



SNV Nepal Renewable Energy Sector Case Study:

Rural Biogas Promotion Leads to Social Inclusion

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This case introduces a detailed account of biogas promotion in Kalikot district. It illustrates the energy situation prior to SNV's intervention, to the eventual achieved impact. SNV's intervention in capacity strengthening through the West Portfolio is related to the Micro Fund – one of the components of the Renewable Energy Sector Support (RESS) programme in Nepal, supported by SNV Nepal and Alternative Energy Promotion Centre (AEPIC). The main objective of RESS is to increase the living standards of rural people and improve the environment through the promotion of Renewable Energy Technologies (RET's). To strengthen capacity of clients for piloting and promoting RETs, SNV has engaged with The Human Rights and Environment Development Centre (HURENDEC) since 2007. SNV has offered capacity building support in Kalikot not only to improve the performance of clients, but also to provide support to improve service delivery to rural communities.

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Introduction

Kalikot is one of the more remote and poverty stricken districts of Karnali. Over 70% of the total district population of 105,580 have an income level less than \$1 a day. A muddy road track was opened only in 2007 solely to be used by tractors, but only in favourable seasons. As in other parts of Nepal, there is also a political vacuum within the local government since 2001. However, in comparison to other parts of Nepal, Kalikot district's energy sector is primitive, as there is a clear lack of access to modern energy and technology sources. A study conducted by SNV in 2006 indicates that more than 75% of the population is still using resin wood for lighting, whilst almost 100% of households depend on firewood for cooking and heating, which forces people to spend the majority of their time and effort into collecting fire wood. In addition, the access of Dalits and other excluded groups to energy is even worse. Women and children in those groups are highly affected by inefficient use of traditional fuels.



The extensive use of traditional fuel is negatively impacting the livelihood of the population and also degrading the environment. Apart from the low quality of life generally associated with the use of these fuels, there are also serious environmental problems. For example, indoor air pollution, especially when used in enclosed surroundings with limited ventilation, can cause asthma and bronchitis which leads people to spend their money on expensive/poorly available health care in the district. Another significant affect of poor access to energy is low literacy rate of the people.

Due to a lack of knowledge about biogas technology in the region, up until the beginning of 2007, not a single biogas plant was installed in Kalikot.

Challenges

As a capacity development organisation, SNV faced the following challenges amongst the local service delivery organisations at the beginning of intervention:

- Lack of ownership and commitment
- Poor internal governance, including transparency and accountability
- Lack of familiarity to renewable energy technology
- Limited exposure to new development concepts and themes like social inclusion, gender, pro-poor focus etc.
- Limited resources (knowledge and skills) availability for capacity building
- Limited human resources (expertise and quality) within the organisations
- No-availability of resource persons/capacity builders at local level
- Limited networking and coordination for effective lobbying and advocacy in issues like disadvantaged groups (women, Janajaties, Dalits etc), resource mobilisation, knowledge and skill transfer etc.
- Limited involvement of private sector in promotion of renewable energy

Client: The Human Rights and Environment Development Centre (HURENDEC)

HURENDEC is a local NGO based in Kalikot which SNV provides capacity strengthening services to since 2007. As part of the SNV strategy (2007-2015) implementation phase, a workshop among renewable energy stakeholders was conducted in Kalikot on January 2008 to map the actors and discuss issues in the renewable energy sector. As a result of the workshop, HURENDEC was found to be a potential actor to continue our support in Kalikot. In January 2008, an assignment agreement on capacity strengthening of HURENDEC for improved service delivery in renewable energy was signed among SNV and HURENDEC.

Involvement & Roles of other Stakeholders

In coordination with HURENDEC, the District development committee (DDC) of Kalikot provided remarkable support in the promotion of renewable energy. With the initiation of HURENDEC and support from SNV advisors, DDC Kalikot formed the District Energy Committee which was the first of its kind to promote renewable energy opportunities in Karnali. The DDC approved the District Energy Development Plan (DEPP) of Kalikot, prepared and submitted by HURENDEC with support from SNV. According to the DEPP, the DDC of Kalikot allocated a budget of NPR 300,000 for the promotion of biogas in Dalit communities in year 2008/2009. Apart from this the DDC included a renewable energy sector plan in their annual district development plan. Similarly, AEPC played a vital role in promoting renewable energy by qualitative and participative monitoring in close coordination with SNV. From July 2008, AEPC supported the establishment of an energy and environment section under DDC, Kalikot.

SNV Intervention



Based upon the recommendation of the Mid Term Review Team of RESS, a study on "Renewable Energy Assessment and Intervention Possibilities" was carried out by SNV Nepal (early 2006) for Karnali, to link the Micro Fund with activities that would bring about greater impact directly to beneficiaries. With this background, Renewable Energy Technology Promotion Programme (RETPP) was designed for Kalikot district for 2007 to mid 2009. The programme aimed to strengthen the capacity of HURENDEC in order to implement RETPP with a clear objective to establish a renewable energy promotion centre for up scaling, replication and long term sustainability of RETs. An assignment agreement between SNV and HURENDEC was signed in 2007. SNV's intervention continued in 2008, in the context of a new SNV strategy (2007-2015).

The following were the major activities of our capacity building services since January 2007 to December 2008 to improve performance of the client organization including improvement in local governance, ownership and to deliver commitment of the client:

- Assessed the capacity of the organisation
- Facilitated sensitisation/orientation workshops for information dissemination on RETs and to increase the participation of Dalits in decision making processes
- Facilitated the formation of District Energy Coordination Committees (DECC) for advocacy and policy influence
- Oriented/facilitated board members/staff on SIGE for inclusive access in RE

- Facilitated the preparation and implementation of a capacity development plan
- Established an informal platform of RE stakeholders for effective sector coordination and networking
- Facilitated planning and coordination in the district and networking/collaboration with regional service providers for expertise and innovations
- Facilitated exposure visits for DECC members and staffs to RETs installed sites and interaction with RET promoters in other parts of Nepal
- Supported the preparation, approval and implementation of the District Energy Development Plan
- Supported the inclusion of RE sectoral plan in an annual district development plan
- Supported allocation of NPR 300,000 in annual DDP to install biogas plant in Dalit community
- Facilitated the establishment of renewable energy service centre (RESC) – private organisation for the promotion of renewable energy in Karnali
- Facilitated the preparation of strategy plan of RESC
- Facilitated the preparation of business development plan of the RESC
- Facilitated public audits and information dissemination to maintain transparency
- Facilitated the promotion and up scaling of RETs in neighbouring districts e.g. Jumla, Mugu and lower belt of Dailekh district

Outcome

SNV's interventions will focus on ensuring 400 people in Kalikot gain access to Biogas plants by 2010. The more population than planned will be benefitted if the access road is improved. After successful intervention in Kalikot, SNV will seek to up-scale operations into Dailekh and Achham districts along the Karnali highway. As of yet, the outcomes are:

- Institutional set up within the NGO and DDC established for RE intervention in Kalikot
- Capacity Development Plan executed
- Renewable Energy Service centre established and functionalised
- District Energy Perspective Plan approved and implemented
- 32 biogas plants installed
- Increased access of Dalits by installing 11 biogas plants in Dalit households

Impact

- ❖ 192 people directly benefited, of which 34 % are Dalits
- ❖ 64 ton/year of fuel wood saved
- ❖ 85.76 ton of CO₂/year reduced

Bal Bahadur Shahi- 62 years old, Manma-5, Kalikot

"I am very enthusiastic with installation of biogas plant in my house. It is wonderful for me how the cow dung converted into gas. Before the installation of biogas plant, we used about 20 Kilograms of fuel wood daily; it was difficult and time taking to ignite fire in the stove; difficult to light when fire is extinguished; difficult to collect fuel wood; smoky environment around the kitchen; pots were turned into black with smoke.

After the installation of plants everything is improved with this kitchen; it is very easy to ignite the fire; pots were clean even after cooking; time is saved to collect fuel wood and cooking; no tension to collect fuel wood in rainy season; no smoke. If I have used such type of stove in my early age, I never was suffered from eye problem and asthma. Apart from this the slurry produced from outlet of the plant is very fertile for vegetables. I am happy now. Thanks HURENDEC and its staffs for the good job".

Lessons Learned

- Transportation of external material will be completed within June to install plants in time (the road is blocked in the rainy season from July to October)
- Need to make biogas pro poor; innovation is required to make technology cheaper
- Local human resources should be trained on biogas technology including repair and maintenance for sustainability
- It is required to capacitate newly established renewable energy service centres
- It is essential to link users with micro credit
- The construction of biogas plants filled with cow dung/organic waste at higher altitudes above 2000m should be completed in the summer season.
- Intensive sensitization/orientation and technology demonstration in the communities is necessary for rapid dissemination and up scaling.
- Pro-poor subsidy policy is necessary to increase access of poor (present subsidy policy is more generic)



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Organisation

SNV is dedicated to a society where all people enjoy the freedom to pursue their own sustainable development. We contribute to this by strengthening the capacity of local organisations