganesh Shah was very fruitful to policy lobby and advocacy at the central and provincial level.

NACEUN reported this programme has offered the opportunity to capacitate and strengthen the grass-root level community institutions (such as CREEs) to better understand the ownership of the programme and the importance of transparency & accountability for good governance. As a result, CREEs performance towards increasing energy access in the remote areas has been improved.

IAPHF organized a number of trainings and awareness campaigns on clean cooking solutions at eight rural municipalities, and trained 256 government officials, 307 FCHVs and 2,160 household heads which have significant impacts on influencing the relevant stakeholders at local level. Similarly, NEFEJ trained 70 journalists including editors of key national newspapers on GIE issues. It has also produced a number of videos, audio PSAs, and radio drama for awareness raising and broadcasted through national TV channels and six radio stations where their reach is estimated to be over 15 million people.
Practical Action carried out six research studies on the pertinent issues of green and inclusive energy access in Nepal and generated evidence based knowledge for action (Refer to visit section 5. Building evidence for policy influencing). The research insights and key policy recommendations of which have already been shared to key members of 21 rural municipalities in six districts (Kavre, Sindhupalchowk, Nawalpur, Palpa, Gulmi & Arghakhanchi) including other relevant stakeholders at all levels of the government resulting to positive response towards increasing access to energy services.

So far, none of the consortium partners reported about the activities that did not work well despite having minor constraint to execute the program on time mainly because of poor understanding at the start and COVID pandemic at the later end.

**Major successes and changes**

Practical Action reported that the programme was very successful to identify and disseminate the key energy issues with suitable policy recommendations for lobby and advocacy to increasing inclusive energy access. Practical Action also said the time was not sufficient enough to bring certain level of changes though the collective effort of the project was very successful for securing finance from the local government to invest at least on clean cooking solutions.

CRT/N reported that building youth capacity on energy issues especially through the development of energy course curricula for Grade 1 to 5 was found very effective which now in use at 28 schools of South Lalitpur. The development of similar course curricula for Grade 6-8 is also under progress, and this development has been completely owned by the local stakeholders to further continue and support for their effective implementation.

RECON added the programme was successful to amend certain clause on the energy white paper of 15th Five year plan for inclusive energy access. Similarly NACEUN said, the programme was successful for bringing customer oriented electricity bill and energy policy. This was also found successful for securing 33 % of women participation and at least 2 women in the responsible positions of the community institutions such as CREEs.

NEFEJ reported that the documentation of successful women entrepreneurs was only made possible by the success of project interventions. Their success stories were aired or broadcasted through radio and TV, which has encouraged other women to become entrepreneurs like them. NEFEJ itself has been successful to establish a long-term partnership with six radio stations through which they aired their podcasts and PSAs. NEFEJ further claimed that the use of improved cook stoves (ICS) is now over 25,000 in Sindhuli district alone just after the PSA was aired about the use of ICS.

IAPHF has a long list of successes. The development of national guideline for household air pollution is the important one. Other successes were increased construction of ventilated houses, increased demand of improved cook stoves (ICS), decreased use of firewood and dung for cooking, decreased cases of respiratory infections and diseases due to indoor air pollution though their exact figures cannot be traced out. IAPHF also reported that the local communities are now aware on the household air pollution (HAP) and human health, and there is an increasing
trend of allocating budgets on clean cooking solutions from the local governments. IAPHF was also successful to declare smoke-free wards at Musikot and Chandrakot municipality in Gulmi district.

All above statements clearly illustrates that the GIE programme was implemented very effectively with a broad range of stakeholder’s participation, and the software part of the programme was very good for bringing positive effects on increasing access to inclusive energy services.

Key implementation gaps

Practical Action opined that research is just a part of the system and there is a need of system approach to bring real changes in energy access status and livelihood of the people. Energizing in agriculture is now a hot topic after Corona. We now need to work on it. We also need to work on establishing linkages with market sectors where our attempt was very weak. There is also a need to tie-up our activities with the government program to leverage the programme cost.

Both the RECON and NACEUN further opined that coordinating with right holders and duty bearers was a daunting task, and there was a need of resources to increase the coverage and to effectively implement the programme. Similar views were made by other partners as well.

IAPHF further suggested whether we can go in cluster approach rather distributing our limited resources to many areas. We can show cased our works by selecting one or two districts instead of six, demonstrating them as model districts. The deputy chief of AEPC had also similar view.

NEFEJ felt whether there was a slight gap in our efforts. Our lobby and advocacy was more with the central government, so suggested to do more with the local government. Similar view was expressed by Senior Celebrity Icon Ms. Laxmi Giri. Brand ambassador Mr. Ganesh Shah however suggested to approach provincial government mainly because the local government is highly dependent on the budget and plans of the provincial government.

Both the CRT/N and GEWNet further opined that most energy policies and programs are not gender sensitive mainly because there is gender gaps in energy policy. So it requires more efforts on GESI integration at the policy level.

Challenges and unintended consequences

The newly re-structured government systems was both the constraint and opportunity to this programme. It was a constraint since they were newly formed and less empowered to take certain actions. So, there was a kind of confusion at local level for doing what and at what level, which ultimately hampered the programme implementation at the earlier start. This however was an opportunity because the governments at all levels were capable of doing certain level of decisions on their own later on.

CRT/N reported that the programme implementation was difficult mainly because there was not energy unit at most rural municipalities for doing necessary coordination at local level. Similarly, it was very time consuming while doing necessary coordination and or consultation with the policy makers at provincial and central level. RECON had also similar opinion. CRT/N further stated that any programme must have both the hardware and
software parts at the ratio of 60:40 as provisioned by Social Welfare Council (SWC) of the Nepal government. This programme however was not able to invest on hardware parts as per the donor requirement. Hence, this programme faced a sort of challenge for its smooth implementation.

IAPHF highlighted key challenges as follows: a) local government’s priority was more in other development sectors rather than on GIE programme, b) FCHVs were found too busy to take part in the GIE programme so their mobilization sometime was questionable, c) there was also a high demand of training and other support for access to energy services.

NACEUN and RECON further opined that majority of women still hesitate to participate in the programme mainly because of the lack of awareness. Their level of understanding was also influenced by the local political context sometimes created a sort of problem which however was handled very tactfully.

Practical Action reported that the lack of recent data was a major constraint to carry out the research as most of the country statistics related to inclusive energy are still not updated or outdated. Say for instance, the organizations still have to rely on the old statistics of 2011. Similarly, organizing FGDs and meetings with the key persons for survey studies were found very time consuming. Some used to send second person during workshops, and participate only when certain allowance was provided can also be considered as a constraint.

Finally, the sudden outbreak of COVID-19 stood as a major challenge to mobilize human resources and to speed up the planned activities. Many of the consortium members however managed to cope with the adverse situation and attempted to accomplish the assigned tasks through virtual meeting. This however increased the burden of work and slightly delayed in accomplishing the monitoring tasks on time.

LESSONS LEARNT AND OR GOOD PRACTICES

Amidst the above challenges, the joint effort of consortium members was found effective in raising awareness on the importance of clean energy solutions amongst all stakeholders. So governments at all levels were found very positive towards the programme. They however lack resources to invest and support as per the demand of the people. On the other hand, the main users who are poor and disadvantaged cannot afford on clean energy solutions unless there is a provision of some support. This is why there was a slow adoption of clean energy solutions despite our continuous lobby and advocacy.

Engaging with media

NEFEJ emphasized, the training and fellowships to journalists have proved to be very fruitful for selecting and developing appropriate media communication tools. One of the best practice approach of this programme was to include media to jointly work for achieving a common goal. Since NEFEJ always requires new knowledge and information which only is possible through exchange of learning from this type of consortium was a lesson learned for the organization.

Health and Energy

Similar view was expressed by IAPHF that this consortium was very effective to critically
analyze the issues and to effectively implement the programme. IAPHF said the mobilization of trained FCHVs for educating women household heads on clean cooking solutions was a big lesson learned. Because they are already trained personnel on human health, so were found easy to train, and their use was very effective to convince others since they were locally available.

Research

According to Practical Action, the consortium members were working in isolation in the previous days, and no one was paying attention to the research findings. The research was carried out just for the sake of research and the lack of ownership was greatly felt. Soon the consortium members realized this mistake as a lesson learned. So, the respective consortium members were made actively involved in the research design from early 2019. They were also actively engaged in carrying-out field data collection and organizing consultation meetings from July to September in 2019.

Further, a provincial level workshop was organized jointly with them in May, and the research findings were utilized to lobby and advocacy which was very helpful in improving the capacity of local governments to plan and implement the programme leading to inclusive energy access and productive uses.

Capacity building and sensitization

CRT/N reported, the development of energy course curricula for school children that happened unexpectedly can also be perceived as a big lesson learned. This development is now being replicated at Banepa and Bethanchowk municipalities of Kavre district, Kataari municipality in Udaypur district, and Marin and Fikkal rural municipalities of Sindhuli districts. Similarly, engaging youth in research works to generate evidence based research documents, and engaging with media to disseminate GIE message were found strategic to influence a larger mass.

Advocacy and Lobby

As explained earlier, this consortium has provided a good platform to share and exchange the learning which has enhanced the capacity of partners for doing necessary lobby and advocacy to influence the governments at all levels. This was also helpful in sensitization and building capacity of newly formed local governments including other relevant stakeholders at federal and municipality level. As a result, the joint effort of this consortium was found very effective to disseminate the information, and to mainstream inclusive energy agendas on local government plans with budgets even beyond the project areas.

CONCLUSION

The GIE programme in Nepal went very well despite some unexpected challenges brought by COVID-19 pandemic from the early 2020. All together 17 key outcome achievements have been documented, and of them, seven outcomes were achieved through lobby and advocacy followed by five through community sensitization and capacity building, three on awareness creation and two for institutionalization.

The development of a course curricula for school children on green and inclusive energy matter was a remarkable outcome achieved for building capacity of younger generation. This course curricula now has been extensively used
at 28 schools of Mahankal RM in Lalitpur district from the academic year 2019/20. Similarly, the publication of “White paper on energy strategy” which declared 2018-2028 as the “Energy Decade” with the slogan ‘Every House: Energy House’ is another outcome achieved through lobby and advocacy with the government of Nepal. This has encouraged the central and local governments of Nepal to intensifying policy commitments and mobilizing resources to ensure energy access in the rural communities. This development is also perceived as a key milestone contributing to the Sustainable Development Goal # 7 on energy sector.

A draft document which is known as “Approach Paper for 15th Five Year Plan” is another outcome achievement resulted in April 2019. This draft document highlights the appropriate technologies and addresses key aspects of renewable energy for inclusive energy services. Similarly, the revision of bylaws on “Renewable energy subsidy delivery mechanism 2013”; replacement of damaged wooden electricity poles with the steel tubular ones in Baramati and Gandaki province; mainstreaming of GIE agendas in local government plans with the allocation of budget for clean cooking solutions are other examples of successful interventions.

Most importantly, this programme has generated evidence based knowledge for action on: (i) Financing for green and inclusive energy; (ii) Role of good governance for green and inclusive energy access; (iii) Effective communication tools to promote energy access; (iv) Capacity assessment of local governments for effective energy planning; (v) Effectiveness of subsidy to increase energy access; and (vi) Energizing agriculture in Nepal. The research insights which were shared in the programme districts resulted very positive response from the governments at all levels towards increasing access to energy services.

Similarly, the declaration of smoke-free villages in Musikot and Chandrakot municipality in Gulmi district, bringing of customer oriented electricity bill and energy policy, use of over 25,000 improved cook stoves in Sindhuli district alone, dissemination of inclusive energy related information to over 15 million people are other good examples of the programme successes.

The programme has also generated some key lessons learnt and or good practices. Working together in consortium instead of working in isolation was a big lesson learned to make consortium efforts very strong and effective. The mobilization of trained FCHVs and mothers’ groups for educating women household heads on clean cooking solutions found very effective was another lesson learned. Similarly, engaging with media to disseminate key GIE messages to a larger mass; and sensitization of local government on GIE and the need of GESI integration in local planning with necessary budget are other lessons learned.
SUGGESTIONS

With changing political scenario and under the established three tiers of governance system, the local governments now have the mandate for implementing Renewable Energy (RE) projects with regulation on local electricity distribution system. Similarly, the government has emphasized on sustainable development of energy sector with the declaration of year 2018-2028 as the ‘Energy Decade’. Further the government has given top priority in the promotion of inclusive energy access as reflected in “Energy Sector White Paper 2018”.

Although some of the policy provisions are yet to be fully translated into practice, there are some progressive indications towards increasing access to green and inclusive energy systems. The mandatory provision of implementing renewable energy projects by the local governments have opened up the opportunities to mainstream energy initiatives along with the government plans can bring a win-win situation if our future plans are developed accordingly. This perhaps is the right time to plan and invest on energy interventions with a view to complement with the government programs.

In the given context of male-out migration and climate change scenarios, women are further overburdened with the workload and hence there is a need of women responsive energy interventions with a focus on reducing the drudgery of women. The mandatory provision of 33 percent women representation in any form of social structures can also be taken as an opportunity to enabling women in decision making positions.

Some partners opined whether we can go in cluster approach to demonstrate our model work. This can be done however the programme may become costly than expected since all consortium members’ effort will be invested to a limited area. That may also limit the scope of work, and there is a high chance of program duplication. So, care must be given to evenly distribute and specify the roles of consortium members not to duplicate the programme activities.

So far so good, the outcome goals were achieved at activity level. We however have to go through a long way for achieving goals at impact level. Installation of an ICS or electrifying a bulb at all household may not be sufficient enough for increasing access to energy solutions. The household may require more energy to fulfill other necessities. Unfortunately, the available energy is still not enough for the productive uses. Further the necessity and the availability of technology may change over time. So, more investment on energy intervention is highly required.

RECOMMENDATIONS

From the assessment, it is found that the GIE interventions were focused more on software aspects such as raising awareness, advocacy, capacity building, campaigning and research etc. Almost all partners however expressed their concern for more programme in the future which could have a balanced fund for both the software and hardware parts. More supports for hardware parts is mainly for demonstrating visible change though that are at small scale, and this can be made through decreasing the level of effort or investment on software parts.
Collaborative partnership for securing more supports on hardware parts could be a key to success in the future. So, there is a need to explore more collaborative partnership to leverage the programme cost within the network. There is also a need to guide the local governments about where the resources are available and how they can collaborate with others for more programme cost.

The current energy policy has also some gender gaps. So, it is recommended to review and revise the policies from the gender prospective. There was also a concern over the follow-up and monitoring of existing programme activities, and this has asked for the result based monitoring and evaluation (M&E) framework with a required set of strategic action plans is highly recommended in the future.

Most importantly, this programme has already generated evidences for actions on core six areas which could be valuable for the future programme. Care however must be given to fulfil the knowledge and implementation gaps where possible. For instance, if the programme is weak in establishing linkages with market actors then we better have future interventions focused on it. Finally, value for money is an important aspect which must be taken into account.
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Shrestha P. and Indira Shakya 2015. Background paper: promoting financial inclusion for women in rural Nepal, CRT/N


ANNEXES

Annex 1: Checklists for assessing GIE lessons learned with consortium partners

» List what went well?
» List major changes or successes
» Are there any good practices that need to be documented?
» Were the project goals achieved? Please justify briefly
» If not, what changes need to be made to meet goals in the future?
» List the gaps you encountered in the programme if any
» List what didn’t work well and why?
» Any problems/ challenges the team has to deal with?
» Any remarkable solutions to them that cropped up during the project?
» Any unintended consequences that were not anticipated during the course of project, but added value?
» List supports received from the federal, provincial and local govt. if any
» List hindrances of the federal, provincial and local govt. if any
» What are the key lessons learned of this project?
» How helpful was this consortium partnership to achieve the common goals?
» Please suggest if any to make this consortium more effective?
» Please recommend for doing similar projects using such consortium in the future?

Annex 2: Checklists for interview with Ambassador and Celebrity Icon

» Why did you join the team? What motivated you to be a role model?
» What were the specific roles identified for you and how have you contributed?
» What according to you were the best actions that went well?
» What was the best experience you had in course of the project?
» Have you noticed any changes/ successes that can be attributed specifically to the project?
» What additional benefits could have been achieved? What factors hindered the achievements?
» Did you think platforms like this can help demonstrate your role very effectively?
» Have you ever faced any difficulties/ challenges working with this consortium group?
» What have been the major gaps in this partnership? What should have been done otherwise?
» Do you believe this project has contributed something to the energy sector? If so how?
» What else can be done to bring about more positive changes in the energy sector for the benefit of the women and the marginalized?
» Could you suggest where the project must focus in the future?
Annex 3: Checklists for interview with AEPC representative

» May I ask you how familiar are you with the GIE programme implemented by CRTN in consortium with other consortium partners?

» Could you briefly describe what you liked the most about this programme and how it has contributed?

» What do you think about the effectiveness in working with the consortium members as partners?

» How happy are you with the roles played by the program for GIE movement in Nepal?

» Could you give some examples that you are satisfied with the activities of the GIE programme?

» Would you mind suggesting us where the project must focus in the future?

» Any other suggestions for the consortium members to make their activities more effective in future?

Annex 4: Research documents submitted by graduates under the GIE programme


» Rai Kanchan Laxmi, 2018. Assessment on entrepreneurs’ use of energy and its audit with the implication on gender.

» Adhikari Pragati, 2018. Assessment on entrepreneurs’ use of energy and its audit with the implication on gender.

» Tamang Shanti Maya, 2019. Assessment on the effectiveness of renewable energy for cooking to improve environmental condition and livelihood of the people living in Chyasingkharka Bethanchowk, Kavre, Nepal.


» Rai Kabita 2019. Assessment on entrepreneurs’ use of energy and its audit with the implication on gender.