Productive Use of Energy – PRODUSE II

Measuring Impacts of Electrification on Micro and Small Enterprises in Nepal

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Federal Ministry for Economic Cooperation and Development

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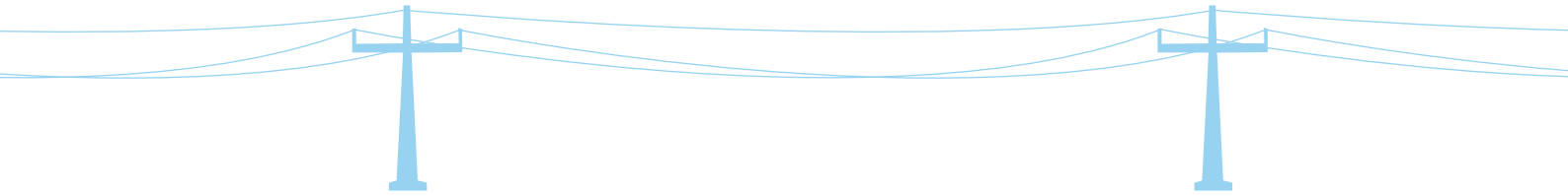

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Preface

Access to more affordable, reliable, sustainable and modern energy improves living standards and can increase the development impact of energy-based services for the world's most deprived populations.

In addition to directly benefitting users, modern energy can enable enterprises to switch to more efficient production technologies, produce higher quantities and better quality, and offer new kinds of products and services. Such productive uses of energy have the potential to trigger additional local and regional economic development, by adding net value through increased productivity, including in rural contexts of developing countries, where micro- and small enterprises prevail.

These additional benefits from increased productivity come on top of the other benefits mentioned above, but they can also come at additional cost. Many oft-mentioned productive uses require relatively high energy quantity and quality – say, grid-based AC power sufficient to drive better machines. Especially in rural areas, this higher service level can come at additional cost, compared to lower energy access levels – because the latter can increasingly be met by small, low-cost renewable energy systems, thanks to their rapidly decreasing cost. As electrification can make sense also in absence of increased productivity (because of the direct welfare effects listed at the outset of this preface), the additional benefits of "productive uses" need to be weighed cautiously against their additional cost, to derive their net benefits. This is analogue to the general cost benefit analysis of electrification alternatives, which should inform countries' political choices for national energy (access) pathways.

This is important to remember, because productive uses are the most coveted – but also the most elusive animal in the energy access space. On the one hand, they appeal to policy makers, for a whole array of good reasons and intended development benefits. And while some of these hopes may prove less valid than others, economic theory and practice indeed provides many examples for the crucial role increased productivity – on national, regional and firm levels – can play for lasting growth and increase in living standards. On the other hand, many of the areas presently not counting with modern energy access are also among the least productive of their country, and suffer from a whole bundle of additional structural deficits, which makes success harder for firms, even after stepping up the energy ladder. Some recent electrification programmes have tried to address this by targeting better-off regions or providing complementary services to their target areas, such as business development services (BDS), access to finance, specific technical assistance (TA), subsidized equipment for productive uses – or even new roads to improve terms of trade. Some of the Nepali villages surveyed in the present study benefited from such add-on services and TA aimed at increasing the probability of additional net benefits from electricity-triggered local productivity improvements, as suggested by previous PRODUSE publications available at *www.produse.org*

Clearly, many other factors outside of project reach add to the bundle of necessary conditions for success – such as entrepreneurial spirit, competition, and business models that are robust enough to withstand external shocks via input or output prices or quantities. Sadly, not much is known about these firm-level success factors, the precise causalities involved with electricity uptake, and the business process changes of local firms in today's emerging markets (say, when to invest in a change to digital accounting or a new cooling chain – and when to wait). This is obviously not a problem specific to electrification programmes: Most non-energy private sector development (PSD) projects face the same problem when targeting structurally weak areas. Even in cases where such programmes succeed on average, individual firms

and firm types may still lose out in the change process, so that there are bound to be winners and losers. The social cost of such "creative destruction", and its effects on the local economy in emerging markets, need to be better understood. Even in the most conducive of business environments, firms venturing into a switch to new business practices, sectors or products fail frequently: for example, venture capital-supported Silicon Valley start-ups fail far more often than not. Yet, this is precisely the bold entrepreneurial move that productive use programmes entice in firms with far less conducive business environments!

Projects targeting productive uses of energy should therefore be aware that they may be "luring" micro and small enterprises – which have often operated their business for many generations in pretty much the same "traditional" way – into very risky new ventures. These ventures promise high rewards – but may also fail. Given the high potential rewards (on average) of successful productive use programmes, this caveat does by no means speak against productive use projects at large (let alone energy access programmes, which usually have positive net benefits even without counting the additional impacts on firm productivity)! But the details and determinants of success need to be much better understood.

Given the massive push to "universal modern energy access" envisioned by the Sustainable Energy for All and the Sustainable Development Goal Number 7, with their explicit references to fostering productive uses, it is therefore rather worrying that there are so few efforts on the way to acquire such deeper knowledge. This knowledge gap needs to be closed fast, to enable policy makers, practitioners and firms with the knowhow they urgently need to design and implement solid national electrification programmes, with optimal net benefits. Otherwise, misplaced public spending will result in unnecessary waste of scarce funds.

The present survey is a small contribution to answer this urgent call, as it improves our understanding of the causal links between electricity access, productive uses, and economic outcomes on the supply and demand sides of rural villages in Nepal. Of special interest in this context are the observed effects of electrification on revenues, profits and margins of rural firms (which vary by firm type, and can be positive or negative on average), consumer surplus (customers seem to benefit significantly from the increased competition in villages with grid access, because large parts of the grid electricity-induced technology benefits are passed on by firms to them, through better prices and products) and village total economic net benefits (which may be significant and positive in sum, even where individual firms or the average firm face reduced margins due to said competition).

The Nepal survey results discussed in this report are of special interest for the ongoing international efforts to induce and measure improved energy access along a stepwise increase of service quality, under a global "multi-tier" tracking framework (*gtf.esmap.org*). The study set-up allows comparing "(A) grid electrified" communities in which grid access was provided to practically *all* resident firms at the same time, to "(B) unelectrified" communities without grid access – but a strong base case prevalence of "offgrid electricity." The survey found that two thirds of firms in the unelectrified communities already use small solar home systems.

Acknowledgments

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Lastly, we would like to extend our thanks to all peer-reviewers for contributing their time and expertise by providing valuable comments on the report Lucius Mayer-Tasch (GIZ), Jaime Sologuren (GIZ), Caspar Priesemann (GIZ), Inga Buchholz (GIZ), Mirka Bodenbender (GIZ), Simon Collings (Energy4Impact), Butchaiah Gadde (UNDP), Elisa Portale (ESMAP), Hussain Samad (ESMAP), Alisha Pinto (ESMAP) and Bryan Koo (ESMAP).

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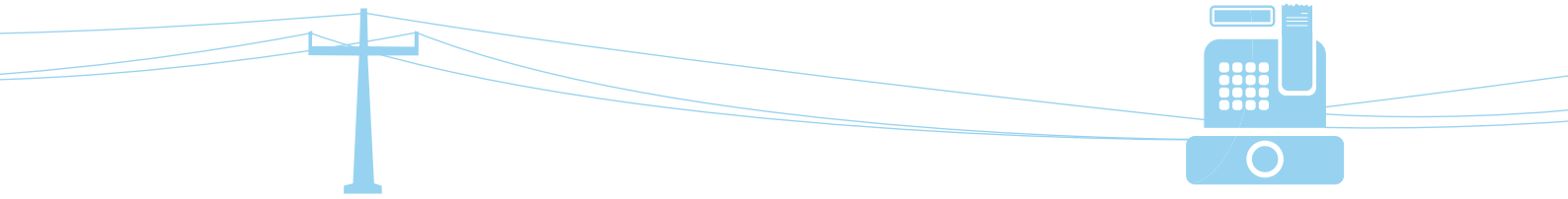


List of Abbreviations

AEI	Africa Electrification Initiative
AEPC	Alternative Energy Promotion Centre
CAPEX	Capital Expenditure
CREE	Community Rural Electrification Entities
CREF	Central Renewable Energy Fund
CREP	Community Rural Electrification Programme
EDI	Energy Development Index
ESMAP	Energy Sector Management Assistance Program
ESP	Enterprise Service Providers
EUEI	EU Energy Initiative
EUEI PDF	EUEI Partnership Dialogue Facility
FGD	Focus Group Discussion
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
HDI	Human Development Index
ICT	Information and Communication Technology
MHDF	Micro Hydro Debt Fund
MSE	Micro and Small Enterprises
NACEUN	National Association of Community Electricity Users Nepal
NEA	Nepal Electricity Authority
NGO	Non-Governmental Organization
NRP	Nepalese Rupee
NRREP	National Rural and Renewable Energy Programme
OLS	Ordinary Least Squares
PRODUSE	Productive Use of Energy
PU	Productive Use
PUE	Productive Use of Electricity
PV	Photovoltaic
RERL	Renewable Energy for Rural Livelihood
SETM	Sustainable Energy and Technology Management
SHS	Solar Home System
SNV	Netherlands Development Organization
UN	United Nations
VDC	Village Development Committee

Chapter 1:
Introduction

1.1 Productive use of electricity and economic wellbeing

Universal access to affordable, reliable, sustainable and modern energy services, included as one of the Sustainable Development Goals (SDGs) adopted by the UN in 2015 (SDG 7) is expected to directly improve living standards and enhance development outcomes of the world's most deprived populations. One channel through which energy access can propel economic and social development is productive use of electricity (PUE), including micro and small enterprises in rural contexts. PUE are generally defined as agricultural, commercial and industrial activities involving electricity services as a direct input to the production of goods or provision of services (Attigah et al., 2015). Electricity for productive use can underpin the creation and upgrading of value chains; facilitate diversification of economic structures and livelihoods and reduce vulnerability to multiple stresses and external shocks. Besides, business clients, given their greater energy demand and higher ability to pay as compared to household clients, can enhance the commercial viability and financial sustainability of local electricity schemes.

Even though there is broad-based consensus among policy makers and energy practitioners on these theoretical channels from electricity access to development, rigorous empirical evidence to support these expectations is rare. As a matter of fact, establishing a causal relation between electricity access and economic development is a challenge. This is because electrification roll-out typically takes place in a centrally planned manner, prioritizing certain areas either based on their growth potentials or on their level of deprivation or based on their political importance. Hence, if we observe electrified regions to be on a faster growth track than unelectrified regions, we cannot be sure whether this is a result of electrification, whether causality actually goes the other direction or whether there is a third factor which determines both electrification and economic development.

One important contribution to the evidence on productive electricity use by micro and small enterprises (MSE) in developing countries has been the study "Productive Use of Energy (PRODUSE) – Measuring Impacts of Electrification on Small and Micro Enterprises in Sub-Saharan Africa", published in 2013 by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in cooperation with the Energy Sector Management Assistance Program (ESMAP), the Africa Electrification Initiative (AEI) and the EUEI Partnership Dialogue Facility (EUEI PDF) – in the following referred to as "**PRODUSE I**". The report, which can be found on a dedicated project website at *www.produse.org*, sheds light on usage patterns and the effect of electricity use on economic performance of micro and small enterprises in Uganda, Benin and Ghana. As an additional outcome of PRODUSE I, the methodological tools applied have been documented in detail and are available as guidance for robust impact evaluations of electrification programmes. One key result of the PRODUSE I study was that access to grid electricity does not necessarily lead to improved performance of small enterprises in rural contexts. First of all, take-up rates of electricity use were low among enterprises (especially manufacturing firms) in electrified localities. Second, electricity usage was found to hardly translate into measurably higher firm profits. In one country case, Benin, those entrepreneurs in the sample who did take up electricity use found it difficult to recover the high initial investment and running electricity cost resulting in losses for less dynamic firms. The study however found some evidence indicating that electrification led to the creation of new firms, implying benefits for the target population in the form of income generation and local availability of goods and services. With regard to future research on PUE, the study highlights (i) that methodological rigour is necessary and feasible to attain causal statements on impacts of electricity access; and (ii) that individual firm performance reveals only a portion of the total benefits of productive electricity use, while another portion becomes visible only when looking at the overall picture of enterprises in the market and the local supply situation faced by end-consumers.

1.2 Study objectives and research questions

The objective of this study is to build on the methodological recommendations and results of PRODUSE I and generate complementary robust evidence on how electricity access can transform rural economies. Like the PRODUSE I study, its focus is on the micro and small enterprise sector, but it is set in the context of Nepal to see how the findings extend to the Asian context. The study is designed to pick up specifically on some of the con-

clusions of PRODUSE I: Given that positive effects on enterprise performance could not be clearly established, we explore whether benefits are passed on to rural consumers. Second, we aim to also capture possible crowding-out effects or replacement effects, i.e. negative spill-overs from electrified to unelectrified enterprises.

As recommended in PRODUSE I, this study follows a rigorous impact evaluation approach, i.e., it does not only examine correlations between electricity access and enterprise outcomes, but is designed to infer a causal effect of electricity access on economic outcomes. Specifically, the study exploits the unique nature of Nepal's Community Rural Electrification Programme (CREP), which allows for bottom-up selection of communities into electrification, in combination with phased installation. Within a group of communities which all applied and qualified for electrification under the CREP, it compares communities that have been electrified for some time and those that are currently in the pipeline for grid installation. Another special feature of the CREP is that electrification projects include in their quote all household and enterprise connections within a defined village zone so that, within this zone, no self-selection of households or enterprises into electrification occurs. These special conditions allow us to circumvent several of the challenges which prohibit causal interpretation of observed relationships between electrification and development in many contexts.

In summary, the key research questions addressed by this study are:

- What is the effect of electricity access on business performance, measured in terms of profit, revenues and customer base?
- *A*re new businesses emerging upon electricity access? If so, what types of enterprises are these?
- What changes in production technology can we observe as a result of electricity access?
- How does the range of locally available products and services change upon electrification? Does the quality of services and goods change?
- Does the effect on business performance differ between sectors or types of enterprises?
- Do product and service prices change after electrification?
- What is the effect on employment? Does electrification create new jobs, or is labour replaced by electricity-powered machinery? Are women and men equally affected by changes in employment opportunities?
- Are there indications of "crowding out" effects of existing businesses by newly created firms after electrification, or "replacement", i.e. geographic reallocation of value generation from neighbouring areas to the area with electricity access?
- Overall, does electricity access lead to an upgrading of local value chains, does it leverage suppressed demand, and does it create real net economic growth?

Our data also allow to answer some additional research questions related to the specific country context of Nepal:

- What is the quality of electricity access, in terms of continuity of supply and voltage, provided under the rural electrification program we study in Nepal?
- Which effect does electricity access have on the firms' expenditure on energy services?
- How are women and marginalized groups involved in the rural enterprise sector and how does electrification change this involvement?
- Does electrification interfere in migration patterns and the share of marginalized groups within the community?

The report is structured as follows. First, it presents a theory of change of electricity impacts on local economic development. It then reviews relevant literature on evidence of such impacts and provides some background information on the study context, both general background on the Nepal country context and specific information about the Community Rural Electrification Program. It then explains in detail our empirical strategy for causal inference and presents our results on various community and firm level outcomes. Finally, results are discussed and conclusions drawn.

Chapter 2:

Electricity use by micro and small enterprises – a theory of change

Electricity use by micro and small enterprises – a theory of change

Taking a micro perspective, there are several interconnected mechanisms through which access to electricity can transform rural economic systems. The following discussion focusses on electricity used by micro and small firms, which dominate the rural non-farm sector in developing countries (see also the chapter on methodology in the PRODUSE I study). The most obvious change mechanism is that electricity use enables increased productivity of labour and capital, which modifies firms' production and cost functions. Firms may respond to such productivity increases in different ways: They may scale up production, offer their products and services at lower prices, pay higher wages, make new investments, or simply retain higher profits. Moreover, electricity may enable firms to widen or upgrade their portfolio of products and services. For example, artisans or manufacturers may produce more sophisticated goods; shops and restaurants may take up the sale of refrigerated snacks and drinks; bars may install TVs or audio equipment or shops may offer photocopying, printing or mobile phone charging services (e.g. **Kirubi et al. 2009**).

In addition to these responses by existing enterprises a new class of enterprises may emerge whose operations inherently depend on electric power. Examples include ICT service shops, commercial banks, or manufacturing firms like welders and carpenters (as documented e.g. in **Peters et al. 2009**). Grid electricity roll-out is also often paralleled by the extension of other publicly or privately provided services, notably mobile phone services, with direct implications on local economic development.

It is important to note that an increase in the number of firms following electrification of a village may in part be the result of relocation of firms from nearby unelectrified communities to the newly electrified site ("relocation effects"). Electricity may in fact attract an influx of firms that do not necessarily use electricity, but hope to benefit from a more conducive business environment related to, for example, improved financial and ICT services or public street lighting. Within the electrified area, intensified competition among enterprises may then affect firm performance and market dynamics in various ways.

How productivity gains and new production opportunities offered by electricity access translate into measurable outcomes, and who eventually benefits, depends on many factors. First of all, it has been frequently documented that the adoption of electric appliances for commercial use by small firms faces multiple barriers, including technical capacity constraints, financial constraints, and resistance to routine changes (see e.g. **Cabraal et al. 2005; Peters et al. 2009**). If electrification programmes are not accompanied by active promotion of commercial electricity use, micro and small rural enterprises are often reluctant to take on the investment costs for electrical equipment and electricity connection in the first place and forego potential benefits of technological upgrading.

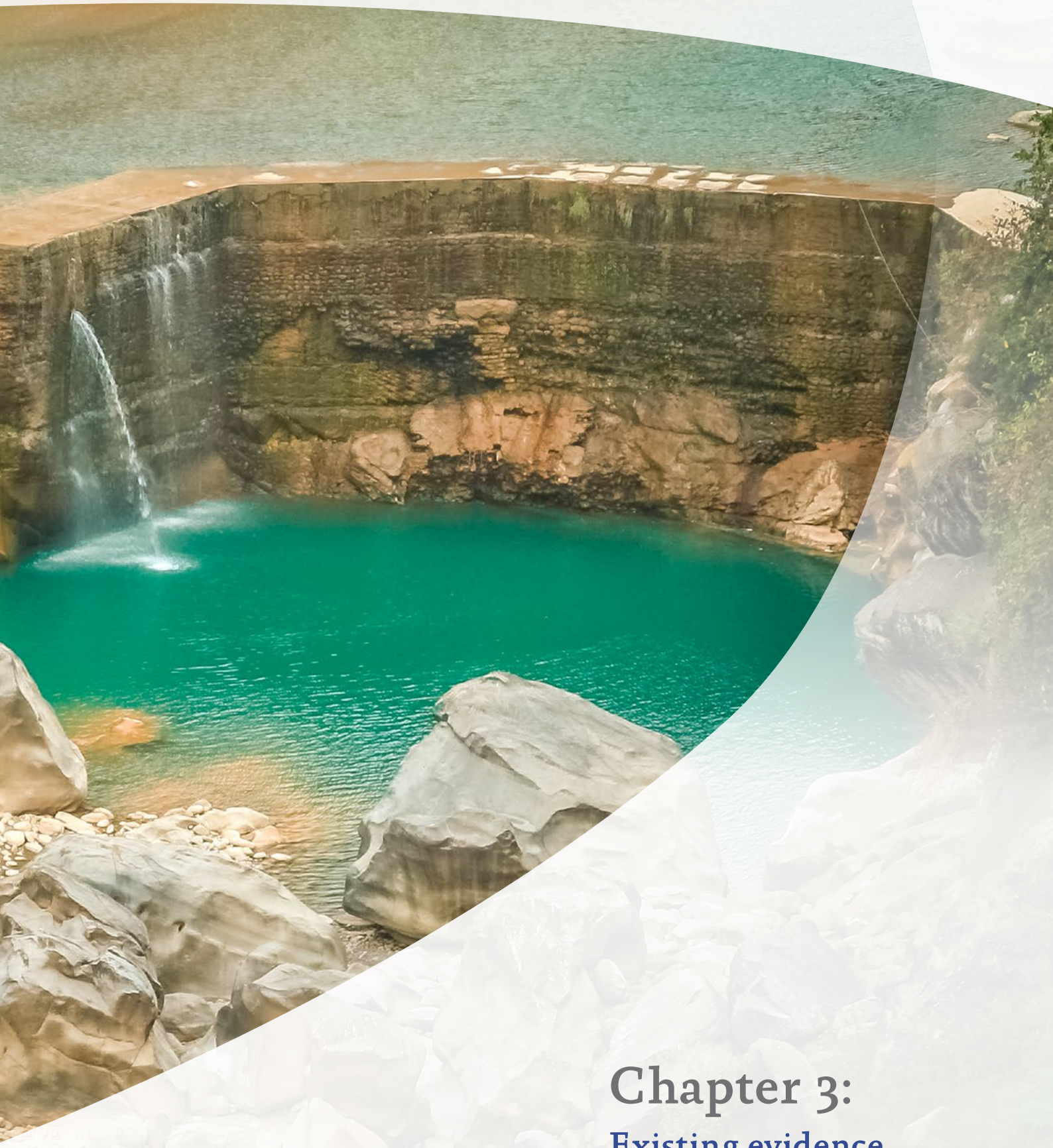
If firms do adopt electricity use, one decisive determinant of how this will enhance their business outcome is access to upstream and downstream markets. If a community is very isolated with large distances or weak transport networks to urban centres and local purchasing power is low, economic benefits of local infrastructure improvements have often been found to be limited. For example, **Peters et al. (2011)** have documented that taking up electricity use can turn out to adversely affect outcomes of certain small businesses, because local demand is too limited to redeem the high initial investment costs for grid connection and electric equipment. In general, if local purchasing power is exhausted, the gains from productive electricity use will likely translate into lower prices or improved quality of products to the benefit of local consumers, but benefits for the enterprise may be low or non-existent.

If some firms within the same line of business start using electricity and are able to lower prices or offer improved products and services, resulting gains on their accounts may come at the expense of competitors who abstain from the transition to electricity use ("crowding-out effects"). Impact studies that focus only on those enterprises that do take up electricity use therefore risk overestimating the net effect of electricity access within the enterprise sector.

For those rural enterprises that have already been using stand-alone systems such as diesel generators or solar systems to power production, newly available grid electricity may imply energy cost reductions in the production process, and potentially changes in the quality of electricity service. Such quality changes can be either to the better, in case of increased capacity and more stable supply, or to the worse, in case of unreliable grid power with frequent unforeseeable outages. Unreliable power from the grid has been identified as a

major impediment to business success in several empirical studies (e.g. **Allcott et al 2014; Goedhuys et al. 2010; Eifert et al. 2008**).

Next to these impacts on the enterprise sector, grid electrification can trigger off a wide range of effects on the rural economy. First, increased quality of life owing to electricity access may curb rural-urban migration flows, retaining professional workers, and young people more generally, in remote rural areas (e.g. **Kirubi et al. 2009**). A locally available skilled workforce can be an important precondition for diversification in the rural economy. In addition, a thriving rural nonfarm sector can be desirable from a national social welfare perspective. This is because a more spatially balanced distribution of firms across the country prevents negative externalities related to congestion and stress on infrastructure, which is found in many urban agglomerations in developing countries (**Lanjouw et al. 2001**).



Chapter 3:
Existing evidence

3.1 Studies on electricity access and economic development

In general, establishing a causal relation between electricity access and economic development in empirical studies is challenging. First, the mechanisms relating electricity access to measurable changes in economic outcomes are complex, as explained in the previous chapter. Second, and maybe more difficult to solve, observational data (as opposed to experimental data) on electricity access and economic outcomes generally do not reveal how and why the one is actually related to the other. In fact, electrification roll-out typically takes place in a centrally planned manner, prioritizing certain areas based on observed or unobserved characteristics. Hence, there may be factors that drive electrification roll-out and at the same time have a direct influence on economic development ("omitted variables"). This could be other physical infrastructure built in parallel to electricity grids or allocation of various funds for regional development because an area has special potentials, is particularly deprived or politically important. Second, if correlation between electricity and development over time is observed, we do not know whether the causal relation runs from electricity access to development or the opposite direction ("reverse causality"), if areas are prioritized for electrification because of their growth potential. Omitted variable bias and reverse causality are two distinct forms of what is referred to as "endogeneity". The same endogeneity issues that are at play for large regions are also relevant for analysis at the local level and for the microeconomic perspective, when comparing the development of households or enterprises.

The following review of empirical literature focuses on **research papers that have addressed endogeneity by choosing an appropriate study design**. Most of these studies work with instrumental variable techniques. Intuitively, an instrumental variable is an exogenous driver of the intervention or treatment variable (here: electrification), which is correlated with the outcome of interest only through the treatment, but not through any direct channels. We then measure the effect of only that part of the treatment, which is induced by the exogenous instrument in a first step, in order to rule out any endogeneity in the relationship. In a second step, we scale the effect up to the full observed change in the treatment variable to measure the actual effect size.

In the studies reviewed, a range of different outcome and impact measures observed at different levels (households, firms, regions) have been chosen, including value added, firm profits or turnover, total factor productivity, employment, wages, migration flows, etc.

One of the most persuasive economic papers in this strand of literature has been **Dinkelman (2011)** who estimates the causal impact of household electrification on employment growth in rural communities in **South Africa**. Employment growth is compared in communities that do and do not receive electricity access over a five-year period, using land gradient as an instrument for project placement. The publication's identification strategy rests on the observation that land gradient drives the cost of a household connection and hence is an important factor in prioritizing areas for electrification, but does not directly affect employment outcomes conditional on covariates. Dinkelmann finds positive effects of electrification on employment, notably for females (female employment measured in the census rises by 9 to 9.5 percentage points). Interestingly, she finds that the main channel through which this employment increase occurs is via shifts of labour allocation within home production activities. Household electrification releases female time from home to market work thus stimulating an increase in labour supply. By contrast, she cannot find evidence of increases in labour demand through rural industrialization following electrification.

Grogan (2013) uses a similar methodology for **Nicaragua** to compare how individuals with and without electricity access allocate their time across productive activities. As instruments for electricity access they employ 1971 population density in the municipality and land gradients. They find that household electrification causes rural women to be about 23% more likely to work outside the home, but that there are no such effects for men. These impacts are concentrated among women under 35.

Another example of a sound identification strategy is **Lipscomb et al. (2013)**, who examined the local economic development effects of electricity grid expansion in **Brazil** over the years 1960 and 2000. They derive an instrumental variable from a model of hypothetical expansion of hydropower dams and electricity grid for a scenario in which infrastructure placement would be based solely on geographic cost considerations, ignoring the demand side. Their dependent variables of interest are the Human Development Index (HDI) and average housing values assumed to reflect improvements in living conditions. They find large positive effects of electrification on development, which, interestingly, would have been underestimated by Ordinary Least Squares (OLS) regression analysis. This is consistent with targeting of infrastructure to poorer areas rather than to those with

the highest development potential. To explore the mechanisms through which this effect works, they estimate large positive impacts of electrification on employment, salaries, and investments in education, but not health. They can rule out that the effects are driven by migration flows and conclude that electrification yields improvements in labour productivity across sectors and regions.

Other studies concerned with impacts of rural electrification but with less emphasis on causal inference, or using less convincing instrumental variables, include, e.g., **Khandker et al. (2012b) on Bangladesh; Khandker et al. (2012a) and van de Walle (2013) on India; and ESMAP (2002) on the Philippines**. A cost-benefit analysis of rural electrification relying on data from various countries and taking several impact mechanisms into account are provided in a World Bank report on welfare impacts of rural electrification (World Bank, 2008).

3.2 Studies on electricity access and micro and small enterprises

A sub-set of papers examining economic impacts of electricity access focuses explicitly on the small enterprise sector. Among these papers, one strand investigates the effect of having or not having access to electricity on firm-level outcomes and market entries. A second strand uses variation in service quality, notably the prevalence of power outages, to assess the role of electricity for enterprise development.

The **PRODUSE study I (GIZ 2013)** is one of the most important contributions on the former strand. It has generated both robust evidence and many valuable qualitative insights on the impact of grid electrification in Benin, Ghana and Uganda. In addition, the study also offers a useful methodological guidance for future studies that attempt to measure firm-level effects of energy access. Of the three country studies, the Benin chapter (GIZ 2013 and Peters et al., 2011) has been most rigorous in identifying a causal relation between firms' electricity use and performance. It analyses the impact of being connected to the grid or not on profits of small rural enterprises. Information from firms in grid-covered areas is used to estimate a propensity score[1] of getting connected. Connected firms are then matched to firms in unelectrified areas based on this propensity score. The authors find that getting a grid connection does not increase firm profits on average, but that electrification induces the creation of a new group of high-performing firms whose operations depend on electricity.

A recent report by the **World Resources Institute (Rao et al., 2016)** compares the benefits of electricity service to households and small enterprises from microgrids, solar home systems (SHS), and the national grid in rural communities in India and Nepal. While the small and highly heterogeneous sample of enterprises studied (n=42 for Nepal and n=34 for India) does not allow for any detailed evidence on productive use within enterprises, the household data reveal that women with access to electricity spend more time on income-generating activities than those without. The report's main message, substantiated both by household and enterprise data, is that there are huge differences in reliability, affordability and capacity between different electricity systems and hence in their respective productive use potentials. The report calls for a more refined typology for different levels of electricity access, a lesson which is relevant for any future research on productive use of electricity and its impacts on economic outcomes.[2]

Turning to academic literature on electricity access by small enterprises, **Rud (2012)** is one of few studies with a sound strategy to identify a causal relation. He investigates the effect of electricity provision on industrial development in India using variation between **Indian states** and over time for the years 1965 to 1984. To overcome endogeneity in electricity provision, he too uses an instrumental variable, namely groundwater availability at the beginning of the Green Revolution in the 1960s. The Green Revolution was marked by the introduction of

1) The propensity score is a predicted probability of being connected, where the probability is estimated based on a set of observed covariates which influence simultaneously the treatment status and the outcome variable, but are not affected by the treatment.

2) The World Bank and the International Energy Agency have established the SE4All "Global Tracking Framework" (GTF) which describes progress towards the SE4All goals along different energy service levels (six so-called "tiers" that range from 0 to 5) by gathering energy data regularly (World Bank 2015 and World Bank 2017 provide more information on this). The first global survey to gather this data is underway since late 2016.

high-yielding crop varieties depending on irrigation with electric pump sets, hence driving electricity demand and grid extension. The link between groundwater availability and electricity provision allows him to identify a causal impact of electricity on different measures of industrialization. Electrification increases manufacturing output among firms in the formal sector, but not in the informal sector. Electrification also induces the opening of new factories, but the effect at the intensive margin, i.e. higher output among existing large firms, dominates.

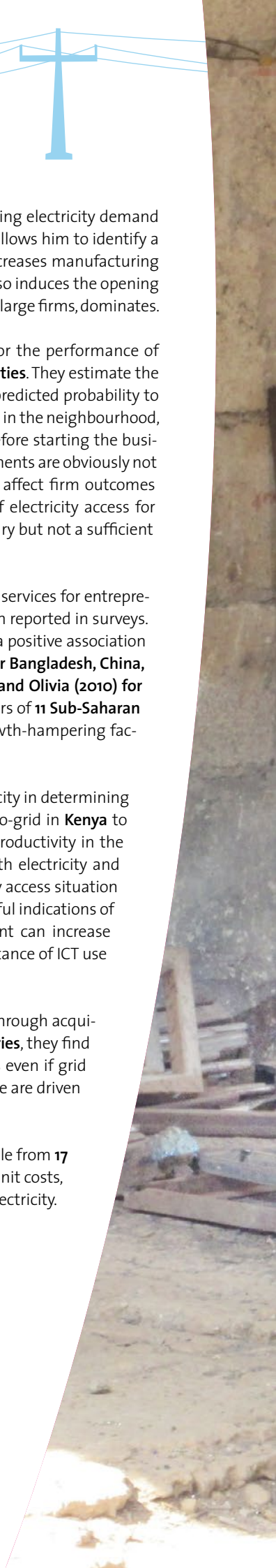
Grimm et al. (2013) investigate the role of utility access, with a focus on electricity, for the performance of informal enterprises, using cross-sectional micro data from **seven West African capital cities**. They estimate the effect of utility access on firm-level value added, instrumenting utility access with the predicted probability to have access to a given utility. Access probability is predicted based on average access rates in the neighbourhood, and on whether or not a firm has incurred renovation cost of their business location before starting the business. They argue that the latter often implies efforts to obtain utility access. These instruments are obviously not fully convincing with regard to exclusion restriction, given that renovation effort may affect firm outcomes through other channels. They find huge effect heterogeneity, with positive impacts of electricity access for some sectors and negative effects for others and conclude that utility access is a necessary but not a sufficient condition for enterprise performance.

There is also an impressive body of papers which underpin the importance of electricity services for entrepreneurial activities at all scales in developing countries based on entrepreneurs' perception reported in surveys. Most of these papers, while not attempting to make causal claims, provide evidence of a positive association between access to electricity and performance of enterprises (e.g. **Dollar et al. (2005) for Bangladesh, China, India and Pakistan; Isgut (2004) for Honduras; Rijkers et al. (2010) for Ethiopia; Gibson and Olivia (2010) for Indonesia). Goedhuys (2010)** analyses a rich dataset of firms in ten manufacturing sectors of **11 Sub-Saharan African countries** and finds that electricity constraints are among the most severe growth-hampering factors reported by entrepreneurs.

A number of papers exploit the prevalence of power outages to assess the role of electricity in determining firm performance. **Kirubi et al. (2009)** study the case of a community-run electric micro-grid in **Kenya** to illustrate in detail some of the mechanisms through which electricity use can boost productivity in the SMEs sector. They compare operations of the same firms while they are operating with electricity and during a 2-month system breakdown. Even though a temporary change in the electricity access situation does not allow to identify any true long-run effects, their detailed data provide some useful indications of potential productivity gains by small artisans. They find that using electric equipment can increase productivity of small artisans in the order of 100–200%. They also emphasize the importance of ICT use in the service sector as a catalyst of local development.

Alby et al. (2013) analyse how firms react to constraints in electricity provision, notably through acquisition of own generation capacity. From a large enterprise survey dataset from **87 countries**, they find that firms, which crucially depend on electricity, tend to invest in their own generators even if grid power outages are rare. Firms in the same sectors that lack the required access to finance are driven out of the market.

Similarly, **Eifert et al. (2008)** find that a large share of manufacturing firms in their sample from **17 African countries** run private electricity generators despite their very high fixed and per unit costs, and conclude that it is difficult for these firms to temporarily dispense with the use of electricity.



Chapter 4:

Background on the study context

4.1 The Nepalese energy sector and energy access situation

Thirty percent of Nepali population are without access to electricity,[3] with the majority of those with grid connections living in urban areas – leaving nearly 10 million Nepalese in darkness – most of which reside in the rural regions. The rural population relies predominately on traditional sources of energy, including the use of kerosene and candles for lighting. Though hydropower resources in Nepal are abundant, Nepal's dependence on large centralized hydropower results in massive power cuts during the dry season – as much as 16 hours per day.[4] Load shedding results in energy cuts during key business hours – and though it is expected and accepted by those connected to the grid, it is in no way preferred.[5] Lack of access and lack of reliable access is a pivotal hindrance to the economic development of the country and its people. It is important to note that the government does equalize load shedding hours across all grid-connected regions, however, it was brought to our attention by our local field team that communities, which are near a hydro power generation site, typically experience fewer power cuts due to internal agreements that those communities should not receive as many hours cut.[6]

The state-owned Nepal Electricity Authority (NEA) is responsible for the electricity supply through the national grid – and though the Government of Nepal (GoN) has a policy of providing all district headquarters with grid electricity as soon as practicable and of providing electricity to all the households by 2027. In February 2016, a cabinet meeting of the government had endorsed a power crisis mitigation action plan to meet the electricity shortfall of the country within a couple of years. At that time, the government not only declared an energy crisis in the country but also designated the next ten years as the Electricity Development Decade. The immediate plan aimed at completing several ongoing power projects within a year and others in the year after that. NEA also does not currently have an electrification master plan,[7] and thus, beyond the current reach of the grid, rural households and communities have taken their own actions, as can be seen by the thousands of small off-grid energy systems (diesel gen-sets, solar home systems, small island mini grids etc.) installed throughout Nepal. With the cost of diesel ranging in the last five years between NRP 79 and NRP 109, and changing 27 times during those same years, the use of diesel for energy production is both costly and unreliable.[8]

Nepal has one of the good track records for hydro minigrid[9] development in the world. Despite this, development to-date has failed to match the potential – including its potential for solar-powered minigrid, likely due to several factors including shortage of financing, lack of private interest and high CAPEX. When one travels through rural Nepal, household SHS, just big enough for 2–3 efficient lights can be seen atop many roofs (small panel sizes–around 6W – is the most common on household rooftops, as government programs subsidize such systems[10]).

The Alternative Energy Promotion Centre (AEPC), a Government institution established in 1996 under the now Ministry of Population and Environment is tasked with developing and promoting renewable/alternative energy technologies in Nepal. The mission of AEPC is to make renewable energy mainstream resource through increased access, knowledge and adaptability contributing to the improvement of living conditions of the population. AEPC functions independently and has an eleven-member board with representatives from government sector, industry sector and non-governmental organizations.[11] Acting as an intermediary institution between the operational level NGOs, private promoters of renewable energy and the policy decision levels in

3) World Bank Group energy access data reports
4) Source: *http://endev.info/content/Nepal*
5) As witnessed during the initial field visit under this current study in February 2016.
6) The contractual details of this agreement were not disclosed to the team at the time of this study, aside from the explanations from our informants (CREE members and SETM). Thus, one can be cautious in generalizing, however, we perceive the evidence as notable since it is the reality of those claiming the statement.
7) ADB in partnership with GoN are initiating a national electrification strategy, the TOR for this project is from where these details were obtained.
8) Source: *http://www.nepaloil.com.np/selling-price-archive-16.html#sthash.CZ1taEMV.dpuf*
9) Energy for Off-grid Villages in Nepal and The Role of Minigrids. Practical Action. April 2015. Background Paper for
10) Smart Villages Workshop.
11) During the initial field visit the field team observed the household SHS mounted on rooftops and the locals mentioned they were part of a previous government subsidy scheme.

relevant ministries, AEPC's activities include renewable energy policy formulation, planning and facilitating the implementation of the policies and plans. Two notable programs under AEPC are NRREP and RERL. The development objective of the National Rural and Renewable Energy Programme (NRREP) is to improve the living standard of rural women and men, increase employment of women and men as well as productivity, reduce dependency on traditional energy and attain sustainable development through integrating the alternative energy with the socioeconomic activities of women and men in rural communities. The Renewable Energy for Rural Livelihood (RERL) is a project being implemented by AEPC, and supported through Global Environment Facility (GEF) and United Nations Development Programme (UNDP). RERL is developed as an integral part of AEPC's NRREP. The objective of the programme is to increase equitable access to energy services by supporting the development of mini/micro hydro and solar PV systems, productive energy uses and formulation of innovative financial mechanisms to attract private investment.[12]

Rural electrification in Nepal is costly due to its mountainous and distributed nature of communities in the Himalayas – making it an extreme challenge to increase energy access by bringing electricity to remote communities. The 2012 World Energy Outlook's Energy Development Index (EDI) – a multi-dimensional indicator that tracks energy development for each of 80 countries ranks Nepal 74, making it one of the most energy development deprived countries worldwide.[13]

Nepal, however, is more than sufficiently equipped to find solutions to its energy problems. Recent studies have calculated that the country could meet all if its energy demand (and even export excess power to neighbouring countries) if it utilize its resource potential – hydro, solar, and wind.

The study was carried out shortly after Nepal was hit by an economic and energy crisis. Due to political instability between Nepal and India – India being Nepal's main fuel supplier – the import of fuel products into Nepal (among other commodities and consumer items) was stalled for several months. This interruption resulted in a fuel supply shortage and a surge in local fuel prices. At the time of data collection, the economic and fuel crisis was still ongoing, even though beyond its peak, and fuel price levels were still above the long-run average. With regard to our study results, it is important to note that since our study is based on cross-sectional data and the fuel crisis affected all parts of the country equally, we are not concerned that the crisis may have altered the results of the study fundamentally. However, certain outcomes related to differences in energy expenditures between electricity users and firms depending on diesel-powered machines may be affected by the economic situation at the time of the study and the magnitude of effects we find may be different from what we might have found before the onset of the crisis (e.g. the SME cost of raw materials and transportation cost might have seen an increase during that time, affecting the business profit).

4.2 The Community Rural Electrification Programme (CREP) of Nepal

Although notable effort has been made, NEA is still a long way from connecting remote corners of the country to the national grid. In order to help accelerate rural electrification progress, the GoN introduced the Community Rural Electrification Programme (CREP) in 2003 which established legal provisions for local electricity consumer groups to take the initiative to bring electricity to their communities through extension of the grid.[14] The model is that unelectrified communities form so-called Community Rural Electrification Entities (CREE), typically registering as an NGO and apply for grid extension to their village with NEA. Currently there are over 230 CREEs throughout Nepal. As part of the application process, the community decides which zone within the village should be covered by the distribution network (i.e., how many households should be connected). NEA engineers then prepare a cost estimate. The community contributes currently 10% of the total cost of the electrification project (the community contributions were 20% before 2011, but the portion

12) Source: *http://www.aepc.gov.np*

13) Source: *http://www.np.undp.org/content/nepal/en/home/operations/projects/environment_and_energy/rerl/home.html*

14) Source: *http://www.nepjol.info/index.php/HN/article/viewFile/7123/5773*

was further reduced since it turned out that cost still remained a barrier for rural uptake). The funding sources for this community contribution vary from CREE to CREE and can include grants from local and district level authorities, credits provided by NEA, direct contributions from households or available resources from community-based organisations like savings and credit cooperatives. Once the community has deposited their cost contribution with NEA, GoN covers the remaining 90% (80% previously). The CREE is then responsible for operating the electricity scheme at village level. In order to do so legally, those CREEs initially registered as an NGO must transform into a cooperative.[15] They buy power in bulk from NEA, collect tariffs from electricity users and are responsible for maintaining the local infrastructure. The price the CREEs pay for the bulk power is lower than the lowest consumer tariff, enabling the margin from electricity sales to be used in part for covering the cost of CREE operation.

Box 1 highlights some important characteristics of the Community Rural Electrification Programme and the dynamics of CREEs which are relevant for the methodological design of this study.

Box 1: Characteristics of the CREP

- The CREP is based on a bottom-up approach to grid extension; communities self-select into the programme by forming a CREE upon initiative from community members.
- CREEs are sometimes formed out of previously existing community groups, such as a credit and savings cooperatives.
- CREEs are unlikely to emerge beyond 30 kilometres from a current transmission infrastructure since the cost to extend the grid would be too high for the community to mobilize a 10% contribution.[16]
- CREE villages are often electrified in phases. A village development committee (VDC; the administrative unit at local level in Nepal) can comprise several clusters of households, referred to as wards, which are often scattered across larger geographic areas. Wards closer to the existing grid (which typically also means closer to market places and road infrastructure) are often prioritized for electrification in phase one. Depending upon the geographic situation of the village, the expression of interest from households in neighbouring wards and the availability of funds the grid is then extended to the more remote parts of the village in a second, third, fourth etc. phase.
- A community already electrified by NEA before the start of the CREP in 2004 could elect to transfer their operations to be under the CREE (which would entail the CREE then being responsible for operation and maintenance of the grid–as well as then retaining the revenue from electricity sales). O&M in the hands of the CREE is preferred in some communities as the CREE dispatched O&M team can often respond much quicker to electricity issues than the NEA O&M dispatched team. In addition, a transfer from NEA to CREE is preferred by NEA in many cases particularly when the area is facing high non-technical losses (i.e. electricity theft and un-paid dues) – once under CREE operation, electricity theft and unpaid dues typically reduce.
- NEA has in some cases taken over from a CREE the operation of distribution systems serving high-energy consuming zones or anchor clients (such as a large hotel or a telecom tower).[17]

The National Association of Community Electricity Users Nepal (NACEUN), established in 2005 as a non-profit organization, is the federation of CREEs in Nepal. Its focus has been on advocating for users' rights, facilitating in the establishment of user-friendly policies and to empower community electricity users' organizations through awareness creation, capacity building activities, business support activities and resource generation for rural electrification development. NACEUN has been a key enabler supporting CREEs to have a better knowledge on productive use of electricity and create a business-friendly environment for interested entre-

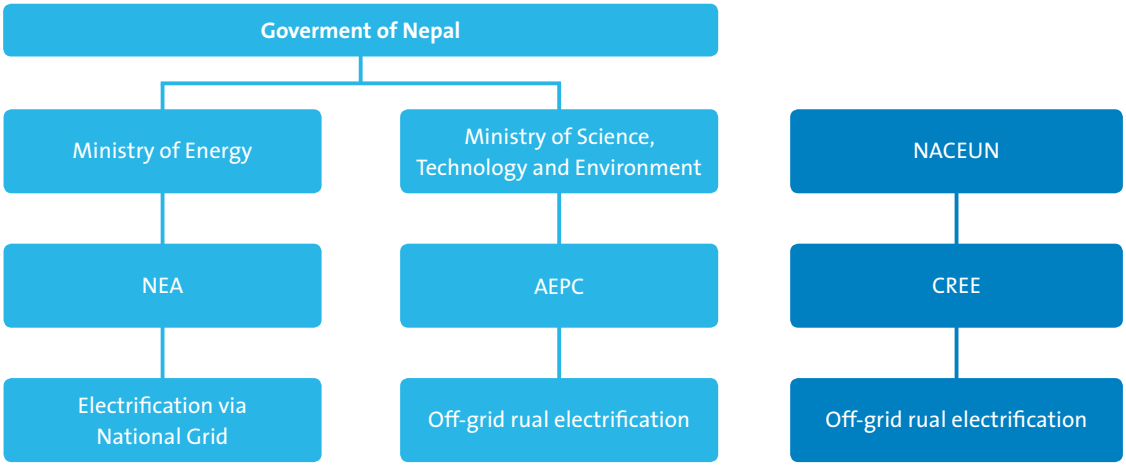
15) Source: *http://www.naceun.org.np/site/dynamic/Stabilize-CREE*

16) Due to line loss, transmission lines can only be extended 30 kilometers from a transformer, and the cost to install a transformer is beyond the financial capacity of the CREE.

17) Such transfers, because not clearly outlined in the bylaws, often receives disputed. Current understanding is that any customers below 50 kVA installed capacity (serving one or more customers) will be CREE customers.

preneurs through incentives, competitive tariffs and micro finance support.[18]

Figure 1: Overview of the entities involved in electrification in Nepal[19]



The rural electrification context under the CREP is distinct in important aspects from those encountered in the PRODUSE I countries, and from the contexts within which the majority of existing studies have been implemented. The following points deserve to be pointed out because they are relevant to the interpretation of results:

- Electrification under a CREE comprises connections for the majority of households and enterprises located within a defined settlement zone. The monthly cost of electricity consumption at the baseline tariff is reported as affordable to all potential users in the sample CREEs.[20]
- Businesses that offer basic electricity services to unelectrified clients, such as phone charging, battery charging or TV entertainment, as they are found in many on-grid and off-grid villages in other countries, are rarely encountered in CREEs because nearly all local households are all electrified and households from neighbouring wards seem to seek those services in nearby market places.
- Extended business operating hours enabled by electric lighting seem to be of low significance in many CREE areas. People have a persistent habit of returning home before dark, particularly in absence of public street lighting, as is true for the large majority of CREEs in our sample.
- Massive load shedding, up to 75 hours per week all over Nepal, constitutes a major constraint to business operations, both for service and manufacturing firms. Electricity generation majorly depends on hydropower; electricity supply is highly dependent on hydropower. Hence, power outages happen less during times with high precipitation. During the dry season (especially shortly before start of the rainy season), however, firms can go without power for up to 20 hours per week on an average during the day-time (between 4 a.m. and 5 p.m.), and for another up to 7 hours per week during evening hours (between 5 p.m. and 11 p.m.). Firms that depend on the use of electric appliances find it challenging to organize their working hours in an efficient way and avoid periods of idleness while electricity is off. This, of course, affects the use of any electric appliances among electricity customers in all of Nepal, not only in the selected study area.

18) Monitoring Survey and Review Progress of Productive Use of Promotion Work. A report prepared by Samuhik Abhiyan and submitted to GIZ/EnDev 2014.

19) Adapted and expanded with reference to: http://www.worldbank.org/en/news/feature/2015/09/26/ensuring-sustainable-rural-electrification-in-nepal, and http://naceun.org.np

20) For domestic customers (and low usage customers such as village enterprises) the following energy tariffs are charged: for 20 units (kWh) or less, the fee is USD 0.06 /kWh; from 21-250 units, the fee is USD 0.11/kWh, and over 250 units, the fee is USD 0.15/kWh.

Chapter 5:
Methodology

5.1 Capturing impacts of electricity use through the enterprise lens

The theoretical considerations in chapter 2 have demonstrated that the economic effects of electricity use in the productive sector are complex and ***benefits may materialize at various levels***. The ***portion of the total effect*** that an impact study can capture depends on the ***study design*** and the ***level at which outcomes are measured***. First of all, the geographic scope of data collection determines to which degree positive and negative spill-overs to neighbouring areas or welfare effects at regional or national level are accounted for. Second, depending on the unit of observation, the study focus will be either on intermediary outcomes or on long-term impacts.[21] If the primary subject of interest is household welfare, one might be inclined to measure economic effects directly at the level of households. However, this approach may be challenging given the large attribution gap between electricity use within firms and benefits to households. Specifically, it might be difficult to disentangle welfare effects originating in productivity gains on the one side from electricity-related improvements in health, education, public services, etc. on the other side.

For this impact study, the ***individual firm was chosen as the primary unit of observation***. Importantly, while we measure merely intermediate outcomes, this perspective allows attributing observed changes to electricity access. The analysis of detailed enterprise data also allows to develop a better understanding of ***how*** electricity is used productively and how exactly various firm outcomes (turnover, revenue, prices, profits, range and quality of products and services) are affected. Measured changes in consumer prices, range of products and services available, employment opportunities and wages allow us to derive conclusions on overall welfare effects at the level of households and on the medium term transformative impact of electricity access on the local economy.

To complement the enterprise-level data, we also collect structured information on community characteristics from key informants and we capture the consumer perspective in a qualitative approach through focus group discussions.

5.2 Sampling strategy

As mentioned above, grid extension under the CREP is based on self-selection of communities into the programme. Communities apply for electrification on their own initiative. There are observable determinants for whether a community is likely to apply for grid connection under the CREP, such as distance to the existing grid (which determines the expected cost of electrification) and the presence of community-based institutions (which would facilitate the formation of a CREE committee). However, there are also important non-observable factors that drive self-selection into the CREP, such as the *"awareness about the potential benefits of electrification on the side of the community"* (as stated by CREE committee members during qualitative interviews). There also seems to be some spatial clustering of CREE communities, which could hint at local demonstration effects, i.e., communities would apply for the programme as they see neighbouring sites being electrified (this observation was also confirmed by qualitative interview data). It is likely that some of these unobservable *drivers* are also correlated with the outcome variables of interest including the prevalence and performance of enterprises in the community: Entrepreneurship is typically associated with organizational talent and with an interest in community development and awareness of opportunities.

This clearly raises a concern that any comparison of non-CREE against CREE communities would suffer from strong bias due to reverse causality or omitted variables (communities are more likely to push for electrification if they have entrepreneurial members or if the community is aware that there is a particular local economic growth potential). Any evaluation strategy based solely on observable variables, such as propensity score matching, would not be able to correct for this.

21) The OECD DAC (2002) defines outcomes as "The likely or achieved short-term and medium-term effects of an intervention's outputs. [...] effects that can be directly attributed to an intervention [...]". Impacts are defined as "Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended." Refer also to the M&E guide developed as part of the PRODUSE study I (GIZ 2013) for an illustration.

As it turns out, the CREP offers an opportune context to address this concern, since communities have been taking up the program gradually over time. ***Only communities that have applied for electrification under the CREP were selected into the sample.*** Within this selection, the treatment group are CREEs where electrification has already been completed and the control group are CREEs where installation of the electricity infrastructure is pending at this point. This approach ensures that communities are comparable in terms of the unobservable characteristics that mark their economic potential.

There are currently 23 communities in Nepal that are waiting for first-time electrification under the CREP[22] in the sense that their applications have already been approved and the preparation or installation processes are at different stages. From those 23 "pipeline" communities we selected a control sample of 12 CREEs. The selection was aimed to cover the largest possible number of districts, while at the same time keeping logistic costs within the budget. In a second step we selected 14 treatment communities from the total of around 200 CREEs that have already been electrified. For each of the 12 control CREEs we selected at least one treated counterpart located within the same or a neighbouring district to ensure similar economic context. As an additional selection criterion for the treatment CREEs we considered only CREEs that had been connected by spring 2014 at the latest (so that at least two years have passed for entrepreneurial activities to develop). Importantly, for electrified CREE communities that have extended electricity supply to more remote village zones over time, we confined data collection to the area electrified in the first phase, i.e., when the community applied for first-time electrification, because this first phase area best corresponds to the areas that are waiting for first-time electrification at this point. In the selection of treatment CREEs we also prioritized those that were similar to our control CREEs in terms of access to roads and markets. Chapter 6.2 examines in detail how key community characteristics compare between treatment and control CREEs.

As explained in the previous paragraph, our powerful sampling strategy allows to conveniently infer causality. Therefore we can largely forgo special estimation techniques which are available as second-best options to address sample selection bias in observational data. We will use mainly linear regression as the standard econometric method for estimation and inference.

The question may arise whether there are any confounding factors that determine whether some communities are still waiting for installation of the grid, while others have long been attended to. As our data show, the main reason for some communities to be in the pipeline today is the fact that they applied several years later than the already electrified CREEs. A key assumption we make is that motivating factors and expected benefits of electrification have remained roughly constant over the last years, so that communities that have formed a CREE some years back might have catalysed and formalized their interests faster, but were motivated by the same factors as those communities that applied more recently.

While our control sites were not connected to the national grid at the point of data collection, it is important to note that ***more than 90% of these future CREE clients were already using some source of electricity, where for the large part (about one third of users) these were small SHSs*** (details will be discussed under results).

As a consequence, our study measures the impacts of village-level grid electrification – that is, communities that step up from (i) a prevalent base case usage of small, individual decentralized "offgrid" electricity systems to (ii) grid electricity. This corresponds to improvements in power availability, quality, quantity and price – as opposed to a switch from "no electricity use" to "electricity use". Firms and households may – in principle – keep their "offgrid" systems even after grid electrification.

While our allocation into treatment and control groups is done at the community level, we are actually interested in the effect of electrification on the individual enterprise. A special feature of the CREP is that electrification projects include all household and enterprise connections within a defined village zone in their quote.

22) Data sourced from NACEUN in February 2016.

As a result, no self-selection of households or enterprises into electrification occurs, but the community-level decision directly affects the enterprise. For an enterprise located within this zone, electrification of the community is equivalent to receiving a connection. In other words, ***treatment at community level is equivalent to treatment at enterprise level***, in our study.

Figure 2 shows a map of Nepal highlighting the districts over which our sample is spread. Our sample covers two out of the three geographical zones of Nepal, namely the hilly region (at altitudes roughly between 600 and 4900 meters), and the lowland region along the border to India, referred to as Terai. The country's third geographical zone, the mountain region, does not host any CREE at this point. Further, as the map shows, our sample covers four out of Nepal's five development regions (Far-Western, Mid-Western, West, Central).

Figure 2: Map of Nepal, districts included in the sample.

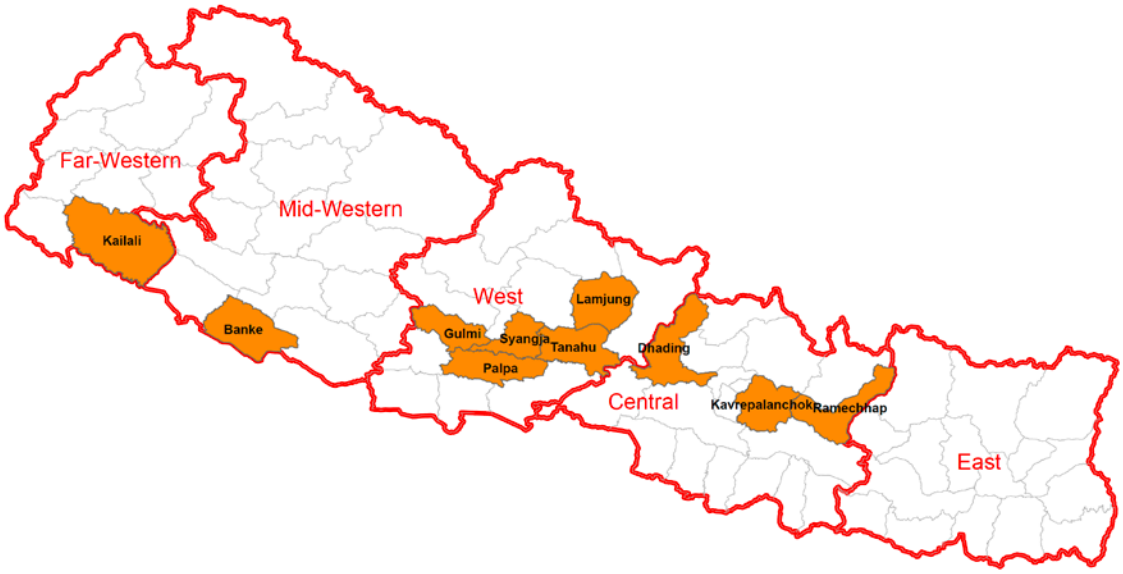


Table 1: Overview of selected CREEs

	Name of CREE Organization	Village Development Committee (VDC)	District	Geographical zone	Electrification status	Year in which the electrified CREEs received their connection
1	Bhumechuli Mangaltar Gramin Bidhyut Sahakari Sanstha	Mangaltar	Kavre	hilly region	not electrified	
2	Nayakiran Cooperative Ltd	Bhimkhori	Kavre	hilly region	not electrified	
3	Chaubas Gausthariya Samuhik Abhiyan	Chaubas	Kavre	hilly region	not electrified	
4	Baluwa Samudayak Gramin Bidyut Upabhokta	Baluwa	Kavre	hilly region	electrified	2008
5	Likhu Gramin Bidhyut Cooperative Ltd	Bamti Bhandara	Ramechhap	hilly region	not electrified	

	Name of CREE Organization	Village Development Committee (VDC)	District	Geographical zone	Electrification status	Year in which the electrified CREEs received their connection
6	Kisan Jagaran Samuha	Lakhanpur	Ramechhap	hilly region	electrified	2010
7	Gramin Samudaik Bikash Sanstha	Noubasta	Banke	Terai	electrified	2009
8	Khajura Sainik Bahu Udeshiya Sahakari Sanstha	Khajura	Banke	Terai	electrified	2007
9	Kachanapur Rural Community electricity Users Group	Kachanapur	Banke	Terai	electrified	2009
10	Sonari Bhagaura Samudayik Sastha	Baijapur	Banke	Terai	not electrified	
11	Kusum Gramin Bidyut Sahakari Sastha	Kusma	Banke	Terai	not electrified	
12	Rauraaraha Gramin Bidhyut Sahakari Sastha	Gadariya	Kailali	Terai	not electrified	
13	Amilichap Samudayek Bikash Samuha	Kumpur	Dhading	hilly region	electrified	2006
14	Chetanshil Gramin Bidyut Cooperative Limited	Fulkharka	Dhading	hilly region	not electrified	
15	Rana Kalika Samajik Sewa Samitti	Baireni	Dhading	hilly region	electrified	2012
16	Belkhu Khola Gramin Bidyut Sahakari Sastha Ltd	Kiranchok	Dhading	hilly region	not electrified	
17	Gramin Purbadhar Batabaran Manch Nepal	Dulegauda	Tanahu	hilly region	electrified	2008
18	Jalpadevi Risti Bhu-pu Gramin Bidyut sahakari Sastha	Taksaar, Jeeta	Lamjung	hilly region	electrified	2010
19	Ilampokhari Bidyut Sahakari Sanstha Ltd	Ilampokhari	Lamjung	hilly region	not electrified	
20	Samudaya Gramin Urja Bikash Kanya Samuha	Biruwa	Syangja	hilly region	electrified	2007
21	Laligurans Bidhyut Sahakari Sanstha	Galda	Palpa	hilly region	not electrified	
22	Foksingkot Bidhut Bitarak Sanstha	Foksingkot	Palpa	hilly region	electrified	2008
23	Shree Kurgha Samudayek Gramin Bidhuti Karan	Kurgha	Gulmi	hilly region	electrified	2008
24	Shree Bhaarse ga.bi.sa. Samudayek Gramin Bidhyutikaran	Bhaarse	Gulmi	hilly region	not electrified	
25	Okobara Samudaik Vidyut Upabhokta Samitee	Okobara	Syangja	hilly region	electrified	2007
26	Samudayek Vidyut Utpadan tatha Bitaran Sahakari Sastha limited	Aarukharka	Syangja	hilly region	electrified	2006

5.3 Field work and data collection

In partnership with a local firm, Sustainable Energy and Technology Management Ltd. (SETM), data from the field was collected between March-June 2016. Data was collected at three different levels in each of the sampled CREE sites: communities, enterprises, and consumers. Methods for data collection included a set of structured survey questionnaires applied to one or several CREE committee members (as key informants on the community) and to individual enterprises. Focus group discussions (FGDs) were composed of village consumers (no individual customer survey was administered).

Community characteristics and CREE benchmark data collected from CREE committee representatives included (see *Annex 1* for the full questionnaire):

Specific information about the first electrification phase

- number, type, and location of enterprises in the electrified zone;
- number of households in the electrified zone;
- existence of formal and informal village institutions;
- social services in place (schools, health facilities);
- other community-level electricity sources;
- load shedding;
- Enabling environment for small businesses;
- distance to closest market, and to larger markets in the area;
- physical infrastructure (mobile phone network coverage, street lighting);
- availability of financial services, including commercial banks and micro-finance;
- tourism or other potential local growth drivers.

Enterprise surveys were conducted with all existing enterprises within the CREE area as listed during the community-level CREE interviews. The enterprise survey covered the following variables (see *Annex 2* for the full questionnaire):

- demographic characteristics of the firm owner (age, gender, education level, ethnicity);
- firm history;
- range of products and services offered at the time of announcement of village electrification and at present as well as corresponding prices;
- investment since announcement of village electrification;
- use of electric appliances;
- electricity consumption;
- turnover, spending on inputs on weekly or monthly basis and profit;
- number and qualification of employees;
- access to finance and loan history;
- customer base and catchment area of clients;
- marketing practice;
- perception of barriers to and opportunities for business expansion;
- perception of competitive environment.

In addition to a generic section of the enterprise survey, specific modules for the most prevalent types of business were designed to assess turnover, profit and business operation details with greater precision. The most prevalent enterprise types were agro-processing mills, poultry farms, carpenters, shops, restaurants, and other manufacturing firms (including metal workshops). For enterprises that did not fall within any of these most prevalent types, turnover, profit and business operation details were recorded by a generic module.

Enterprise interviews were held with the firm owners themselves. If the firm owner was not present or not

available at the first visit, the survey team arranged for a meeting with the owner at a later point. In cases where a personal meeting with the firm owner during the survey team's stay at the CREE was not possible (16% of cases), a family member with good insights into the business operations and business numbers was interviewed.

Questionnaires for community and enterprise data collection were developed in close collaboration with SETM. The questionnaires and data entry tools developed for the PRODUSE I study [23] served as blueprints and were adjusted and extended to match the local context in Nepal, covering the specific research questions this study was designed to address. All questionnaires were developed in English and translated to Nepali before field-testing. Even though Nepali was not the mother tongue but only a second language for some, all respondents in the sample had a good command of the Nepali language and further translation into other local languages was not required.

Prior to dispatching the enumerator teams into the field, contact through the telephone was made with the key representatives of the CREEs. They were briefed about the purpose of the field visit and informed to gather at the CREE office for the CREE-level survey with all the applicable representatives and resources.

As part of the community-level data collection, the CREE committees provided an initial stocktaking of SMEs present within the CREE area (enterprise type, number and location). CREE committees tended to have a good overview of the existing enterprises in the electrified part of the village, though not exhaustive. The list was then completed with input from firm owners encountered and community members.

In principle, all enterprises located in the CREE area were interviewed, independent of whether they used electric appliances or not. However, in some CREEs the number of shops and restaurants or the number of poultry farms were too large to include all of them in the sample. In CREEs with many shops and restaurants, a more detailed stocktaking was undertaken to (i) identify those shops which offer additional services, like photocopying or mobile phone repairing, and select them for the full interview and (ii) divide the remaining shops and restaurants into groups based on the electric appliances they use (lighting only; lighting and additional appliances like refrigerator, rice cooker, grinder, etc.) and include three randomly selected representatives of each group in the sample. The total number of shops and restaurants to be included in the sample per CREE area was capped at 12. Respectively, the number of poultry farmers interviewed per CREE was capped at 10, with a random selection of farms from each village ward within the CREE zone.[24]

Lastly, consumer focus group discussions in each community were held to capture the consumer perspective on changes induced by or expected to result from electricity use by local enterprises (see *Annex 3* for FGD guidelines). Prior to the field visit, the CREE and the local people (via the CREE) were informed about the intent to gather local consumers who permanently lived within the first phase CREE zone. In some CREE areas it proved difficult to gather the minimum number of participants at the same time. Therefore, the group discussion was made multiple times at different places. This ensured the information collected in the FGD context was represented by participants from (a minimum of),

- at least five independent households/separate families;
- a cross-section of ages and social classes;
- at least 30% female representation.

Both CREE members and the entrepreneurs were excluded from the FDGs to ensure the focus was on the broader village consumer level, however, if a member of the CREE or SME owner was present he or she was requested to just observe and leave the contributions to be made only by the villagers.

23) These are available for download at *www.produse.org/methodology*

24) Poultry farms were high in number, typically in the Terai region as it has been shown to be a profitable business. Poultry farms can range in capacity from 40 to 3000 chicken, with an average of around 500.

Fieldwork and data collection was carried out in March to June 2016. The sequence of steps can be summarized as follows: (1) initial field assessment (February),[25] (2) selection of CREEs for the survey (March), (3) finalization and translation of questionnaires (March), (4) field testing of questionnaire (March), (5) initiation of the SETM enumerator teams by the international research team (April),[26] (6) data collection (April–May), and (7) data digitalization and analysis (June–July).

All quantitative data (enterprise and community level) were first entered into excel spreadsheets, then imported into statistical software (STATA), and merged into a single dataset before analysis. All data processing and analysis were done in STATA.

The table below provides an overview of the challenges encountered during the data collection process and the responses/actions taken to address and mitigate them.

Table 2: Challenges encountered during data collection and how they were addressed

Challenge arising	Description	Response to mitigate
Selection of the CREE coverage	A CREE is made up of several VDCs. In CREEs with several VDCs, which were all within the first electrification phase but also of considerable travel distance between each other, conducting surveys in all the VDCs was not practical in the allocated timeframe.	Electrification within a phase, when there are multiple VDCs, occurs in an order. In cases where multiple VDCs were part of the 1st phase; the first VDC to be electrified was selected.
Precise record of SMEs within a CREE	The CREE officials did not always know all of the existing enterprises within the CREE.	The CREE officials provided an initial account of existing enterprises. Then, during the survey of these enterprises, further investigation was made with the entrepreneurs and the local people, providing an exhaustive account.
Large # of poultry farms	Numerous poultry farms were often encountered – surveying all the existing poultry farms would be too time consuming.	If more than ten poultry enterprises in the CREE (1st phase zone) were found – an approximate estimate was received from the CREE officials detailing the number of poultry farms in each CREE. Ten farms were then randomly selected for interview, according to following rules: • select at least one farm from each ward; • select a fraction of ten from each ward proportional to the number of farms in that ward; • do not select farms that are currently not in operation.[27]

25) In order to understand the actual field level scenario of the CREE site, the international research team and representatives from the local team visited three different CREE sites (in Dhading, Tanahu and Mugling districts) a month prior to data collection. The initial field visit provided a more realistic picture of the set of research questions that this study would likely be able to answer given the local economic context and specific characteristics of the CREP. It was also used to identify commonly found enterprises and assess accessibility, geography, people's willingness to participate in the survey, etc., and to finalize sample selection.

26) The local team was composed of five enumerators (two lead and three junior) of which formed two survey teams (Team A and Team B).

27) Some poultry farms operated on a rotational basis whereby after one complete round of raising, the farmer would break for weeks/months (dependent on the preference of the farmer), then start again with the next round.

Challenge arising	Description	Response to mitigate
Large # of shops and restaurants within the market centre	More than 10 shops and restaurants were encountered – too many to survey in the timeframe allotted.	Full interviews were conducted with a randomly selected subset of shops and restaurants using electrical device(s). The sample was identified after: (a) inquiring within each enterprise if they used electricity, (b) classifying into four groups: (1) shops only using electricity for lighting, (2) shops using electricity for devices in addition to lighting (e.g. refrigerator, printer, photocopying machine, etc.), (3) restaurants only using electricity for lighting, and (4) restaurants using electricity for devices in addition to lighting. If in any of the four groups, three or fewer enterprises existed, all were interviewed. If in any of the four groups more than three enterprises existed, three were randomly selected.
Shops encountered outside market centre	Outside the market centre shops would be encountered – while surveying the other enterprises.	Full interviews were conducted with up to three randomly selected shops using the same electrical device(s) (excluding shops only using electricity for lighting). The sample was identified after (a) inquiring within each shop if they used electricity for anything other than lighting, (b) classifying shops according to the devices in use (e.g. refrigerator, printer, photocopying machine, etc.).
GPS coordinates of CREE location	Due to the poor mobile phone network in most CREEs, recording GPS coordinates was not possible.	Where GPS coordinates were not possible to record in the field, the CREE location was mapped in rough estimate after returning from the field using Google earth.
Gather enough participants for the FGD	Difficulty in gathering 10–20 people for a single focus group session	More than one FGD was carried out in different parts of the CREE, however all were still within the vicinity of the 1st electrification phase.
Direct interviews with enterprise owner	The owner of the enterprise was not always available during the survey.	Skipping the enterprise was rare because the enumerators would (a) arrange to come back at a convenient time or (b) receive the mobile contact of the owner and conduct the survey over the phone (rare). Or (c) ask the other members of family
Getting exact values	Some values (distance, electricity consumption, loan amount, etc.) were not always remembered with precision by the entrepreneurs.	The interviewee was asked to provide the most accurate answer possible.
Reluctance to detail financial information	Some entrepreneurs were hesitant to provide financial data (e.g. bank account, saving, loans).	If respondents' reluctance to provide data was due to concerns about confidentiality, the enumerators did their best to ease these concern by re-explaining the objective of the study.

Chapter 6:

Results

6.1 The sample

The final sample comprises 627 enterprises located across 14 electrified and 12 unelectrified CREEs. Of the total number of enterprises, 353 are located in electrified CREEs and 274 are located in unelectrified CREEs. As mentioned above, given that connections for all potential users are an integral part of the electrification projects proposed under the CREP, almost all of the enterprises in the electrified CREEs have a connection and use grid electricity.[28]

Table 3 breaks down these numbers by type of enterprise. The most commonly found enterprises are agro-processing mills, poultry farms, shops, restaurants, and some metal workshops. In the following, we group together shops and restaurants as some businesses actually are a combination of both. As explained in the field methods section, the number of shops interviewed was capped at 12 per CREE, so the number of existing shops is higher for some CREEs. The products and services offered by the shops in sample range from grocery, stationery, clothing, kitchen utensils and agricultural inputs to ICT services.

Table 3: Overview of **sample enterprises**

Type of enterprise	Unelectrified CREEs	Electrified CREEs	Total
agro-processing mills	58	66	124
poultry farms	64	80	144
carpenters	7	17	24
shops (total)	99	118	217
grocery shop	65	68	133
meat shop	0	4	4
beauty parlor	8	16	24
ICT/office/photo services	9	14	23
other shop types	17	16	33
restaurant / hotel	41	57	98
metal workshops	4	9	13
other manufacturing or service firms	1	6	7
Total	274	353	627

All of the enterprises encountered in electrified and unelectrified CREES are micro and small enterprises with 23% of the total being one-person businesses, 52% having one staff, and the remaining 25% having more than one staff, but five at maximum. Table 4 compares the mean number of staff for each type of enterprise by electrification status. It can be seen that average staff count is very similar or higher in the electrified as compared to unelectrified CREEs for all enterprise types, except for carpenters, who use less manpower if grid electricity is available. For none of the enterprise types the difference is statistically significant.

Around 61% of firm owners do agriculture on the side, and another 25% have other non-agricultural sources

28) Only 4 enterprises in the electrified CREEs are not using grid power at the time of the survey, because they see no benefit, do not want to invest in equipment, or because the wiring is currently being re-done.

Table 4: Mean **number of staff** by enterprise type in electrified and unelectrified CREEs

Type of enterprise	mean number of staff in unelectrified CREEs	mean number of staff in electrified CREEs	mean difference
agro-processing mills	0.95	1.0	0.05
poultry farms	1.13	1.25	0.12
carpenters	2.29	1.53	-0.76
shops	0.88	0.85	-0.03
restaurants	1.17	1.23	0.06
metal workshops	2.0	2.44	0.45
other manufacturing or service firms	1.0	3.5	2.5
Total	1.05	1.15	

Note: *** p<0.01, ** p<0.05, * p<0.1.

of income to complement the firm revenue. On average, firm income contributes 50% to the total annual income of the owners' families.

An overwhelming majority (88%) of enterprises are owned by men. About half of the male enterprise owners state that their wives are in some form involved in the business, as well. Among the male shop and restaurant owners, 30% state that the main responsibility for operating the business actually rests with their wives. Female-owned businesses are mainly shops (41%), restaurants (35%), some poultry farms (18%) and very few mills (6%).

The overall level of education amongst the firm owners in the sample is rather low, with 85% not having completed secondary school, and 5% illiterate. Only around 3% of firm owners hold a vocational or higher degree. Ninety percent of the firm owners describe their professional skill level as "trained on the job", meaning that they have not undergone any structured apprenticeship. Only 7% of firm owners in the sample have received specialized training. These skilled entrepreneurs are mainly poultry farmers (42% of all skilled entrepreneurs) and shop owners (40% of all skilled entrepreneurs). Next to these, respondents who acquired special skills are the owners of a cement block construction business, an incense sticks shop, a herbs processing business and a titaura production.[29]

In regards to the ethnic composition of shop owners, about 44% belong to the Hindu castes of Brahmins and Chhetris. About 7% are Dalits[30] (their total share in the Nepalese population is 13% according to the official 2011 census), about 48% are Janajati (indigenous population, who make up around 37% of the Nepalese population) and less than 1% are Muslims (who have a total share of 4% in the Nepalese population).

29) Titaura is a Nepalese candy made from fruits and sugar, chili, salt, and other spices.

30) An ILO document describes the Dalit group as follows: "The term Dalit is generally used to identify those on the lowest rung in the caste hierarchy. In most writings, the term is also used to identify the vulnerable and poor groups of people who are oppressed, suppressed and exploited. Today, to Dalit activists in Nepal, India and elsewhere, Dalit implies those groups of people who have been broken, ground down by those above them in a deliberate and active way." Source: Dalits and Labour in Nepal: Discrimination and Forced Labour, ILO 2005.

6.2 Baseline characteristics of electrified and unelectrified CREEs

This impact analysis is based on the ***key identifying assumption that already electrified and to-be-electrified CREEs offer comparable environments for small firms to emerge and prosper***. While, as discussed above, important aspects of what constitutes a favourable business environment are hard to capture, other aspects are actually observable, such as geographic location, size of the community, distance to the existing grid (and related to this, cost of electrification), access to market, and access to social infrastructure. In order to check whether our identifying assumption is plausible, we compare the treatment and control group in terms of a number of observable characteristics that are not or unlikely to be affected by the treatment itself. *Table 5* shows a simple means comparison by t-test for selected CREE characteristics for the treatment and control group, with the enterprise as the unit of analysis.[31] *Hilly region* is an indicator variable which takes the value one if the CREE is located in the hilly zone (at altitudes roughly between 600 and 4900 meters), and zero if the CREE is located in the Terai (lowland) region. All but one of the surveyed lowland CREE are in the Banke district. *Number of households* specifies the number of households located in the first phase electrification zone, i.e., the number of households that have (or are going to have) an electricity connection. *Electrification cost per hh* is the total cost of the electrification project (for the unelectrified CREEs, the cost quote which is developed as part of the application for the CREP), covering grid extension, lines across the village, and all household connections, divided by the number of connected households. Note that this cost figure has nothing to do with the financial contribution made by each individual household or enterprise as the cost sharing arrangements, including the contributions by the local administration, vary strongly across the CREEs. The contribution made by each household or enterprise to the electrification project (where households and enterprises typically cannot opt out if they are not interested in the project) is captured in variable *contribution by hhs*. *Distance to grid (in km)* is the distance from the existing grid (before the CREE was connected) to the nearest point in the CREE area. *Spread of hhs (in km)* is the distance between two points in the CREE area (first phase electrification zone) that have the maximum distance between them, and hence is a proxy for the length of the electricity line across the village. It is strongly correlated with the total cost of the electrification project (r=0.62). External motive refers to the

Table 5: **Community characteristics** of electrified and unelectrified CREEs

Variables	mean unelectrified CREEs	mean electrified CREEs	mean difference
Hilly region	0.71	0.73	0.02
Number of hhs	1655	823.3	-831.28***
Electrification cost per hh (NRP)[32]	55,000	42,000	-13,000***
Contribution by hhs (% of total cost)	59.03	38.51	-20.52***
Distance to grid (km)	3.51	3.02	-0.49
Spread of hhs (km)	14.09	5.79	-8.29***
Distance to nearest market (km)	1.21	1.26	0.05
Travel time to nearest market (hours)	0.47	0.54	0.07
CREE has a market	0.55	0.24	-0.31***
Distance to secondary school (km)	1.32	2.60	1.28***
Distance to college (km)	35.44	16.23	-19.21***
Distance to hospital (km)	40.92	28.64	12.28***
External motive	0.15	0.28	-0.13***
Note: *** p<0.01, ** p<0.05, * p<0.1.			

31) The t-test determines whether differences in variables between two subsets are statistically significant, based on the sample variance and means of the two subsets.

32) Note that for the unelectrified CREEs, this is the cost estimate for the pending electrification.

community's motivation for applying for the CREP. The variable takes the value one if the CREE committee stated that some external person or a member of the village development committee (VDC) encouraged the community to apply for the CREP, and zero if they were motivated by any other factors.

The *table* shows that the shares of enterprises located in the hilly (70%) and in the Terai region (30%) are almost equal for electrified and nonelectrified enterprises. Also, in terms of distance to the existing grid, and distance and travel time to the nearest market, there is not significant difference between the treatment and control group. This is very reassuring as these characteristics would have been the most important suspects for driving both probability of being electrified, and economic growth and enterprise development.

Some exogenous community characteristics, however, differ significantly between the treatment and control group. First, the unelectrified CREEs are on average almost twice the size in terms of the number of households within the first-phase electrification zone.

Also, ***there is a statistically significant difference in the electrification cost per household*** (where for the unelectrified CREEs, this is the cost quote). The mean in the unelectrified sample is approx. NRP 55,000 per household, while the mean in the electrified group is approx. NRP 42,000. Related to this, the average spread of households within the CREE is more than double in the unelectrified sample as compared to the electrified sample. When we regress the electrification cost per household on the observed potential cost drivers (the number of households, the spread of households, and the nearest distance to the existing grid), the residuals from this regression are no longer significantly higher in the unelectrified CREEs. This means that after taking the CREE size and the proximity of households to the existing grid into account, the unelectrified CREEs in the sample face the same electrification cost as their already electrified counterparts. Hence, we are assured that we are not missing out on any unobserved village characteristics that might drive up electrification cost within the control group.

While distance and travel time to the nearest market, which are both zero for CREEs that have a market within, are not significantly different between the groups, the binary indicator for whether the CREE has a market or not is significantly different: 55% of the unelectrified sample, but only 24% of the electrified sample have a market place within the village.[33] Distances to social infrastructure are also different between the groups, whereby secondary schools are closer for unelectrified, and colleges and hospitals are closer for electrified CREEs.

Lastly, the share of CREEs who report exogenous factors as part of the motivation to apply for the CREP (such as personal relations by individuals, support by the VDC, and in one case support from the Indian embassy) is significantly higher in the electrified areas. Given that the motivating factors were elicited by an open question to a few CREE representatives, we prefer not to attribute too much importance to this difference.

In conclusion, our electrified and unelectrified samples differ in the following respects: The unelectrified CREEs are on average larger, both in terms of the number of households to be electrified and in terms of area; they are more costly to electrify; their households make higher proportional contributions to the total project costs; they are more likely to have a market within the zone to be electrified; they are located closer to educational institutions, but further away from hospitals; and their motivation to apply for the CREP is less likely driven by external factors. These results are important and suggest that when estimating electrification effects on firm outcomes, we should control for these community characteristics. However, our overall conclusion from the check is that there is no fundamental difference between pipeline and already electrified CREEs in terms of the given preconditions for business performance.

33) Note that the number of households located in the first electrification phase, as well as whether or not the CREE has a market, is potentially endogenous. We might expect that more people move from remote parts of the village to the electrified zone, and that markets are more likely to develop in electrified CREEs. Given that in our ex-post data we observe lower number of households, and lower likelihood of a having a market in the village, we can assume that at baseline the disparity was even larger.

6.3 Electrification effects on community-level outcomes

Even though the focus of this report is on outcomes at the level of enterprises, we report a few observed effects at the level of the community. ***As the total number of CREEs in our sample is small, we cannot expect to find statistically significant results for this part of the analysis.***

First of all, we examine whether electrification has changed migration patterns. We regress the number of households that have left the CREE permanently over the two years preceding the survey on whether or not the CREE is electrified, and include as controls those community characteristics which turned out to be significantly different across the electrified and unelectrified sample. We run the same regression with the number of people who migrate temporarily to work outside the CREE or abroad. *Table 6* shows that the point estimates on electrification are negative for both regressions, suggesting that ***electrification has reduced both permanent and temporary out-migration***. On average, the number of households who left permanently over the last 2 years is higher by 3.5, and the number of temporary migrants is higher by 210 persons, in unelectrified CREEs as compared to electrified CREEs. These estimates, however, are insignificant given the small sample size.

Table 6: Effect of electrification on the number of **households that left permanently**, and the number of temporary migrants

	(1) Households left permanently	(2) Temporary migrants
Electrified	-3.54	-209.9
	(4.21)	(174.3)
Number of households	0.003	0.18
	(0.003)	(0.10)
Electrification cost per hh (NRP)	0,00	-0,0004
	(0,00)	(0.002)
Spread of hhs	-0.27	-15.32
	(0.30)	(12.58)
Whether CREE has a market	-5.53	107.0
	(3.64)	(150.8)
Number of firms in CREE	0.07	8.01
	(0.12)	(4.96)
Distance to secondary school (km)	0.78*	-10.69
	(0.40)	(16.42)
Distance to college (km)	0.06	4.38
	(0.08)	(3.34)
Distance to hospital (km)	-0.11	-3.60
	(0.10)	(4.21)
Constant	5.79	277.8
	(5.54)	(229.3)
Observations	0.15	0.28
R-squared	0.32	0.61

Note: OLS regression. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

We also examine how the social composition within the CREE area is associated with electrification status. We regress the share of Dalits and Janajati (indigenous population[34]) in the CREE on electrification status and the standard set of community-level controls (*Table 7*). ***The share of marginalized groups within the community is lower by 17 percentage points in the electrified, as compared to the unelectrified CREEs*** (again, this point estimate is not statistically significant owing to small sample size). Note that we cannot make any causal statements here, as it is unclear whether the share of underprivileged households within the community determines the likelihood of electrification, or whether electrification determines the share of underprivileged households by inducing local migration flows.

Table 7: Electrification effects on **share of Dalits and Janajatis** in the total CREE population

	(1) Share of Dalits and Janajati in the total CREE population
Electrified	-16.69
	(14.00)
Number of hhs	0.00
	(0.01)
Electrification cost per hh (NRP)	0.00
	(0.00)
Spread of hhs (km)	-0.05
	(1.18)
Whether CREE has a market	11.98
	(13.84)
Distance to secondary school (km)	0.91
	(1.40)
Distance to college (km)	0.12
	(0.31)
Distance to hospital (km)	-0.29
	(0.39)
Constant	75.58***
	(21.38)
Observations	26
R-squared	0.23
Note: OLS regression. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1	

As an outcome that is only observable for already electrified CREEs, we have recorded whether and how many public streetlights have been installed. ***We find street lighting only in 4 of the total 14 electrified CREEs***. The number of streetlights in these CREEs range from 3 to 150.

34) Within the Nepalese society, Janajati have suffered exclusion from the mainstream and above average poverty levels according to a report by the ILO (URL http://un.org.np/node/10312).

6.4 Effects of electricity use on small and micro enterprise outcomes

6.4.1 Energy use

The use of decentralized electricity sources to power appliances in the unelectrified CREEs is very widespread. In fact, only 7% of enterprises in these locations have no access at all to modern energy. ***Solar systems are used by 65% of enterprises in unelectrified CREEs, whereby more than 80% of the solar systems in use are small (with a capacity of less than 50 Wp), and more than half are 20 Wp or less.*** The second most important modern energy system is the diesel engine (genset), used by around 25% of enterprises in the control CREEs, predominantly to run mills. Another 10% of firms use pico-hydropower.

As mentioned above, this implies that the impacts measured by our study are in fact the effects of a community-level electricity access upgrade from (i) exclusive use of small, decentralized "offgrid" electricity systems to (ii) grid electricity for all firms. In the electrified CREEs, very few firms still use decentralized power systems as backup devices (*Table 8*). This suggests that grid service is more attractive in terms of price and/or quality in this specific CREE case, because surveys in other countries have shown that users may also keep using off-grid devices even when they have grid connection, if it seems more convenient or efficient.

Table 8: **Electricity use** by firms in electrified and unelectrified CREEs

Electricity source	Used by firms in unelectrified CREE (as share of total firms in unelectrified CREEs)	Used by firms in electrified CREE (as share of total firms in electrified CREEs)
grid	0%	99%
solar system	**65%**	2%
pico-hydro	**10%**	0%
diesel engine	**26%**	0.5%
battery	0.5%	1%
any decentralized system	**93%**	**4%**

While qualitative information collected during fieldwork suggests that economic activities outside the home after dark are an undesirable routine, more than 75% of firms in electrified CREEs operate at night at least occasionally. While only around half of the mills sometimes operate at night, 83% of shops do so. Carpenters work exclusively in the daytime.

6.4.2 Use of electric appliances

The productive use of electric equipment constitutes the next intermediary outcome along the results chain from electricity access to firm performance. Foremost, we find that ***approximately 80% of the electric equipment which firms in electrified CREEs report to use has been acquired after the grid was installed***. Second, when we compare electric equipment use in unelectrified vs. electrified CREES, we find an ***increased use of almost all types of appliances by firms following grid electrification***. Table 9 shows the shares of firms that are using each type of appliance in unelectrified and electrified CREEs respectively, and the difference (i.e. the absolute increase or decrease, in the last column). Asterisks indicate whether the difference is statistically significant (t-test).[35] For the majority of (non-agro-processing) appliances, we find that their increase in use within electrified, as compared to unelectrified CREEs, is both substantial in size and statistically significant. ***The largest absolute increase in use is found for refrigerators***, which is not surprising, as shops and restaurants constitute the largest part of the sample, and as refrigerators tend to consume large and continuous amounts of electricity, without service interruption, running them on small off-grid energy systems is difficult for economically constrained firms. For some rarely used appliances, such as welding machines, sewing machines and office equipment (photocopying, printers, scanner etc.), we find an increase in use, albeit not significant, given the small numbers.

35) We do not include agro-processing appliances here given that mills typically switch from diesel-powered to electricity-powered equipment, so we would not expect to see a change in terms of appliance use.

Table 9: Use of electric **appliances**: Share of users in treatment and control sites

	(1) share of firms within unelectrified subsample using	(2) share of firms within electrified subsample using	(3) means comparison (t-test) based on enterprise sample
cutter	0.022	0.045	0.0230
electric saw	0.004	0.028	0.025**
welder	0.007	0.020	0.013
sewing machine	0.011	0.008	-0.002
electric iron	0	0.014	0.014**
mixer	0.004	0.025	0.022**
rice cooker, chapatti maker or induction stove	0	0.051	0.051***
refrigerator	0.033	0.295	0.262***
TV	0.004	0.037	0.033***
computer	0.011	0.034	0.023*
photocopying, printer, scanner or laminator	0.015	0.031	0.017
fan	0.007	0.150	0.143***
electric pump	0	0.006	0.006

Note: *** p<0.01, ** p<0.05, * p<0.1

Looking at whether electrification has encouraged acquisition of new productive capital more generally, we find no statistically significant effect of electricity access at community level on the amount of money that firms have invested in the last three years (results not reported).

Note that the differences measured in Table 9 may potentially be driven by differences in sample composition in terms of enterprise types. It may be the case that we find certain appliances used more often in the electrified

Table 10: Use of electric **appliances in shops and restaurants**

	share of firms within unelectrified subsample using	share of firms within electrified subsample using	means comparison (t-test) based on sample of shops and restaurants
mixer	0.007	0.040	0.033*
rice cooker, chapatti maker or induction stove	0	0.103	0.103***
refrigerator	0.064	0.594	0.530***
TV	0.007	0.074	0.067***
computer	0.021	0.069	0.047*
photocopying, printer, scanner or laminator	0.029	0.063	0.034
fan	0.014	0.200	0.186***

Note: *** p<0.01, ** p<0.05, * p<0.1

subsample because the typical users are more prevalent in the electrified subsample. We therefore take a closer look at the appliances used in shops and restaurants (because this group of firms is large enough to still expect significant results, if changes occur). If we limit the sample to shops and restaurants only and repeat the above comparison for relevant appliances, the same pattern emerges (effects are quantified in *Table 10*). ***Shops and restaurants in electrified areas are much more likely to use electric appliances of various types.*** Considering that the large majority of firms in the unelectrified CREEs are using some type of decentralized electricity source (for shops this share is 87%), ***we can conclude that upgrading electricity access from decentralized to grid power has a substantial effect on a firms' use of electric appliances.*** Next, we turn to the question how these changes in production technology translates into changes in business performance.

6.4.3 Effect of electricity access on energy expenses

Firstly, we examine whether the national grid is a cheaper source of electricity as compared to alternative sources. The monthly grid electricity bill paid by enterprises is on average approx. NRP 1,270 (USD 11), which constitutes merely 2% of the electrified firms' total monthly revenue. For those firms in the unelectrified CREEs that use diesel-run equipment (mainly agro-processing mills), monthly diesel expenses are on average approximately NRP 11,120, which is ***a near ten-fold increase as compared to the monthly grid electricity cost.*** Other electricity sources used by our sample enterprises do not incur significant running cost (that is, expenses for operation and maintenance) on a monthly basis.

We regress total monthly running cost for electricity (either the grid electricity bill or diesel expenditure, or the sum if an enterprise uses both) on whether or not a firm has access to grid power, location of the CREE, other community characteristics which we observed to differ between treatment and control group, a number of firm owner characteristics, and a set of firm type fixed effects.[36] We find that ***access to the grid reduces monthly costs for modern energy*** by approximately NRP 5,400 (the coefficient is significant, see *Table 11*). This is a reduction ***by almost 50%***.

We like to recall that fuel prices at the time of data collection were substantially above the long-run average due to the economic and fuel crisis that started in late 2015. While our survey did not allow to collect detailed retrospective records of firms' energy expenses, we expect that the mean recorded differences in energy expenditure between diesel and grid-powered enterprises would have been smaller. If the data had been collected before the onset of the crisis.

6.4.4 Effect of electricity access on firm profits

We now analyse whether electricity access has an effect on enterprise performance. To this end, we first look at the monthly profit indications collected directly from the respondents. Note that our explanatory variable of interest here (and in all other regressions) is ***not*** electricity use, which is highly endogenous – meaning that whether a business uses electricity is most likely correlated with the firm's profit. ***Rather, we use community-level access to electricity as the main regressor, which is exogeneous (i.e., independent of the profit distribution) based on our sampling strategy.*** Importantly, in the context of the CREP, where the community electrification project cost covers all household and enterprise connections, electricity access at community level is equivalent to electricity access at the firm level.

Monthly profits (as well as other business figures measured in monetary terms) vary considerably between the different firm types (see *Table 12*). Poultry farms are the least profitable business, with a monthly mean profit of NRP 16,000 (approx. USD 150), while carpenters report a monthly profit almost double of that. Monthly profit indications given by the respondents, however, should be considered only as rough proxies for the true amounts, given that most of the firms in our sample do not routinely practice bookkeeping. Also, estimating monthly profits is more difficult for some enterprise types than for others. For example, poultry farmers indicated their profits "by lot" (i.e. per breeding period), from which we have imputed monthly figures. Similarly, a carpenter who has

36) For a discussion on the use of firm type fixed effects, see the following *chapter 6.4.4*.

Table 11: Effect of electricity access on monthly **energy expenditure**

Variables	(1) monthly energy expenditure
Electrified	-5,395***
	(912.0)
Travel time to nearest market (hours)	841.7
	(564.8)
Hilly region	-4,712***
	(627.4)
Number of hhs	0.70
	(0.55)
Electrification cost per hh (NRP)	0.01
	(0.01)
Spread of hhs (km)	96.58
	(69.14)
Whether CREE has a market	-389.8
	(884.8)
Distance to secondary school (km)	8.34
	(71.36)
Distance to college (km)	9.83
	(13.88)
Owner is Janajati	-33.49
	(477.5)
Owner is Dalit	-16.28
	(964.8)
Owner's age	-3.617
	(20.56)
Owner is female	436.2
	(763.4)
Number of staff	795.4***
	(267.4)
Number of years firm has existed	-82.91**
	(41.20)
Firm type fixed effects	YES
Constant	10,656***
R-squared	(1,661)
Note: OLS regression. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1	

irregular orders will find it more difficult to translate business numbers into long-term monthly averages than a shop with a more consistent turnover. Taking these dissimilarities into account, the most efficient way to estimate effects of electricity access on profits (and on other monetary firm outcomes that are highly heterogeneous across firm types) in a linear regression is to include firm-type fixed effects, meaning to include as a regressor an indicator variable for each firm type. This allows the regression to be run on the full sample, but ensures that within this single regression we actually compare mills with mills, carpenters with carpenters, etc. While a fixed effects regression here is more efficient than splitting the sample,[37] comparisons within relatively small subsamples of firms are obviously much less powerful than if we had a homogeneous sample of similar firms!

Profits are measured as *monthly* profits reported by firm owners. The interview question included a remark that profits are defined as revenue minus cost of operation. Some firm owners reported profits per different time units (e.g. poultry farmers). In these cases, we imputed monthly figures from the records. ***We exclude from the analysis of profits, revenues and profit margins those enterprises that reported monthly profits in excess of monthly revenues, which are 54 firms in total.***

Table 12: Summary **statistics of profits** (in NRP) by firm type

	N	mean	sd	min	max
Mills	110	17,740	11,825	500	55,000
Carpenters	21	32,000	22,583	2,000	100,000
Shops	193	19,926	16,050	500	120,000
Restaurants	90	19,277	14,193	900	70,000
Poultry	133	16,145	14,620	1,667	100,000
Metal workshops	12	47,500	35,895	12,000	150,000
Other	4	125,750	124,842	3,000	300,000
Total	**563**	**20,292**	**20,723**	**500**	**300,000**

For the overall sample, we find no evidence of a statistically significant effect of electricity access on firm profits. In our reference estimation, we regress the logarithm of firm profits[38] on whether or not the CREE has grid access, a full set of firm-type fixed effects, and a number of community-level and enterprise-level controls (which in the following we will refer to as the standard set of controls). As community-level controls, we include whether the CREE is located in the Terai or the hilly region, the travel time to the nearest market place, and other community characteristics that turned out to be significantly different (t-test) between the treatment and control group in our up-front identification check (see *chapter 6.2*). As enterprise-level controls, we include indicator variables for whether the firm owner is Dalit or Janajati, the firm owner's age and gender, the number of staff, and the number of years the firm has existed. Results are presented in *Table 13, column 1*. Firms in electrified CREEs have 13% lower profits than firms in unelectrified CREEs, but this coefficient lacks statistical significance (p-value of 0.21). Looking at the effects of other covariates, we find that ***firms located in the hilly region have significantly lower profits than those in the Terai (- 56%).***

Importantly, we also find that ***women-led enterprises earn on average 37% lower profits*** after controlling for the full set of community and enterprise characteristics. ***Younger firm owners earn slightly higher profits***, whereas the number of years the firm has existed has no effect on its profits.

37) Splitting the sample by firm type would mean that sample sizes for some groups would be too small.

38) See *Annex 4* for a methodological discussion on the logarithmic transformation in our model.

Table 13: Effect of electricity access on **firm profits for different samples** (the difference between columns (1), (2) and (3) is explained in the text, on the pages above and below)

	(1) ln of monthly profit	(2) ln of monthly profit	(3) ln of monthly profit
Electrified	-0.13	-0.15	-0.38***
	(0.10)	(0.13)	(0.13)
Firm uses electric equipment x electrified (grid access)		0.03	
		(0.11)	
Firm operates at night x electrified (grid access)			0.33***
			(0.11)
Hilly region	-0.56***	-0.56***	-0.53***
	(0.08)	(0.09)	(0.08)
Travel time to nearest market (hours)	0.12	0.12	0.10
	(0.08)	(0.08)	(0.07)
Number of hhs	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)
Electrification cost per hh (NRP)	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)
Spread of hhs (km)	0.02**	0.02**	0.02**
	(0.01)	(0.01)	(0.01)
Distance to secondary school (km)	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)
Distance to college (km)	-0.01***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)
Distance to hospital (km)	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)
Owner is Janajati	-0.09	-0.09	-0.10
	(0.07)	(0.07)	(0.07)
Owner is Dalit	0.06	0.06	0.05
	(0.14)	(0.14)	(0.14)
Owner's age	-0.01*	-0.01*	-0.01*
	(0.00)	(0.00)	(0.00)
Owner is female	-0.37***	-0.37***	-0.36***
	(0.11)	(0.11)	(0.11)
Number of staff	0.13***	0.13***	0.13***
	(0.04)	(0.04)	(0.04)
Number of years firm has existed	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)
Constant	10.17***	10.16***	10.22***
	(0.24)	(0.24)	(0.24)
Firm type fixed effects	YES	YES	YES
Observations	561	561	561
R-squared	0.25	0.25	0.26

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

In order to rule out that these results are driven by a single enterprise type, we re-run the same regression for the three largest groups of enterprises (mills, poultry farms, and shops & restaurants) as well as for carpenters (*Table 14*). ***For mills, we find that firm-level profits decrease by 57% on average*** (this effect is significant), for poultry farms and shops & restaurants the positive effect (5%) is non-significant, and for carpenters, which enjoy a comparable high level of profits, there is a sizeable decrease in profits by a factor of 4.4 (weakly significant, but at a very small sample size of only 21).[39] We discuss these findings on individual firm types in the final chapters, as they have to be interpreted jointly with firm revenues, firm margins, and changes in pricing and the number of firms per village.

As an additional robustness check, to see whether these results are driven by a single outlier CREE, we successively drop CREEs one by one from the sample and run the same regression on the firms in the remaining CREEs.

If electricity access at community level implies on average lower profits for the individual enterprise, the question arises whether enterprises that use electricity more effectively than others benefit more. We therefore introduce two additional covariates. First, an indicator of whether the firm uses any electric equipment beyond light, and second, whether the firm operates after dark. We interact these covariates with access to grid electricity, so that we can differentiate the effect of electricity access between enterprises that do use electric equipment and those that do not, and those that operate at night and those that do not, respectively. Results are presented in *Table 13, columns 2 and 3*. We cannot find a strong effect of use of electric equipment beyond light. However, whether or not firms operate at night does make a notable (highly significant) difference: ***Firms in CREES with grid access but which do not operate at night earn 38% lower profits as compared to unelectrified enterprises***, whereas firms that do operate at night earn only 5% lower profits (-0.38+0.33=-0.05) as compared to firms in non-electrified CREEs. Note that these regressors are of course not exogeneous (i.e. more profitable firms may be more likely to use electric equipment and operate at night), so causality could go in both directions. Nevertheless, ***the key message from this analysis is that electrification at community level does not necessarily boost the profits of firms on average, but operation after dark shows a strong positive association with profits***.

39) A brief note on levels of statistical significance: When we estimate the unknown parameters of a linear regression equation from a random sample by, for example, the ordinary least squares method, we generate two main results. The first is a precise parameter estimate (point estimate), describing the linear regression line which best fits the data in our random sample. The second result is a measure of the degree of uncertainty about how well this estimated regression line represents the true underlying function, taking into account that we have only a random draw of data points at hand to come up with an estimate (here: a sample of 640 enterprises from the total population of enterprises in rural Nepal). This level of uncertainty is expressed as a level of statistical significance. Uncertainty is higher i) the lower the number of observations in the sample (e.g., if we take only a subgroup of enterprises like mills, we will attain a lower level of certainty of our results); and ii) the higher the variance within this sample; (e.g., if the relationship between profits and electricity access is very volatile across our observations, we can be less confident that our observed average is a good estimate of the true average relationship.)

Table 14: Effect of electricity access on **firm profits for different firm types**

Variables	(1) full sample	(2) mills	(3) poultry	(4) Shops & restaurants	(5) carpentry
electr_cree	-0.13	-0.57***	0.05	-0.09	-4.44***
	(0.10)	(0.18)	(0.25)	(0.14)	(1.07)
C_hills	-0.56***	-1.04***	-0.23	-0.74***	-1.74*
	(0.08)	(0.18)	(0.19)	(0.12)	(0.82)
C30_travelt_approx	0.12	0.19	0.33*	0.05	-1.23***
	(0.08)	(0.13)	(0.18)	(0.11)	(0.29)
C1_phase1_hhs	-0.00***	-0.00	-0.00***	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
C_electrcost_perhh	-0.00***	-0.00**	-0.00**	-0.00***	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
C30_spread_km	0.02**	-0.01	0.05**	0.02*	-0.13
	(0.01)	(0.01)	(0.02)	(0.01)	(0.10)
C30_marketinCREE	-0.06	0.09	0.32	-0.27	-2.68**
	(0.12)	(0.23)	(0.27)	(0.17)	(0.78)
C32_secondary_distance	-0.01	0.01	-0.02	-0.01	0.20
	(0.01)	(0.02)	(0.02)	(0.01)	(0.23)
C32_college_distance	-0.01***	-0.01	-0.01**	-0.01**	-0.05**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
C32_hospital_distance	0.01***	-0.00	0.01*	0.01***	-0.06**
	(0.00)	(0.00)	(0.01)	(0.00)	(0.02)
Eo_janajati	-0.09	-0.23*	0.12	-0.23**	-0.20
	(0.07)	(0.12)	(0.14)	(0.10)	(0.41)
Eo_dalit	0.06	-0.22	0.00	0.05	0.75
	(0.14)	(0.33)	(0.28)	(0.19)	(1.13)
Eo_owner_age	-0.01*	0.00	-0.01	-0.01	0.05
	(0.00)	(0.01)	(0.01)	(0.00)	(0.03)
Eo_owner_gender	-0.37***	-1.42***	-0.36	-0.33**	
	(0.11)	(0.40)	(0.24)	(0.13)	
E1_10_staffcount	0.13***	0.05	-0.00	0.10*	0.19
	(0.04)	(0.08)	(0.09)	(0.06)	(0.23)
Eo_firmage	0.01	0.00	0.01	0.01	-0.00
	(0.01)	(0.01)	(0.02)	(0.01)	(0.04)
o.Eo_owner_gender					-
Constant	10.17***	10.98***	9.81***	10.38***	14.00***
	(0.24)	(0.43)	(0.52)	(0.32)	(1.89)
Observations	561	109	133	282	21
R-squared	0.25	0.54	0.24	0.27	0.94

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

Next, we analyse the effect of load shedding and unexpected power outages on firm profits with the sample of enterprises with grid access. We regress firm profit on the average load shedding hours per day, on the number unexpected outages on an average day (both as reported by the firm owners), and on the standard set of controls. Results are shown in *Table 15*. We cannot find any statistically significant effect of the service quality indicators. Given the reduced sample size, these estimates are very imprecise.

Table 15: Effect of electricity **service quality on firm profits**

Variables	(1) ln of monthly profit
Load shedding hours per day	0.02
	(0.02)
Number of unexpected outages per day	-0.01
	(0.04)
Travel time to nearest market (hours)	0.66***
	(0.20)
Hilly region	-0.27
	(0.20)
Number of hhs	-0.00**
	(0.00)
Electrification cost per hh (NRP)	-0.00***
	(0.00)
Spread of hhs (km)	0.04*
	(0.02)
Distance to secondary school (km)	-0.05***
	(0.02)
Distance to college (km)	-0.02***
	(0.01)
Distance to hospital (km)	0.02***
	(0.01)
Owner is Janajati	-0.22**
	(0.10)
Owner is Dalit	-0.02
	(0.18)
Owner's age	-0.01*
	(0.00)
Owner is female	-0.33**
	(0.15)
Number of staff	0.13**
	(0.06)
Number of years firm has existed	0.02*
	(0.01)
Constant	9.34***
	(0.35)
Firm type fixed effects	YES
Observations	275
R-squared	0.30
Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1	

6.4.5 Effect of electricity access on revenues

The effect of electrification on firm profits may be driven by several factors, such as changes in the firm's revenue or changes in its cost function. We next analyse effects on revenues, to better understand the causes of profit losses we have established for mills, and how the use of electricity is associated with revenues. We use logarithms of monthly firm revenues as the dependent variable, and first regress them on a binary electricity access indicator, firm-type fixed effects (for the same reason as with profits), and the standard set of controls. ***We find a positive point estimate on revenue for the full sample***, which is however not statistically significant (*Table 16, column 1*). When looking at the different enterprise types separately (*Table 16, columns 2–5*), we cannot find any statistically significant results for mills, poultry farms and carpenters. ***For shops and restaurants with electricity access, however, we find a statistically significant revenue increase of 42%.***

Most covariates show the same pattern as in the profit analysis. Notably, female-owned and Janajati-owned enterprises have lower revenues. ***We can draw the preliminary conclusion that electricity access does generate additional business for at least some types of firms, but this additional business is not translated into higher profits on average.*** This might be because they offer products and services at lower prices, or because costs increase with grid access. Given that the latter is very unlikely, we will explore the former hypothesis in the following chapter.

Again, we would like to better understand how revenues are affected by how firms actually use electricity. ***Firms who use electric equipment beyond light have 30% higher revenues*** (-0.09+0.31=0.30) than those in non-electrified CREEs, whereas firms that do not use electric equipment do not see any increase in revenues (we find a negative point estimate, which is however not significant). For whether firms operate after dark, we find the same pattern of effects on revenues, but estimates here are insignificant (*Table 16, columns 6 and 7*). Keeping in mind the potential endogeneity between equipment use and revenue, ***this result suggests that firms benefit from electricity access at community level only if they invest in electric equipment.***

6.4.6 Effect of electricity access on profit margins

To better understand the interesting effects of community-level electricity grid access on enterprise (i) revenues and (ii) profits, it helps to also look at the firms' (iii) profit margins. Profit margins are defined as the ratio of each firm's profits to revenues. This ratio can never be above one. In cases where the (grid) electrification effects on revenues or (absolute) profits of different firm types are insignificant it is mathematically possible that the resulting changes in profit margins prove to be statistically significant, and thus provide additional information for analysis. This is indeed the case in our survey, as *Table 17* shows.

While we have found no significant effects of grid electrification on revenues and profits, ***the effect on firms' profit margins is significant and negative for the full sample, at -24%.*** And while we found significant effects for only one out of the four separately analysed firm types on revenues (for shops) and on profits (for mills), we can now discern significant effects of grid electricity for three out of four firm types: ***a 50% increase in margins of poultry farms*** (whose margins are comparatively low; 26% on average), ***a 50% decrease in the margins of shops & restaurants***, and a reduction of the carpenters' profit margins by a factor of four (again with the caveat of the very small sample size for the latter). On the other hand, for mills, which achieve the highest margins (73% on average), the statistically significant decrease in profits (-57%) does not translate into a statistically significant erosion of their average margin.

40) Use of logarithms is based on the same considerations as for the transformation of profits, see *Annex 4* for a discussion.

Table 16: Effect of electricity access on the **revenues** of four different firm types

	Full sample	Mills	Poultry	Carpentry	Shops & Restau-rants	Full sample	Full sample
	ln of monthly revenue						
Electrified	0.16	0.1	-0.4	-0.4	0.42***	-0.02	-0.09
	(0.13)	(0.3)	(0.3)	(1.0)	(0.2)	(0.15)	(0.17)
Firm uses electric appliances x grid access						0.27**	
						(0.13)	
Firm operates at night x grid access							0.31**
							(0.15)
Travel time to nearest market (hours)	-0.10	0.7**	0.2	-0.4	-0.2**	-0.08	-0.12
	(0.09)	(0.3)	(0.2)	(0.3)	(0.1)	(0.09)	(0.09)
Hilly region	-0.41***	-0.7**	-0.3	-0.9	-0.6***	-0.39***	-0.38***
	(0.10)	(0.3)	(0.2)	(0.8)	(0.1)	(0.10)	(0.10)
Number of hhs	-0.00**	-0.0**	-0.0***	0.0*	-0.0	-0.00**	-0.00**
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)	(0.00)	(0.00)
Electrification cost per hh (NRP)	0.00	-0.0	-0.0***	0.0	0.0	0.00	0.00
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)	(0.00)	(0.00)
Spread of hhs (km)	0.03***	0.1**	0.0	-0.1	0.0***	0.03***	0.03***
	(0.01)	(0.0)	(0.0)	(0.1)	(0.0)	(0.01)	(0.01)
Distance to secondary school (km)	-0.03**	-0.1**	-0.0	0.3	-0.0**	-0.03**	-0.03***
	(0.01)	(0.0)	(0.0)	(0.2)	(0.0)	(0.01)	(0.01)
Distance to college (km)	-0.01***	-0.0	-0.0*	-0.0**	-0.0**	-0.01***	-0.01***
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)	(0.00)	(0.00)
Distance to hospital (km)	0.02***	0.0	0.0	0.0	0.0***	0.02***	0.02***
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)	(0.00)	(0.00)
Owner is Janajati	-0.16*	-0.4**	-0.1	0.1	-0.2*	-0.15*	-0.16**
	(0.08)	(0.2)	(0.2)	(0.4)	(0.1)	(0.08)	(0.08)
Owner is Dalit	0.17	0.0	0.1	-0.4	0.1	0.18	0.16
	(0.16)	(0.7)	(0.3)	(1.1)	(0.2)	(0.16)	(0.16)
Owner's age	-0.01	-0.0	-0.0	-0.0	-0.0	-0.01	-0.01
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)	(0.00)	(0.00)
Owner is female	-0.24*	0.1	-0.3		-0.3**	-0.22*	-0.22*
	(0.13)	(0.6)	(0.3)		(0.1)	(0.13)	(0.13)
Number of staff	0.24***	0.0	-0.0	0.3	0.3***	0.24***	0.23***
	(0.05)	(0.1)	(0.1)	(0.2)	(0.1)	(0.05)	(0.05)
Number of years firm has existed	0.01	0.0	0.0	-0.0	0.0	0.01	0.01
	(0.01)	(0.0)	(0.0)	(0.0)	(0.0)	(0.01)	(0.01)
Constant	9.98***	9.9***	12.1***	11.2***	10.2***	9.89***	10.02***
Firm type fixed effects	YES	-	-	-	-	YES	YES
Observations	512	63	131	21	281	512	512
R-squared	0.31	0.6	0.3	1.0	0.4	0.32	0.32

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

Table 17: Effect of electricity access on profit margins

Variables	(1) ln_margin	(2) mills	(3) poultry	(4) carpenters	(5) Shops & restaurants
electr_cree	-0.24***	-0.2	0.5**	-4.0***	-0.5***
	(0.09)	(0.2)	(0.2)	(0.8)	(0.1)
C30_travelt_approx	0.21***	-0.2	0.1	-0.8**	0.3***
	(0.06)	(0.1)	(0.1)	(0.2)	(0.1)
C_hills	-0.13*	-0.2	0.1	-0.8	-0.2*
	(0.07)	(0.2)	(0.1)	(0.6)	(0.1)
C1_phase1_hhs	-0.00	0.0**	-0.0	-0.0	-0.0
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)
C_electrcost_perhh	-0.00***	-0.0	0.0	0.0	-0.0***
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)
C30_spread_km	-0.00	-0.0**	0.0	0.0	-0.0
	(0.01)	(0.0)	(0.0)	(0.1)	(0.0)
C30_marketinCREE	0.09	-0.7**	0.6***	-1.0	-0.1
	(0.11)	(0.3)	(0.2)	(0.6)	(0.1)
C32_secondary_distance	0.02**	0.1***	0.0	-0.1	0.0**
	(0.01)	(0.0)	(0.0)	(0.2)	(0.0)
C32_college_distance	-0.00	-0.0	-0.0	-0.0	-0.0
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)
C32_hospital_distance	-0.01**	-0.0	0.0	-0.1***	-0.0**
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)
E0_janajati	0.07	0.2	0.2	-0.3	-0.0
	(0.06)	(0.1)	(0.1)	(0.3)	(0.1)
E0_dalit	-0.04	0.3	-0.1	1.2	-0.1
	(0.11)	(0.4)	(0.2)	(0.9)	(0.2)
E0_owner_age	-0.00	0.0	-0.0	0.1**	0.0
	(0.00)	(0.0)	(0.0)	(0.0)	(0.0)
E0_owner_gender	-0.12	-1.3***	-0.0		-0.1
	(0.09)	(0.3)	(0.2)		(0.1)
E1_10_staffcount	-0.10***	0.0	0.0	-0.1	-0.2***
	(0.03)	(0.1)	(0.1)	(0.2)	(0.0)
E0_firmage	-0.00	0.0	-0.0	0.0	-0.0
	(0.01)	(0.0)	(0.0)	(0.0)	(0.0)
0.E0_owner_gender				-	
Constant	0.15	0.1	-2.3***	2.8	0.2
	(0.21)	(0.4)	(0.4)	(1.5)	(0.3)
Observations	512	63	131	21	281
R-squared	0.36	0.6	0.2	0.9	0.3

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

6.4.7 Effect of electricity on end-consumer prices

Adjustments in prices charged might potentially explain the very diverse effects of electrification on (i) different firm types and (ii) different firm performance indicators. We therefore analyse how electrification translates into price changes for milling services and poultry, for which we have found revenue decreases following electrification.

The mean charge for milling wheat, maize or millet (the main staples in the surveyed areas, next to rice) is lower by almost two thirds (64%) in electrified as compared to diesel mills, and the t-test shows that this difference is statistically significant (*Table 18*). Charges for rice hulling, rice beating and oil expelling go down, too, but these reductions are not statistically significant (mainly because the sample size is too small since fewer mills offer these services).

Price changes are recorded for each of the different agro-processing services provided by the mills. However, since we have no data on the share each service type has in the mill's total turnover, we cannot impute changes in mills' revenues from these price figures. For revenue data, we depend on the estimates which the millers themselves indicated (analysed in the previous sub-chapter). Note that here we also consider retrospective price indications by electrified mills which used diesel engines before. Also, we want to point out again that concurrent price indications by diesel-operated mills are recorded at a moment when fuel prices were extremely high due to politically motivated road blockades at the border to India, the main fuel supplier for Nepal.

We conclude that mills seem to pass on benefits from reduced energy cost to clients.

On top of this price reduction, electrical mills typically produce a far better product quality than diesel-fueled mills. Thus, it can be assumed that customers profit from improved quality on top of the price reductions. However, we cannot quantify the additional quality benefit, because we have not collected field samples of the mill products.

Whether the millers "overcompensate" clients for the reduced energy input cost, or whether increased competition within the electrified CREEs is the key explanation for lower profits, remains to be determined.

Prices for poultry (both live chicken which most farms sell, and meat per kg offered by a small number of poultry farms) barely differ between electrified and unelectrified farms. Hence, we find no evidence of clients benefitting directly from reduced input cost through grid electricity access in this case. However, we have no data on the quality of meat and the average weight of a chicken in an electrified farm as opposed to a non-electrified farm.

Table 18: Differences in **prices for agro-processing services** between mills using diesel-run and mills using grid-powered machines.

Price (per kg)	Diesel mill	Electrified mill	Mean difference (t-test)
milling of maize, millet, wheat	3.36	2.72	-0.64***
rice hulling	2.29	2.05	-0.14
rice beating	3.27	3.04	-0.24
oil expelling	4.92	4.66	-0.26
Note: *** p<0.01, ** p<0.05, * p<0.1			

6.4.8 Effect of electricity on customer base and evidence of replacement effects

Electricity access in a community may attract customers from nearby communities who search for a better range of products and services, or for lower prices. Collecting data directly from neighboring localities on such effects was not feasible within the given study budget. Instead, we included in the enterprise survey several questions on the number and catchment area of a firm's customers, and discussed changes in customer influx to the community in consumer focus groups. We present results of the former data here, and those of the latter in *chapter 6.5*, and discuss both in *chapter 7*.

We analyse three different enterprise survey questions related to customer base here: (i) *"What is the maximum distance any of your customers travel to buy your products / services?"*,[41] (ii) *"What share of your customers come from outside the CREE?"*, and (iii) *"Please estimate the number of regular customers to your business."* We regress responses to these questions on whether or not the enterprise has grid access, whether or not the CREE has public street lighting, and the standard set of controls. In the regression of maximum customers distance, we find a positive coefficient on electricity access, suggesting that electrification helps to increase an enterprise's client catchment area, but this result is statistically insignificant (see *Table 19*). We also find a negative coefficient on electricity access in the regression of the firm's sales share inside the CREE area, which would suggest that electrified firms attract more customers from outside the CREE, but again this result is very imprecisely estimated and not significant. The number of regular customers as estimated by the firm owners is lower for firms with electricity access, but this result is also not significant.

Public street lighting in a CREE has a significantly positive effect on the number of local enterprises' regular customers. For the other two client-base indicators, the coefficients have the expected sign (public street lighting increases the distance customers travel, and the share of sales outside the CREE), but are not statistically significant.

Overall, these results on customer base are weak. We conclude that the enterprise survey does not yield any evidence of replacement effects (i.e. geographic reallocation of value generation from neighbouring areas to the area with electricity access). It should be kept in mind, however, that absence of evidence is not evidence of absence of such effects. We complement these quantitative findings with customers' views communicated during focus group discussions below, and discuss both results in *chapter 7*.

6.4.9 Effect of electricity access on employment

Whether electrification has positive or negative effects on employment is unclear from a theoretical perspective. Electrification may increase a firm's overall business volume, which may trigger job creation. On the other hand, there may be an effect running in the opposite direction if labour is replaced by electric equipment. As mentioned in the descriptive section (*chapter 6.1*) above, the firms in the sample are mainly micro enterprises, and 75% of them have either no or at maximum one staff. Nevertheless, we find an effect of electricity access on employment (*Table 20*): The number of staff an average firm employs increases by 0.17 (however, at $p<10\%$) as the enterprise has access to the grid, after controlling for the standard set of covariates. In order to better understand which type of employment benefits from access to electricity, we run the same regression with only staff paid in cash, and only staff that are not family members, as dependent variables. However, after dividing total employment into small subcategories we can find no statistically significant results.

We also examine whether electrified firms tend to hire better educated staff. We measure the level of education of staff on a linear scale running from "illiterate"=1 to "higher degree"=5. We find that the ***mean level of education of all staff increases by 0.17 on this scale*** (*Table 20, column 2*). This effect may not be of a substantial size, but it is statistically significant. Further, we find that the changes in labour demand are not for the benefit of female employment. The share of female employees decreases by 8 percentage points after electrification of the community ($p<10\%$, *Table 20, column 3*).

41) This is an incomplete measure of the spread of a firm's client catchment area because it shows only the tail of the distribution. The full distribution of all customers' travel time was beyond the scope of what this enterprise survey could capture.

Table 19: Effect of electricity access on **maximum distance customers travel**, firm's share of sale within the CREE, and number of regular customers

	E_customersmaxdist	E_salesshareinCREE	E_regularcust
Electrified	0.24	-0.46	-3.28
	(0.76)	(3.24)	(7.63)
CREE has streetlighting	1.18	-3.96	23.20*
	(1.30)	(5.30)	(12.24)
Travel time to nearest market (hours)	0.74	-1.99	9.25*
	(0.55)	(2.29)	(5.38)
Hilly region	-1.00	0.85	-53.25***
	(0.98)	(3.93)	(9.33)
Number of hhs	-0.00	0.01***	-0.00
	(0.00)	(0.00)	(0.00)
Electrification cost per hh (NRP)	0.00	0.00***	0.00
	(0.00)	(0.00)	(0.00)
Spread of hhs (km)	0.12*	-0.40	0.38
	(0.07)	(0.27)	(0.63)
Distance to secondary school (km)	-0.17**	0.10	-0.94
	(0.08)	(0.34)	(0.79)
Distance to college (km)	0.03	0.32***	0.03
	(0.02)	(0.07)	(0.16)
Distance to hospital (km)	0.03	-0.34***	0.17
	(0.02)	(0.09)	(0.22)
Owner is Janajati	-0.60	3.65	3.32
	(0.62)	(2.54)	(5.93)
Owner is Dalit	2.54**	1.24	15.40
	(1.19)	(4.68)	(11.72)
Owner's age	-0.02	-0.04	-0.45*
	(0.03)	(0.11)	(0.26)
Owner is female	-0.67	2.30	-6.76
	(0.93)	(3.61)	(9.17)
Number of staff	0.21	0.68	4.85
	(0.35)	(1.50)	(3.50)
Number of years firm has existed	-0.03	-0.21	-0.31
	(0.05)	(0.22)	(0.51)
Constant	0.31	50.40***	61.70**
	(2.62)	(10.73)	(25.55)
Firm type fixed effects	YES	YES	YES
Observations	477	490	623
R-squared	0.25	0.47	0.16

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

Table 20: Effects of electricity access on **employment**

	(1) Number of staff	(2) Staff education level	(3) Share of female staff
Electrified	0.17*	0.17**	-0.08*
	(0.09)	(0.07)	(0.05)
Travel time to nearest market (hours)	0.02	0.11**	-0.02
	(0.06)	(0.05)	(0.03)
Hilly region	-0.22***	-0.01	0.02
	(0.08)	(0.06)	(0.04)
Number of hhs	0.00***	0.00	-0.00
	(0.00)	(0.00)	(0.00)
Electrification cost per hh (NRP)	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)
Spread of hhs (km)	-0.00	0.01	-0.00
	(0.01)	(0.01)	(0.00)
Distance to secondary school (km)	-0.00	-0.00	0.00
	(0.01)	(0.01)	(0.00)
Distance to college (km)	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)
Distance to hospital (km)	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)
Owner is Janajati	0.03	-0.10**	-0.06
	(0.07)	(0.05)	(0.04)
Owner is Dalit	-0.12	-0.10	0.10
	(0.14)	(0.11)	(0.08)
Owner's age	0.00	-0.00	-0.00**
	(0.00)	(0.00)	(0.00)
Owner is female	-0.24**	0.24***	-0.44***
	(0.11)	(0.09)	(0.06)
Number of staff	0.01**	0.01	0.00
	(0.01)	(0.00)	(0.00)
Years firm has existed	0.71***	1.93***	0.87***
	(0.22)	(0.17)	(0.12)
Constant	0.31	50.40***	61.70**
	(2.62)	(10.73)	(25.55)
Firm type fixed effects	YES	YES	YES
Observations	623	482	482
R-squared	0.20	0.06	0.23

Note: Education level measured on a linear scale from "illiterate"=1 to "higher degree"=5. OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

6.4.10 Effect of electricity access on business creation

Up to this point, we have analysed the effects of electricity access on outcomes of individual firms. However, grid electrification of rural localities is also expected to trigger the creation of new firms. We search for evidence of such an effect in a two-step process. First, we note that ***in the electrified CREEs in our sample, the share of firms that were created after electrification is almost 80%.*** This sounds substantial at first glance, but it is unclear whether this simply corresponds to the regular turnover in the rural firm landscape. Therefore, we compare this share of newly created businesses in electrified CREEs to the share of businesses created over a similar time period in unelectrified CREEs. Knowing from our data that the average time duration elapsed since electrification in the electrified CREEs is approximately 7 years, we went on to compute the share of firms in unelectrified CREEs that were created over the last 7 years. ***We find that the average number of firms created within a CREE over a seven-year period goes up from 15 (if electrification does not take place) to 19 (if it does).***

We also examine the dynamics of business creation separately for the three largest groups of enterprises. The share of newly set-up mills, poultry farms and shops, each within their category, is higher in electrified communities. The difference is largest for shops: The share of shop openings after electrification or over an equivalent period is larger by 17 percentage points in electrified communities, which means that ***on average three additional shops were opened due to electrification.***

We also inspect whether electrification encourages firm creation by women or by marginalized groups. We compare female firm owner shares amongst the firms created after electrification and before, and find an increase from 10% to 13%, but this difference is not significant (*Table 21*). We do the same comparison for the share of Janajati owners, and the share of Dalit owners. We find no change on Janajati entrepreneurs, but Dalits are even less well represented in the sample of new post-electrification entrepreneurs than they are in the sample of previously existing firms. Again, none of these changes are statistically significant.

Table 21: **Firms created** after electrification (in electrified CREEs) and in the last 7 years (unelectrified CREEs) by women and marginalized groups.

	unelectrified CREEs		electrified CREEs		Mean difference (t-test)
	N	Mean	N	Mean	
female owners	70	0.100	267	0.131	0.0310
Janajati owners	70	0.429	267	0.416	-0.0130
Dalit owners	70	0.114	267	0.0600	-0.0540
Note: *** p<0.01, ** p<0.05, * p<0.1					

So far, we cannot rule out that the new firm creations induced by electrification might crowd out existing, possibly less dynamic firms from the market. In order to check whether this is the case, we regress the total number of firms in a CREE area on whether or not the CREE is electrified, indicators of location and remoteness of the CREE, the CREE size measured in terms of the total number of households, and whether the CREE has public street lighting (*Table 22*). We find that ***electrified CREEs have on average 15 enterprises more than unelectrified CREEs*** (significant at the 5% level). We find no significant effect on the total number of mills and the total the number of poultry farms, ***but there are on average 14 more shops in electrified CREEs*** (significant at the 1% level).[42]

Electrification also prompts the establishment of one additional firm, on average, which does not fall into any of the most prevalent types (i.e., is not a mill, carpentry, poultry farm, shop or restaurant). The less common firm types which we see emerge after electrification are mainly metal workshops (8 out of a total of 12), two cement block manufacturers, one manufacturer of incense sticks, and one *titaura* factory.[43]

42) No effect on the number of carpenters per CREE can be estimated because their overall prevalence is too small, but a simple means comparison, without controls, shows that there are on average 0.6 carpenters in unelectrified, and 1.2 carpenters in electrified CREEs.

43) Titaura is a Nepalese candy made from fruits and sugar, chili, salt, and other spices.

Table 22: Effect of electricity access on the **total number of enterprises**, and number of enterprises of certain types, in the CREE

Variables	(1) Number of firms in CREE	(2) number of mills	(3) number of poultry farms	(4) number of shops and restaurants	(5) number of other firms
Electrified	14.99**	-0.73	-0.52	13.83***	0.67**
	(6.56)	(1.53)	(2.85)	(4.48)	(0.31)
Travel time to nearest market (hours)	-2.28	-0.70	-4.95**	2.12	0.30
	(5.03)	(1.17)	(2.18)	(3.44)	(0.24)
Hilly region	-6.56	-0.63	-5.54	-2.16	-0.72
	(8.86)	(2.06)	(3.84)	(6.06)	(0.42)
Number of hhs	0.01	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CREE has streetlighting	-11.99	-0.06	7.07	-13.06	-0.45
	(11.84)	(2.75)	(5.14)	(8.10)	(0.56)
Electrification cost per hh (NRP)	0.00***	0.00	0.00	0.00***	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spread of hhs (km)	-0.02	-0.14	-0.19	0.27	0.01
	(0.59)	(0.14)	(0.26)	(0.40)	(0.03)
Distance to secondary school (km)	-1.45*	-0.14	0.16	-1.11**	-0.06
	(0.73)	(0.17)	(0.32)	(0.50)	(0.03)
Distance to college (km)	-0.08	0.02	-0.08	-0.00	-0.01*
	(0.15)	(0.04)	(0.07)	(0.10)	(0.01)
Distance to hospital (km)	0.15	-0.03	0.03	0.16	0.02**
	(0.19)	(0.04)	(0.08)	(0.13)	(0.01)
Constant	39.24*	6.79	2.18	22.53	0.98
Observations	26	26	26	26	26

Note: OLS regression. Standard errors in parenthesis. *** p<0.01, ** p<0.05, * p<0.1

We further run a simple t-test on the number of total enterprises, and mills, poultry farms and shops separately, per household in each CREE. According to this test, ***the increase in total enterprises, and in shops, per household in electrified CREEs is statistically significant*** (but note that this test does not take into account other community characteristics such as location and remoteness).

6.4.11 Effect of electricity access on the range of products and services offered

The survey reveals that CREE (grid) electrification has enabled important additions to the range of products and services locally available. This occurs not only through the creation of new enterprises, but also because service firms in electrified CREEs add specific services to their offer that depend on the use of electric equipment. ***Such services include ICT and office services, including internet services, photocopying, a photo studio, as well as entertainment such as video games. None of the firms in our sample in the electrified CREEs report that they have shifted to a completely different line of business after grid access has become available. Also, no products and services have been abandoned after electrification according to the firm owners.***[44]

44) By contrast, some consumers report during the focus group interviews that electricity generation equipment, such as solar systems and generators, are no longer for sale at local shops (more detail in chapter 6.6).

6.5 Effects of productive electricity use from the consumer perspective

The focus group discussions held in the CREE areas (see *chapter 5.3* for details on the methodology applied) have provided important complementary information on productive electricity use from a consumer perspective. First, these consumer views allow us to better understand how the quantitative findings on firm outcomes translate into welfare changes for the local population. For example, ***they allow to capture the welfare relevance of price changes, quality changes, or the availability of new products. This is vital since the local consumers and work force are the main beneficiaries of electrification.*** Second, the consumer perspective allows for the validation of our conclusions, from the firm level data, on how the firm landscape in its entirety has developed after electrification, and how these developments radiate to adjacent localities.

Increases in the number of firms is mentioned as a key outcome of electrification by consumers in one third of the electrified CREEs, and perceived as an important change for the better.

In one CREE, consumers mentioned explicitly that ***monopoly power by few shops and firms has been broken and that increased competition has brought prices down***.

Focus group participants were asked which firm types or new products and services have become available after electrification. Most frequently (in two thirds of the CREEs) consumers mention that, ***shops now offer food products that require cooling, as well as cold drinks (recall that refrigerators were also found to be the most important electric equipment acquisitions in our firm survey data) as they run refrigerators***. Dairy products and meat are particularly appreciated. The second most important addition to the local market are ***metal workshops*** (mentioned by participants in 50% of the CREEs), and ***computer and ICT services*** (50% of the CREEs). More specifically, newly available services mentioned include ***mobile phone services***, electronics repair services, photocopying, printing, computer use for internet access and entertainment, and photo studios. Further, ***consumers in five of the electrified CREEs appreciate the local availability of chicken meat now that new poultry farms opened after electrification. Better mobile phone coverage after installation of cell towers is reported in two CREEs.*** And tailoring services; local production of cement building bricks; a beauty parlour; and a bank are each mentioned in one CREE as supplements to the local consumer choice that have come after electrification.

The time saved in acquiring these products and services, as reported by the focus groups, is the single most important benefit resulting from electrification. Consumers in almost all CREEs report that they previously travelled to nearby market places to obtain the same products and services that they can now procure locally, which is generally perceived not only as a convenience, but also as time and travel cost saving. Likewise, almost all focus group participants in unelectrified CREEs mention that they hope to spare themselves time and travel cost once additional products and services become available locally after electrification. When people in electrified CREEs are asked whether they consume more, in quantity, of the products and services that have become available locally, opinions are divided. The participants of five focus groups stated that needs have not changed, and neither have the amounts consumed. In the remaining 9 electrified CREEs, people have noted some changes in consumption behaviour. Some mentioned that more meat is consumed now. Several focus groups report that the overall consumption of grocery items is higher due to local availability. One participant noted that "people spend more time in restaurants now". Only two out of 14 focus groups in electrified communities mentioned that opening hours after dark are a beneficial change in their everyday lives (whereas extended working hours for home-based activities, which are beyond the focus of this report, are mentioned more frequently).

Products and services that have disappeared from the local market after electrification are basically limited to alternative energy generation equipment, such as solar systems and diesel generators, and the corresponding installation and repair services.

Further, focus groups were asked about their perceived changes related to the electrification of specific types of enterprises. Interestingly, ***the most important benefit from the replacement of diesel mills with electricity-run mills reported is time saving. People in almost all CREEs stated that milling used to take much more of their time before electrification, as diesel mills operate more slowly leading to long queuing hours for clients, and as well, the density of mills was lower. Reduction in milling tariffs is also a relevant benefit from the consumers' point of view, but apparently less so in comparison to time saving***, as it is mentioned much less frequently.

When it comes to the quality of grain processing, people in all except two CREEs declare that electricity-run mills are an improvement on diesel mills.

Furthermore, several consumers (including those in unelectrified CREEs) find that the flour produced by diesel-mills has a smell and taste of diesel. ***This is an interesting revelation that calls for further analysis, as it could possibly hint at hydrocarbon residuals in people's daily staples, which might pose health hazards.***

In addition, focus group participants observe that the grains are milled in a finer and more homogenous quality. Notably, rice is reported to be free of husk residuals when processed by electric mills.

The latter two results are excellent examples of how firm-level data can easily miss vital benefits experienced by clients, possibly because from the firm owner's perspective they are imperceptible or irrelevant. The focus group discussions held in parallel to the quantitative data collection have proven to be an effective way of enhancing the picture. They have pointed out some important aspects that deserve attention in future research on productive electricity use by small firms.

In those CREEs where carpentry firms have been established or acquired electric equipment after electrification, consumers point out three main benefits, (i) ordered products are now ready much faster; (ii) a wider range of furniture designs is available; and (iii) the products are of better quality, with smooth surfaces and fine finishing.

In five out of 14 electrified CREEs, ***people perceive positive effects on local employment opportunities after electrification***. Specifically, they observe ***successful self-employment through new shop, restaurant or service firm openings***. When asked explicitly whether they were aware of any jobs that have been lost, ***five focus groups reported that few diesel-operated mills had to close down completely because they could not compete with the new electrified mills***. In one CREE, a participant noted that "some people who used to mend and repair old equipment (bicycles, radio etc.) have lost their jobs; however, they eventually joined other shops requiring greater skillsets (such as motorcycle and appliance shops and even established hotels)."

In one CREE, focus group participants report that the titaura factory established after electrification has created income generation opportunities for the local people. *Titaura* is commonly made from lapsi fruit, which grows locally on wild trees: "The *titaura* factory has created a market for the fruit lapsi within the village. Before the establishment of this enterprise there was no market for the lapsi, but now people collect lapsi from the village and sell it to the enterprise."

In all except two electrified CREEs, consumers observed that there has been an increased inflow of customers from neighbouring communities to the CREE area since it has been electrified. It was reported that they mainly come to buy basic necessities for daily use such as oil, sugar, salt, rice, soap, but also meat, dairy and cold drinks, ICT services, and metal and wood products. While our quantitative results failed to find significant increases in customer inflow from neighbouring areas, the qualitative evidence clearly supports the hypothesis of replacement effects, i.e., ***electrified localities attract customers from neighboring communities, and likely take away business from local enterprises there.***

In the unelectrified CREEs, consumers were asked whether they had any expectations of negative side-effects of electricity access in the community. ***Ten out of twelve focus groups in the unelectrified CREEs expressed concerns about safety and emphasized that cautious handling of electric appliances was imperative.*** Other concerns mentioned were related to the potential disruption of and negative effects upon the local cultural identity and undesirable changes in people's habits. Specifically, these statements (recorded in five different unelectrified CREE sites) were:

- "Negative effects could be adaptation of other's culture such as food, clothing, language, etc. as a result of TV and Internet; this might lead to extinction of our own culture someday."
- "Traditional and custom energy usage will disappear from the society."
- "It can boycott the traditional customs and practices from the society"
- "People might become lazy and depend upon machines to do their regular works; people might learn wrong things from the movies or TV; people might waste their time on TV, radio, etc. rather than doing recreational works."
- "Children might lose interest in their studies and involve themselves in watching TV or playing video games."


टेलिफोन
पोष्टपेड /
CDMA र SKY को
रिचार्ज कार्ड यहाँ पाईन्छ ।
नेपाल टेलिकम


BDHA

Chapter 7:

Discussion of effects on firm performance

Discussion of effects on firm performance

Several of these effects on the financial performance of (grid) electrified enterprises warrant a brief discussion of the possible underlying mechanisms.

First, we found no clear, across-the-board evidence of improved firm performance due to (grid) electricity. This is in line with previous studies on firm-level electrification effects, such as some of the findings of the PRODUSE I study. Second, we find that the pattern of (grid) electrification effects seem to vary significantly by enterprise type, as summarized in the Table below. While we found significant positive effects in two cases (shop revenues and poultry profit margins), and significant negative effects for five cases (all profit margins except for mills, and profits of mills and shops), there was no significant effect in the remnant eight cases (out of fifteen in the summary table below). However, we don't think the measured effects of the forth sub-sample (carpenters) can be generalized, because of the very small sample size of only 21. Discarding carpenters, the pattern is even more balanced: the remnant three firm types experience two positive effects and two negative effects, all of a similar range (between 40% and 60%).

Table 23: The effects of community-level (grid) electricity access on three enterprise performance indicators

Firm Type	Revenues	Profits	Margins	Sample Size
Mills	10%	-57%***	-20%	63
Poultry	-40%	5%	50%**	131
Shops & Restaurants	40%***	-9%	-50%***	281
Carpentry	*-40%*	*-444%****	*-400%****	***21***
Full Sample	16%	-13%	-24%***	512
Note: *** p<0.01, ** p<0.05, * p<0.1				

Our data suggest that a key driver for these two findings is an intensified competition in the local markets. We find quantitative evidence that electrification triggers new firm creations, and that the density of firms is higher in electrified than in unelectrified villages (*chapter 6.4.10*). ***Local consumers confirm that local markets have flourished after electrification, which they report to have resulted in more competition among firms and lower prices. Shops and restaurants are most affected by this market dynamic.***

This reminds us that decreases in profits of individual firms are not necessarily regrettable from a welfare perspective, as long as the total net benefit to the community is positive, which is the sum of net benefits to all firms and consumers.

Electrification might increase local value addition, as discussed in *chapter 2.* This is the case if electrification positively affects the range of goods and services offered locally, and/or if aggregate local demand is augmented. Note that the opening of new businesses per se is not an indicator of any positive local growth effect: It might simply mean that a persistent local purchasing power is divided up by a larger number of firms. However, it may (or may not) have employment or income distribution effects.

We find that both newly opened and previously existing service firms offer goods and services that were unavailable to local consumers before. Our data suggest that rather than leveraging suppressed local demand, consumption of goods and services is relocated from urban areas to rural localities.

We can conclude that local value chains do indeed experience upgrading, and that local economies grow as a result of electrification. Local economic growth can potentially have poverty reduction effects for the rural population, if increases in income trickle down to the lower income strata.

Another issue that warrants some discussion is the question of whether replacement effects occur, in the sense that electrification of one community induces positive growth effects locally, but takes away growth potential from unelectrified neighbouring communities. Our enterprise data fails to find statistically significant evidence of changes in customer base upon electrification (even though point estimates suggest that customers come in from larger catchment areas, and that electrified enterprises sell higher shares of products and services to customers from outside the CREE). However, the consumer focus groups indicate increased customer influx from neighbouring areas.

Finally, we want to reiterate that the effects of community electrification on firm productivity and financial performance that we have measured in our survey are not related (A) to a binary step of firms from zero electricity to grid electricity, but rather (B) to a step from "offgrid electricity use" to "grid electricity use". Given that about two thirds of firms in the unelectrified CREEs use solar home systems of 20–50 Wp, this probably corresponded mostly to a step up from "tier 1–2" electricity access of the new multi-level tracking framework proposed for reporting global and national progress towards Sustainable Development Goal number 7 (***World Bank 2015*** and ***World Bank 2017***) to a more uniform and continuous grid access, corresponding to "tiers 4–5" of said scale, which ranges from tier 0 (less than 1 Wp capacity and 12 Wh electricity use per day, or less than 1 kilolumenhour lighting per day) to tier 5 (at least 2 kW capacity and 8.2 kWh electricity use per day).

Chapter 8:
Conclusions

Conclusions

The Community Rural Electrification Programme (CREP) in Nepal offers a unique context to study the economic effects of rural electrification through productive electricity use by micro and small firms, due to the reasons explained in our methodology section. We identify impacts by comparing communities that have already been (grid-) electrified for some time, to other communities that have also applied and qualify for the program, but are currently still in the pipeline for connection to the national grid. In addition, the CREP approach entails connecting all firms in the "electrified" communities. We thereby address the common risk that our treated and control samples are might be distinct in unobserved characteristics which drive both the likelihood of having electricity access, and the performance of the local enterprise on two levels (community level and firm level). We use firm and community surveys as the main data source for our quantitative analysis, and complement these by qualitative information from consumer focus group discussions.

Our sample comprises 627 enterprises located across 26 CREEs, of which 352 are located in electrified, and 274 in unelectrified localities. All of the enterprises in our sample are micro and small enterprises, with 23% of the total being one-person businesses, 52% having one staff, and the remaining 25% having more than one and at maximum five staff. The overwhelming majority (88%) of enterprises in our sample is owned by men.

The use of decentralized, "offgrid" electricity sources by enterprises in the unelectrified CREEs is very widespread. In fact, only 7% of enterprises in these locations have no access at all to electricity. This implies that the impacts which our study finds are those of an electricity access upgrading from small decentralized systems to grid electricity.

At the community level, we find that electrification reduces out-migration, measured in terms of the number of households that leave the community permanently, and the number of individuals that migrate temporarily to urban areas or abroad in search of labour.

At the level of the individual enterprise, we observe increased use of a broad range of electric appliances by firms following grid electrification. Approximately 80% of the electric equipment which firms in electrified CREEs use has been acquired after the grid was installed, which is evidence that electrification triggers investment in production technology, and technological upgrading.

Comparing agro-processing mills that use grid electricity to those that use diesel-powered machines, we find that access to the grid reduces monthly energy expenditures by more than 80% (NRP 8,956) on average within this sub-sample of firms.

These energy cost savings are passed on to clients to a significant extent: Mean tariffs for milling wheat, maize or millet – the main staples in the surveyed areas, next to rice – are lower by almost 20% in electrified as compared to diesel mills. This benefit to customers from lower prices notably comes on top of the improvements in product and service quality that are discussed below.

Further, the firms' energy cost savings from grid electricity can be offset by negative effects on revenues, profits or profit margins for some firm types: For our full sample of enterprises, we found a reduction of margins by about one fourth (-24%), but no significant effects of (grid) electricity on profits nor revenues. Women-led enterprises earn lower profits on average (after controlling for a full set of community and enterprise characteristics), and that younger firm owners earn significantly higher profits.

Interestingly, the effects of (grid) electricity differ across enterprise types (Table 23): Of the three groups with sizable sub-samples above 60 (mills, poultry farms and shops & restaurants), ***two show a positive effect (poultry margins and shop revenues go up), while the other two show negative effects (mill profits and shop margins go down). Shops & Restaurants (one subsample) see increased revenues (+40%) at reduced profit margins (-50%); mills experience reduced profits (-57%), and poultry farms benefit from increased profit margins (+50%).***

Our data suggest that those cases where electricity access had a negative effect on firm profits (for mills) and profit margins (for shops and for the full sample) can be explained by a more intense competition at the community level: The number of firms, most notably shops and restaurants, increases significantly after electrification; and consumers report that competition has in fact resulted in the flourishing of local markets, which has brought down the price level for consumer products, to the benefit of local consumers.

In addition to the benefits in terms of lower consumer price levels, the local population also benefits from better product quality, and improved local availability of products and services following electrification. We find that both newly opened and previously existing service firms offer goods and services that were unavailable to local consumers before access of the locality to the grid. Specifically, the product and service range in the local market is extended by fresh meat and dairy products, cold beverages, ICT services (mobile phone services, electronics repair services, photocopying, printing, computer use for internet access and entertainment, and photo studios), and metal and wood workshops. Our data suggest that rather than leveraging suppressed local demand, consumption of goods and services is relocated from urban areas to rural localities. Local consumers appreciate the time and travel cost savings that are associated with these changes, which is a benefit on top of the price reductions mentioned above.

Electrification also improves local employment opportunities. Looking at average employment at firm level, we find that electrification induces firms to hire more staff. At aggregate level, electrification creates substantial additional self-employment opportunities, as new firms emerge in the electrified localities.

However, we find only limited evidence that electrification has unleashed potentials for the creation of new local value chains (as for example titaura production). Also, our study does not allow to evaluate the medium-or long-run effects of electrification on local market dynamics. For example, it remains to be determined, whether excessive competition poses threats to the local micro enterprise sector in the long run, which might have negative implications for local employment and local market supply, remains to be determined.

As an overall conclusion, we find that (grid) electrification of rural communities in Nepal has resulted in (i) a mixed pattern of positive and negative effects on enterprise performance indicators (depending on firm type) and (ii) a clear, positive effect for consumers. We suggest that the key driver for this effect is an increased competition inside the average CREE, following the electrification of the community. This is good for the customers, but may be bad for some firms. The increased efficiency of the local markets seems to result in strong re-distribution effects of the (grid) electrification benefits from firms (supply side) to their customers (demand side). Local employment opportunities improve, the range of locally available goods and services is amplified, and consumers face lower prices and save travel cost. This is accompanied by the creation of new enterprises, notably in the service sector. ***These findings indicate that electrification induces local economic growth, increases market efficiency, and upgrades local value chains, as local enterprises expand their range of products and services offered.***

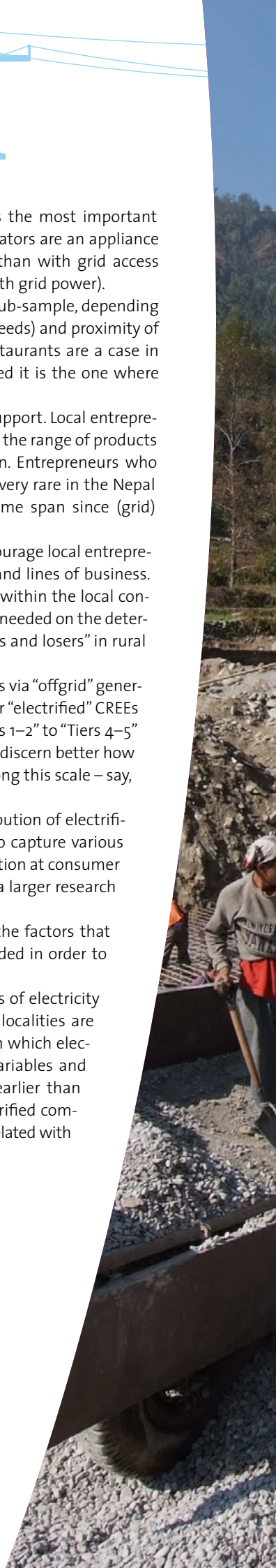
Our results reinforce those of the previous PRODUSE I study, in the sense that both did not find clear evidence for strong, positive effects of (grid) electrification on average firm performance. New firm creation induced by access to the grid, notably in the service sector, is a common observation of both studies. When comparing the two studies methodologically, a special feature of the CREP in Nepal is that community-level grid access is equivalent to firm-level grid access (due to the special cost allocation), whereas in PRODUSE I study countries in Africa firms faced a costly grid connection option in the first instance and self-selected into electrification. In addition, our sufficiently large enterprise type sub-samples have allowed to report significant and interesting effects on specific firm performance indicators (including significant positive effects on some specific firm performance indicators) which can be related to the increased local market efficiency, and prompt a whole series of new research questions with high relevance for practitioners and policy makers alike.

The following recommendations for policy, development programmes and future research emerge from our study:

- Positive effects of "productive use" of (grid) electricity do not necessarily materialize at the level of rural enterprises (supply side), because most of the benefits may be passed on to the level of rural consumers (demand side), via improved prices, quality and convenience.
- The main driver for this effect seems to be improved local market efficiency, by way of increased competition, which needs to be better understood regarding its determinants and effects on rural communities.
- The effects on firm performance seem to vary considerably by firm type. This is interesting, because it prompts a whole array of additional research questions. For example, it may well be that different firm types have responded differently to (grid) electrification because of structural reasons. For instance,

shops and restaurants profit most from refrigeration (which was reported as the most important "new" electrical equipment) – and at the same time, commercially used refrigerators are an appliance which is still much more expensive to power with small offgrid generation than with grid access (because 24/7 continuity of service is pivotal and comes at a much lower cost with grid power).

- Also, the degree and effects of the increased local competition might differ by sub-sample, depending on the entry hurdles for new suppliers (say, because of capital intensity or skill needs) and proximity of the closest alternative suppliers outside of the CREE. Again, the shops and restaurants are a case in point: this is probably the subsample with the lowest entry barriers, and indeed it is the one where most new firms were added after electrification.
- New businesses spring up after electrification also in the absence of external support. Local entrepreneurs, however, tend to replicate existing business types (with some additions to the range of products and services enabled by electricity use), thereby intensifying local competition. Entrepreneurs who experiment with new lines of business and develop new local value chains are very rare in the Nepal case. However, some of these findings may be due to the relatively short time span since (grid) electrification.
- In order to fully unleash local growth potentials, PUE promotion may hence encourage local entrepreneurs' creativity and willingness to take risks and enter into new value chains and lines of business. Assessment of local economic opportunities and feasibility of business models within the local context may be important elements of such PUE support. However, more research is needed on the determinants of individual firm success, and the social cost of electrification "winners and losers" in rural communities.
- More than 90% of the firms in "unelectrified" CREE already have electricity access via "offgrid" generation (notably, two thirds use 20–50Wp solar home systems), and all firms in our "electrified" CREEs use grid electricity. Therefore, we have measured a step of enterprises from "Tiers 1–2" to "Tiers 4–5" along the six access "tiers" defined in **World Bank 2015**. It would be interesting to discern better how the effects we measured for firm and community level relate to other "shifts" along this scale – say, from "Tier" 0 to 2, or from 3 to 5, etc.
- Combined data collection at firm level (for methodological rigor and clear attribution of electrification effects on outcomes) and at consumer level has proved very effective to capture various dimensions of positive and negative impacts. Additional quantitative data collection at consumer level would have helped to back some of the findings, but would have involved a larger research budget.
- More research into female-run businesses is warranted to better understand the factors that hamper their financial performance and profitability. Such research is also needed in order to develop measures for targeted support of female entrepreneurs.
- As the PRODUSE I study has emphasized already, in order to infer causal effects of electricity access on development, simple comparisons of electrified and non-electrified localities are not appropriate. Customized research designs, tailored to the specific context in which electrification roll-out takes place, are needed to circumvent bias from omitted variables and reverse causality. Phasing, i.e. some communities receiving electricity access earlier than others, can be exploited to identify appropriate control groups for already electrified communities. This is a valid approach if the reasons for phasing are plausibly not correlated with unobserved drivers of economic development.



Annexe:

Local survey partner: SETM

Annex 1:

Community questionnaire

GIZ-financed PRODUSE Impact Evaluation Study
Community Level Data Collection समुदाय स्तरको तथ्यांक संकलन]

[Questions to be asked to CREE members or other key informants in the community
सामुदायिक बिधुतिकरण सस्थाका कार्य समितिका सदस्यहरु वा सस्थाको मुख्य जानकारीदातालाई सोध्ने]

CREE Name (सामुदायिक बिधुतिकरण सस्थाको नाम):								
Address (ठेगाना)								
Established Year (स्थापना भएको वर्ष)								
Type of organization (सस्थाको प्रकार)	NGO गैरसरकारी सस्था	1	Cooperative सहकारी	2	Company कम्पनि	3	Other (specify) अन्य (खुलाउनुनुहोस)	4

Form No. फाराम नम्बर (For Official Use Only)	Interview date अन्तर्वार्ता मिति	Name of Enumerator सर्वेक्षकको नाम	Survey Location सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY	ENUM	PLACE

Details of Respondents (जवाफदाताहरुको विवरण)

S.N. (क्र.स.)	Name (नाम)	Position in EC (कार्य समितिमा पद)	Address (ठेगाना)	Contact Number (सम्पर्क टेलिफोन)
1				
2				
3				
4				
5				

1. Electrification history (बिधुतिकरणको अवस्था)
(IF NOT ELECTRIFIED SKIP 1.2) बिधुतिकरण भईनसकेको भए प्रश्न १.२ छोड्नुहोस

	1st phase पहिलो चरण	2nd phase दोस्रो चरण	3rd phase तेस्रो चरण	4th phase चौथो चरण	5th phase पाचौ चरण	6th phase छैटौ चरण
1.1 Year of submission of application (आवेदन पेश गरेको साल)						
1.2 Year of completion (i.e. new line came into operation) सम्पन्न भएको मिति (नया लाइन संचालनमा आएको साल)						
1.3 Number of HHs (to be) electrified बिधुतिकरण भएका (हुन लागेका) घरधुरीको संख्या						

Section 2: Specific information about the 1st electrification phase
पहिलो चरण अन्तर्गत बिधुतिकरण भएको क्षेत्रको लागि मात्र
The questions in this section pertain to the area electrified during the 1st phase ONLY:

2. TOTAL cost of electrification for the first phase (पहिलो चरणको बिधुतिकरणको लागि कुल लागत)						
3. Community contribution to the total cost? (कुल लागतमा समुदायको तर्फबाट भएको लगानी)	10%	1	20%	2	Others-specify	3
4. Source of community contribution (10 or 20% of total cost) (समुदायले गरेको र गर्ने लगानी तथा योगदानका स्रोतहरु)						

Source (स्रोतहरु)	% of community contribution(समुदायको योगदान प्रतिशतमा)
4.1 VDC (गा.वि.स.)	
4.2 DDC (जि. वि.स.)	
4.3 Households (घरधुरी)	
4.4 Other (specify): अन्य (खुलाउनुहोस)	
4.5 Other (specify): अन्य (खुलाउनुहोस)	
4.6 Other (specify): अन्य (खुलाउनुहोस)	

5. Coverage by the first phase electrification (पहिलो चरणको बिधुतिकरणले समेटेका क्षेत्रहरु)	S.N. (क्र.स.)	VDC (गा.वि.स.)	Wards (वडा)

6. Distance (in km) from the already existing grid (NEA operated grid or nearby CREE)? पहिलो बिधुतिकरणको बेला पहिले अवस्थित प्राधिकरणको प्रसारण लाइन कति टाढा थियो? कि.मि. मा	a. Closest point of the 1st phase (पहिलो चरणबाट नजिकको बिन्दुबाट)	b. most distant point of the 1st phase (पहिलो चरणको टाढाको बिन्दुबाट)

7. How did the community first learn about the community rural electrification program? पहिलोपल्ट समुदायले सामुदायिक ग्रामिण बिधुतिकरण कार्यक्रमको जानकारी कसरी पायो ?		
	1	From newspaper or radio (पत्र पत्रिका समाचार रेडियो)
	2	We heard about electrification of a neighboring CREE (specify how far this CREE is…...KM) छिमेकी सामुदायिक सस्थाको बारेमा सुनेर (त्यो सस्था कति टाढा छ कि.मि. खुलाउनुहोस.....)
	3	Through a campaign by NACEUN सामुदायिक बिधुत उपभोक्ता महासंघ (नेकोन)
	4	Other (SPECIFY): अन्य (खुलाउनुहोस)

8. What are/were the motivating factors to apply for electrification under the Community Rural Electrification Program? सामुदायिक ग्रामिण बिधुतिकरण कार्यक्रम अन्तर्गत बिधुतिकरण गर्न प्रेरणादायी कारकहरु के के हुन ?	[RECORD WORD FOR WORD] जस्ताको तस्तै रेकर्ड गर्नुहोस

9. Do any of the CREE committee members run their own enterprises? यस सस्थाको समितिका सदस्य मध्ये कसैले आफ्नै उधम चलाएका छन?	Yes (छ)	No (छैन)
	1	2
9.1 If yes, give the following information. छ भने निम्न जानकारी दिनुहोस		

S.N. (क्र.स.)	a. Who? (कसले? नाम लेख्ने)	b. What kind of enterprise? (उधमको प्रकार)	c. Where? (In 1st phase CREE area, other CREE areas, or somewhere else) (कहाँ ? सस्थाको पहिलो चरणको क्षेत्र भित्र, अन्य चरण भित्र, वा सस्थाको क्षेत्र बाहिर)	d. When was the enterprise set up? (month / year) उधम कहिले स्थापना भएको हो?		e. Remarks (कैफियत)
				Month महिना	Year साल	
1						
2						
3						
4						
5						

Section 3: Load shedding खण्ड ३ लोडसेडिंग (बिधुत कटौती अवस्था

(APPLICABLE ONLY FOR ELECTRIFIED CREEs बत्ति बलेको सस्थाहरुको हकमा मात्र सोध्ने)

10. Load shedding schedule in the CREE (list regular hours without electricity): सामुदायिक सस्थामा लोडसेडिंग तालिका (बत्ति नआउने नियमित समयको सुची बनाउने)					
Day दिन	Morning shift (4AM-12PM) बिहान ४ देखि १२ सम्म	Day shift (12PM-17PM) दिउसो १२ देखि १७ सम्म	Evening shift (17PM-11PM) साँझ १७ देखि ११ सम्म	Night shift (11PM-4AM) राति ११ देखि ४ सम्म	Total hours जम्मा घण्टा
Monday सोमवार					
Tuesday मंगलबार					
Wednesday बुधबार					
Thursday बिहिबार					
Friday शुक्रबार					
Saturday शनिबार					
Sunday आइतबार					
*If follow NEA regular schedule (note Group No) यदि प्राधिकरणको नियम लागु हुने गरेको छ भने कुन समूह वा ग्रुप अन्तर्गत पर्छ नोट गर्नुहोस				.....	

Section 4: Capacity of the CREE [खण्ड ४ सामुदायिक सस्थाको क्षमता]

11. Human resources of the CREE सामुदायिक सस्थाको जनशक्ति				
11.1 CREE EC members (सस्थाको कार्य समितिको सदस्यहरु)	a. Male (पुरुष)	b. Female (महिला)	c. Ethnic/Janajati(जनजाति)	d. Total (कुल)

11.2 CREE staffs सस्थामा कार्यरत कर्मचारीहरु **(IF NON-ELECTRIFIED GO TO SECTION 5:** यदि बत्ति नबलेको सस्था भए भाग ५ मा जानुहोस**)**

S.N. (क्र.स.)	a. Job Title (पद)	b. Gender लिङ्ग (Male पुरुष =1, Female महिला =2)	c. Years of Involvement कार्यरत रहेको समयावधि (वर्षमा)	d. Remarks कैफियत
1				
2				
3				
4				
5				

12. What is the CREE's average monthly income? सस्थाको औसत मासिक आम्दानी रकम कति होला ?		
Income source आम्दानीको स्रोत	a. Monthly NRs. मासिक रु	b. Remarks कैफियत
12.1 Revenue महशुल		
12.2 Other (specify) अन्य (खुलाउनुहोस)		
12.3 Total कुल		

13. What is the CREE's average monthly expense? सस्थाको औसत मासिक खर्च रकम कति होला ?		
Expense Type खर्चको प्रकार	a. Monthly NRs. मासिक रकम	b. Remarks कैफियत
13.1 NEA ने.वि.प्राधिकरणलाई तिर्ने बिल रकम		
13.2 Salary तलब		
13.3 Other (specify) अन्य (खुलाउनुहोस)		
13.4 Total कुल		

14. What is the CREE's average saving status? यस सस्थाको औसत बचत स्थिति कस्तो छ?					
Saving बचत			a. Yearly NRs. वार्षिक बचत		b. Remarks कैफियत
14.1 Yearly saving (saving in last year) वार्षिक बचत (गत वर्षको बचत)					
14.2 Total savings (till date of field interview) जम्मा बचत (यो सर्वेक्षण हुदाको मिति सम्म कति बचत छ ?)					
15. Financial governance आर्थिक पारदर्शिता	a. Regular ? नियमित छ छैन ?		b. Is it well organized ? राम्ररी राखिएको छ कि छैन?		Rate each item on a scale from Vp to V*P* (1-5) १ देखि ५ को स्केलमा रेट गर्नुहोस (अत्यन्त कमजोर देखि अत्यन्त राम्रो)
15.1 Audit practice: लेखा परिक्षण	Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
	1	2	1	2	
15.2 Meeting minutes: बैठक बस्ने तथा निर्णय राख्ने	Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
	1	2	1	2	
15.3 Book-keeping: लेखापालन र अभिलेख राख्ने	Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
	1	2	1	2	
[*Vp= Very poor(अत्यन्त कमजोर), p=Poor(कमजोर), N= Normal(ठिकै), *P*=Professional(राम्रो) and *VP*=Very professional (अत्यन्त राम्रो)]					

Section 5: Other energy sources [खण्ड ५ अन्य उर्जाको स्रोत **]**

16. Do you know the number of enery systems used in the village before CREE? सामुदायिक बिधुतिकरण भन्दा पहिले गाउँमा प्रयोग भएका उर्जा प्रणालीहरुको संख्या बारे यहाहरुलाई थाह छ ?	Yes (छ)	No (छैन)
	1	2

[IF NO, SKIP QN 16.1 QUESTION] छैन भने १६.१ खाली छोड्नुहोस

16.1 [IF YES, GIVE THE FOLLOWING INFORMATION] यदि थाह छ भने निम्न जानकारी दिनुहोस

Types (प्रकारहरु)	a. Nos. of Systems प्रणालीको संख्या	b. Used by MSMEs or HHs घरधुरी वा लघु साना तथा मध्यम उधोग कसले प्रयोग गरेको छ	c. Are the users now connected to CREE power? के प्रयोगकर्ताहरुले अहिले सस्थाको बिधुत जडान गरेका छन?
A. Diesel generators डिजेल जेनेरेटर			
B. Micro-hydro लघु जल बिधुत			
C. Solar home systems घरेलु सौर्य प्रणाली			
D. Other (other than kerosene and batteries for lighting) अन्य (उज्यालोको लागि मट्टीतेल र ब्याट्री बाहेक)			

Section 6: Information about enterprises in the CREE खण्ड ६ सामुदायिक सस्थामा भएको उधम बारेमा जानकारी **(1st electrification phase ONLY)**

The questions in this section pertain to the area electrified during the 1st phase ONLY: यस खण्डमा भएका प्रश्नहरु पहिलो चरणमा बिधुतिकरण भएको क्षेत्र भित्रको लागि मात्र हो ।

17. Type of Enterprises उधमको प्रकार	Number संख्या
17.1 Shops पसल	
17.2 Agro-based mills कृषि प्रसोधनमा आधारित मिल	
17.3 Rural Carpentry ग्रामिण फर्निचर	
17.4 Poultry कुखुरापालन	
17.5 Others (Specify) अन्य (खुलाउनुहोस)	

(IF NON- ELECTRIFIED GO TO Q.N. 22 यदि बत्ति नबलेको सस्था भए प्रश्न न २२ मा जानुहोस **)**

18. Are there any enterprises in the area of the 1st electrification phase that do not use electricity?
पहिलो चरणमा विधुतिकरण भएको क्षेत्र भित्र कुनै उधमहरु छन जसले बिजुली प्रयोग गर्दैन?

Yes (छ)	No (छैन)
1	2

18.1 If yes, provide the following information छन भने निम्न जानकारी दिनुहोस

S.N. (क्र.स.)	a. Enterprise type (shop, other service provider, manufacturing, agro-processing, irrigation) उधमको प्रकार	b. Location (Village/Tole) स्थान -गाउँ/टोल)	c. Exist before CREE सामुदायिक सस्था भन्दा पहिले नै थियो कि थिएन?		d. Remarks कैफियत
			Yes (थियो)	No (थिएन)	
1			1	2	
2			1	2	
3			1	2	
4			1	2	
5			1	2	

19. Have any enterprises closed (stopped operating) after the grid arrived to the village? गाउँमा सामुदायिक सस्थाको बिधुत आइसकेपछि कुनै उधम बन्द भएको (संचालन रोकिएको) छ?	Yes (छ)	No (छैन)
	1	2

19.1 If yes, give the following information छ भने निम्न जानकारी दिनुहोस

S.N. (क्र.स.)	a. Type उधमका प्रकार (shop, other service provider, manufacturing, agro-processing, irrigation)	b. closed in year बन्द भएको साल	c. Why? कारण
1			
2			
3			

20. Has this CREE been selected by HELVETAS for productive use promotion? यो सामुदायिक सस्थामा परिप्रयोग तथा उधमहरुको बिस्तार गर्न हेल्भिटास को छनौट मा परेको छ?	Yes (छ)	No (छैन)	
	1	2	
21. Does the CREE do any awareness raising in the community to encourage the start of new businesses? के यो सामुदायिक सस्थाले नया उधम वा व्यबसाय शुरु गर्नलाइ समुदायमा जनचेतनामुलक कुनै कार्य गरेको छ?	Yes (छ)	No (छैन)	
	1	2	
21.1 If YES: छ भने	a. When? कहिले?	b. Where? कहाँ?	c. Attended by how many persons? कतिजना मान्छे उपस्थित भएका थिए?
1st event पहिलो घटना			
2nd event दोस्रो घटना			
3rd event तेस्रो घटना			
22. Has the CREE undertaken an assessment of potentials for business activities in the area? यस सस्थाको क्षेत्र भित्र उधम वा व्यबसाय संचालनको लागि सम्भाव्यताबारे यस सस्थाले मुल्यांकन/अध्ययन गरेको छ?	Yes (छ)	No (छैन)	22.1 If yes, when? छ भने कहिले ?
	1	2	
22.2 If yes: Which types of business activities were identified that could potentially flourish in the area? यदि छ भने कस्तो प्रकारका व्यवसायिक गतिविधिहरु पहिचान भएका छन जसको यो क्षेत्रमा प्रचुर सम्भावना छ?			
IF NON ELECTRIFIED CREE THEN GO TO Q.N. 26 विधुतिकरण भइनसकेको सस्थाको हकमा प्रश्न न २६ मा जानुहोस			
23. Do enterprises receive special tariff rates / discounts on services / etc.? उधम व्यवसायहरुले सेवा सुविधा प्रदान गरे बापत कुनै किसिमको बिशेष	Yes (छ)	No (छैन)	Remarks: कैफियत
	1	2	

महशुल छुट वा अन्य कुनै छुट पाउने गरेका छन?					
23.1 If yes, describe: यदि छ भने वर्णन गर्नुहोस					
24. Has the CREE ever offered loans for investments to enterprises that are electricity clients? के सामुदायिक सस्थाले कहिल्यै यो सस्थाको विधुत प्रयोग गर्ने उधम वा व्यवसायीहरुलाई उधममा लगानी गर्न ऋण दिने प्रस्ताव गरेको छ?	Yes (छ)	No (छैन)	Remarks: कैफियत		
	1	2			
24.1 If yes, how many times? यदि छ भने कतिपटक ?		Amount रकम		Interest Rate ब्याजदर	
25. Has the CREE ever facilitated linkage of any of its enterprise clients to a cooperative or a bank for a loan? के यस सस्थाले कहिल्यै कुनै आफ्नो उधमी ग्राहकहरुलाई कुनै सहकारी वा बैंक बाट ऋण लिनका लागि समन्वयकारी भूमिका खेलिदिएको छ ?	Yes (छ)	No (छैन)	25.1 If YES, to which bank or credit institute? छ भने कुन बैंक वा ऋण दिने सस्थाका लागि?		
	1	2			
25.2 If yes, how many time? यदि छ भने कति पटक?		Amount रकम		Interest Rate ब्याजदर	
26. Has the CREE ever undertaken any other type of promotion of enterprises, like capacity development trainings? के सामुदायिक सस्थाले उधम तथा व्यवसायहरुको विस्तार र प्रवर्दनका लागि क्षमता विकास तालीम जस्तै कार्यहरु संचालन गरेको छ?	Yes (छ)	No (छैन)	Remarks: कैफियत		
	1	2			

26.1 If Yes, give the following information छ भने निम्न जानकारी दिनुहोस

Type of training तालीमको प्रकार	Total numbers कुल संख्या	Target Group लक्षित समूह						Total participants कुल सहभागीहरु	Remarks: कैफियत
		HHs	E	W	DAG	T	EC		
A. Technical प्राविधिक		1	2	3	4	5	6		
B. Management व्यवस्थापन		1	2	3	4	5	6		
C. IGA आय आर्जन सम्बन्धि		1	2	3	4	5	6		
D. Marketing बजारीकरण		1	2	3	4	5	6		
E. Other (specify) अन्य (खुलाउनुहोस)		1	2	3	4	5	6		

*Note: Target group HHs= Households, E= Enterprises, W=Women, DAG=Disadvantaged Group(पिछडिएको समुदाय), T=Technical person, EC= Executive Committee (कार्य समिति)

27. If the CREE has not supported productive end-use, why not? यदि यो सस्थाले परिप्रयोग तथा उधमहरुलाई केहि सहयोग गर्न सकेको छैन भने किन?

[a] Lack of capacity क्षमताको कमि भएर
[b] Lack of resources स्रोतको कमि भएर
[c] Beyond the scope of CREE सस्थाको कार्य वा दायरा बाहिरको कुरा
[d] Planning योजना बनाइरहेको छ

28. Does the CREE run any type of business activity (in addition to selling power)? यस सामुदायिक सस्थाले अन्य व्यवसायिक गतिविधि संचालन गरेको छ? (विधुत बेच्नुको अतिरिक्त)	Yes (छ)	No (छैन)	Remarks: कैफियत
	1	2	
28.1 If yes, which type? यदि छ भने कस्तो प्रकारको ?			[IF YES, APPLY ENTERPRISE QUESTIONNAIRE.] छ भने उधमका लागि तयार सर्वेक्षण फाराम समेत भर्नुहोस

Section 7: Enabling environment for small businesses खण्ड ७ साना व्यवसाय तथा उधमको लागि वातावरण

29. Name of the nearest local market centre (1st Phase) नजिकैको स्थानीय बजार केन्द्रको नाम (पहिलो चरण अन्तर्गत)		
30. The closest point within the 1st phase area पहिलो चरण अन्तर्गत रहेको नजिकको बिन्दु	a. Distance दुरी	b. Time समय
	.....KM कि.मि.	.....Hrs घण्टा

Annex 2:

Enterprise questionnaire

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उधम तथा परिप्रयोगहरुको सर्वेक्षण**)**

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेबल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उधम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा बिकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी बिनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईंले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरबार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरबार्ता शुरु गर्न सक्छौ होला ?
यदि तपाईं अन्तरबार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक बिधुत सस्था नम्बर**:**

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्वार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता		Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका	
What is your level of education? तपाईंको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)			
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यवसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) बिशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)			
If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि बिबाहित हुनुहुन्छ भने तपाईको जीवनसाथी यो व्यवसायमा संलग्न हुनुहुन्छ?		If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस	
	Yes (छ)	No (छैन)		
	1	2		

Section 1: General information about the enterprise उधम व्यबसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उधमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उधम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm बिबिध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईंको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईले उधम आफैले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिवार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक वर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				.....
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक वर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				.....
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)..... अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईको परिवारको कुल वार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							.....
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाई बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग	**Family relation:** नाता	**Education Level:** शैक्षिक योग्यता	**Skill Level:** शिपको स्तर	**Remuneration:** तलब
1-Male पुरुष 2-Female महिला	1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यवसाय चलाएको स्थान तपाई वा तपाईको परिवारको स्वामित्वमा छ?	Yes (छ) 1	No (छैन) 2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यवसायिक वाताबरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यवसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?	
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु	✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी	
2	Access to land जग्गाको अभाव	
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव	
4	Access to spare parts पार्टपुर्जाको अभाव	
5	Access to qualified workers दक्ष कामदारको अभाव	
6	Salary and wage levels तलब तथा ज्याला स्तर	
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)	
8	Access to energy उर्जाको पहुँच	
9	Cost of energy उर्जाको मूल्य	
10	Reliability of energy supply बिधुत आपूर्तिको विश्वसनियता	
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच	
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच	

13	Condition of transport infrastructure यातायात सुविधाको अवस्था				
14	Access to telecommunications टेलिफोन सेवाको पहुँच				
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच				
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)				
17	Bribes and other unofficial payments घुस तथा कालोबजारी				
18	Crime, theft अपराधीकरण तथा चोरी				
19	Business licensing and regulation व्यवसाय इजाजत तथा नियम पालना				
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु				
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व				
22	Economic instability (e.g. inflation) आर्थिक उतारचढाव				
23	Weather conditions मौसमको प्रतिकुलता				
2.2	What is your nearest major market place? तपाईको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम		
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट	
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.			
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाई नियमित वस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?			Yes (छ) 1	No (छैन) 2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम				
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट	
2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.			

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईंको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यवसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products /	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		

	services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....

3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिबर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.	
		2.	
		3.	
		4.	
		5.	
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस	
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस	
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस	

3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक सस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?	
		1	2		
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक सस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (बर्षमा)
		1	2	3	……..
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम .....
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस				

Particulars बिवरण (A)	Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
					Month महिना	Year साल	

3.7.1	NEA Electricity विधुत प्राधिकरणको लाइन	MCB एम.सी.बि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?				Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1			
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..	
		Other, specify: अन्य (खुलाउनुहोस)	3			
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यवसाय सञ्चालनमा खपत हुन्छ होला?					
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत वर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?		Yes (छ) 1	No (छैन) 2		

3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?							
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी ब्यबस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने	1					
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने	2					
		[c] others (specify) अन्य (खुलाउनुहोस)	3					
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्ने							
	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B)		Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया /पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफै बचत, ऋण, दुवै भए प्रतिशतमा		
		Month महिना	Year साल					
3.13.1								
3.13.2								
3.13.3								
3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ)	No (छैन)					
		1	2					
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?							
	[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]							
3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ)	No (छैन)					
		1	2					
3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……		…….KM कि.मि. or ……hrs घण्टा				
3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)			Remarks कैफियत				
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यबसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1						
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2						
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3						
D	I do not have the specific technical skills required to run electric equipment म सँग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4						
E	Other: specify अन्य (खुलाउनुहोस)	5						
3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च विवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समावेश नगर्ने जुन तल समावेश हुन्छ ।							
	Particulars विवरण	Amount (NRs) रकम (रुपियामा)		Remarks कैफियत				
3.17.1	Rent भाडा							
3.17.2	Salary and wages तलब तथा ज्याला							
3.17.3	Maintenance & repair मर्मत तथा सम्भार							

3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		
	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		
3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन
3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन । [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरब्यबसाय सञ्चालन गर्छु ।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरब्यबसाय चलाउछु ।	2	
C	Stop operations and wait for power to come back तत्काल उधम/ब्यबसाय बन्द गर्छु र बिधुत कहिले आउछ कुरेर बस्छु ।	3	
D	Other: specify) अन्य (खुलाउनुहोस)	4	
3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा ब्यबसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा भिसमिसे उज्यालो भए पनि समाबेश गर्ने)	Yes (छ) 1	No (छैन) 2
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय	in the evening बेलुकाको समय
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ) 1	No (छैन) 2

	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)	Remarks कैफियत
3.22.1			
3.22.2			
3.22.3			

3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो ब्यबसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?	Yes (छ) 1	No (छैन) 2
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?		

	1		3	
	2		4	

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)	
		1	2	
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम			
4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी संग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)	
		1	2	
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्ने गर्नुभएको छ?	Daily दैनिक	Monthly मासिक	
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आबेदन दिएको छ?	Yes (छ)	No (छैन)	
		1	2	

4.3.1	If yes, यदि छ भने							
	year when you applied for a loan तपाईले ऋणका लागि आबेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्दत गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? व्यबसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आबेदन दिदाको समय तपाईले व्यबसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आबेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैंसंग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आबेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services व्यवसाय विकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको व्यवसायमा प्रत्यक्ष संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिबृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?		Yes (छ) 1	No (छैन) 2	Remarks कैफियत
5.1.1	If Yes, यदि छ भने				
A. Who participated: को सहभागी भयो?			B. Name of program: कार्यक्रमको नाम		
C. Where did it take place: कहाँ भएको थियो?			D. Implemented by: कसले आयोजना गरेको थियो?		
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)			F. Who were the other participants: अरु सहभागीहरु को थिए?		
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?			H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?		
5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?		Yes (छ) 1	No (छैन) 2	
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?		Type किसिम	When कहिले	Organizer तालीम दिने सस्था
5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?				
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?				
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यवसाय व्यवस्थापन सम्बन्धि शिपहरु (व्यवसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यवस्थापन, जनशक्ति व्यवस्थापन आदि सम्बन्धि तालीम)		1		
B	Technical Skills (Technical assistance with production) प्राविधिक शिपहरु (उत्पादन सम्बन्धि प्राविधिक ज्ञान)		2		
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रविधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राविधिक सहयोग)		3		
D	No training required कुनै तालीमको आवस्यकता छैन		4		
E	Other (please specify) अन्य (खुलाउनुहोस)		5		
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?				
A	None छैन		0		
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य		1		
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य		2		
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी		3		
F	Other (specify) अन्य (खुलाउनुहोस)		5		

Enterprise Survey –Agro processing Mills उधम सर्वेक्षण कृषि प्रसोधनमा आधारित मिलहरु

	1. General Background सामान्य पृष्ठभूमि							
1.1	On an average how much do you operate your business? तपाईको व्यबसाय औसतमा कति अवधि सञ्चालन हुन्छ?	……Hrs/day घण्टा प्रति दिन		1.1.1 During festive season चाडपर्बको बेलामा			……Hrs/day घण्टा प्रति दिन	
		……Hrs / week घण्टा प्रति हप्ता		1.1.2 During harvesting season उत्पादन हुने बेलामा			Hrs/day घण्टा प्रति दिन ……Hrs / week घण्टा प्रति हप्ता	
1.2	Are there any other agro-processing mills in your VDC/CREE/ village? तपाईको गाउँ अर्थात सामुदायिक सस्थाको क्षेत्र भित्र (पहिलो चरण)अन्य कृषि प्रसोधनमा आधारित मिलहरु छन?			Yes (छ)	No (छैन)		IF NO GO TO QUESTION 2.1	
				1	2			
1.2.1	If yes, how many? यदि छन भने कति वटा?							
1.2.2	If yes, is there any business loss due to other such agro-mills? यदि छन भने त्यस्ता मिलहरुले गर्दा तपाईको व्यबसयामा नोक्सान पुगेको छ कि छैन?			Yes (छ)	No (छैन)			
				1	2			
1.2.3	If yes, do you think your enterprise has affected the business of other similar mills? यदि छन भने तपाईंको उधमले यस्ता अन्य मिलाहरुलाई असर गरेको छ कि छैन?			Yes (छ)	No (छैन)			
				1	2			
	2. Customers ग्राहकहरु							
2.1	How much time does it take by the farthest users to come to your mill? टाढाका ग्राहकहरुलाई तपाईको मिल सम्म आउन कति समय लाग्छ	……Hrs घण्टा		……km कि.मि.				
2.2	How many costumers visit your mill daily on average? औसतमा कति जना ग्राहकहरु दैनिक रुपमा तपाईको मिलमा आउछन?	……Good season धेरै चलेको बेला		……Bad Season थोरै चलेको बेलामा				
2.3	On average, how many of your daily customers are men and women? दैनिक आउने औसत ग्राहकहरु मध्ये पुरुष र महिला कति छन?	A. Male number पुरुषको संख्या		B. Female number महिलाको संख्या				
2.4	Do some people in the community go elsewhere for their processing? के समुदायको केहि मानिसहरु प्रसोधनको लागि अन्यत्र जान्छन?	Yes (छ)		No (छैन)		2.3.1 If yes, give reason; यदि जान्छन भने कारण खुलाउनुहोस		
		1		2				
2.5	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?			……				
	3. Annual Turnover/Price/Savings बार्षिक कारोबार/मूल्य/बचत							
3.1	What tariff do you collect for processing the grains? (Please fill the tariff rate per unit (kg) as appropriate "in cash" or "in kind" column.) [IF DIESEL MILL SWITCHED TO ELECTRICAL THEN ASK THE PREVIOUS RATE] तपाईले अन्न प्रसोधन गरेबापत महशुल कसरि लिईरहनुभएको छ? (महशुल दर प्रति कि.लो. दिइएको तालिकाको उपर्युक्त कोठामा भर्नुहोस) जिन्सीमा भए त्यसको प्रति एकाइ बजार मूल्य सोधेर लेख्ने यदि पहिला डिजेल मिल पनि बिजुली मिलमा रुपान्तरण गरिएको हो भने अघिल्लो दर समेत सोध्ने)			In cash नगदमा		In Kind जिन्सिमा			
				E	D	E	D	
		1	Maize मकै					E =Electricity D=Diesel
		2	Millet कोदो					
		3	Wheat गहुँ					
		4	Rice Hulling धान कुटेको					
		5	Rice Beating चिउरा कुटेको					
		6	Oil expelling तेल पेलेको					
		7	Other (specify) अन्य (खुलाउनुहोस)					

3.2	What is your average daily/weekly/monthly/yearly revenue from the mill? [BEFORE DEDUCTION OF ANY COST; NOTE IN APPROPRIATE COLUMN] तपाईको मिलबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?					
	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)	
3.2.1	Tariff महशुल					
3.2.2	By-products अबशेष बिक्रि					
3.2.3	Total कुल					
3.3	Are you satisfied with this income? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?				Yes (छ) 1 / No (छैन) 2	
3.4	How much profit (revenue minus cost of operation) do you make from your agro-processing business per month on average? तपाईले यो मिल व्यबसायबाट मासिक रुपमा औसत कति नाफा (मिलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?		.....Good season धेरै चलेको बेला		.....Bad Season थोरै/कम चलेको बेला	
3.5	Key observation: सर्वेक्षकले अबलोकन गरेको आधारमा बयान गर्ने ।					

Enterprise Survey –Poultry Farms and Other Animal Husbandry उधम सर्वेक्षण कुखुरा फार्म र अन्य पशुपालन

	1. General Background				
1.1	Total no. of birds/livestock in the farm फार्ममा जम्मा कुखुरा /पशु को संख्या	……	1.2 Type: किसिम		
1.3	Electricity connection status in the farm फार्ममा बिधुत जडानको स्थिति	Yes जोडेको छ 1	No जोडेको छैन 2		
1.4	If yes, for what purpose, do you use electricity? यदि जडान गरेको भए के का लागि बिधुत प्रयोग गर्नुभएको छ? [MULTIPLE ANSWERS POSSIBLE]		Lighting प्रकाश Heating ताप Other अन्य	1 2 3	
1.5	Are there any other poultry farms in your VDC? के तपाईको गा.बि.स. मा अन्य यस्तै कुखुरा फार्महरु छन ?		Yes (छ) 1	No (छैन) 2	
1.5.1	If yes, how many? यदि छन भने कतिवटा छन ?				
1.5.2	If yes, is there any loss due to other such poultry farms? यदि छन भने त्यस्ता फार्महरुले गर्दा तपाईको व्यवसायामा नोक्सान पुगेको छ कि छैन?		Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
1.5.3	If yes, do you think your enterprise has affected the business of other similar farms? यदि छन भने तपाईंको उधमले यस्ता अन्य फार्महरुलाई असर गरेको छ कि छैन?		Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
	2. Customers				
2.1	Where do you sell your products? आफ्नो व्यबसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[c] large market, WHERE? ठुलो बजार (कहाँ)	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
2.2	Do some people in the community go elsewhere to buy the kind of animals you sell? के समुदायको केहि मानिसहरु तपाईको जस्तै उत्पादन किन्नका लागि अन्यत्र जान्छन?	Yes (छ) 1	No (छैन) 2	If yes, give reason; यदि छ भने कारण दिनुहोस	
2.3	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?	……			
2.4	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु			1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ			2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ			3
2.5	Is your business sufficient to meet the demand? के तपाईको व्यापार / व्यबसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ) 1	No (छैन) 2	2.5.1 If no give reason; छैन भने कारण खुलाउनुहोस ……	
2.5.2	If NO, why don't you increase your production capacity? छैन भने आफ्नो व्यबसायको उत्पादन क्षमता किन बढाउनुहुन्न?				
2.6	What type of supply system do you have? तपाइले कस्तो आपूर्ति प्रणाली अपनाउनुभएको छ?	Wholesale/Bulk थोक Retailer खुद्रा Both दुवै	1 2 3	Specify: खुलाउनुहोस	

	3. Annual Turnover/Price/Savings वार्षिक कारोबार /मूल्य /बचत					
3.1	At what price do you sell your product(s)? आफ्नो उत्पादन कति मुल्यमा बिक्रि गर्नुहुन्छ ?				Alive जिउदो .....[SPECIFY WHICH ANIMAL].....NRs Egg..... अण्डा प्रति गोटा Meat (KG)..... मासु प्रति कि.लो. Others (specify)..... अन्य (खुलाउनुहोस)	
3.2	What is your average daily/weekly/monthly/yearly gross revenue from the sale of your products? [BEFORE DEDUCTION OF ANY PRODUCTION COST; NOTE IN APPROPRIATE COLUMN].: तपाईको उधमबाट हुने औसत दैनिक, हप्ता, मासिक वा वार्षिक आम्दानी कति जति होला?उपर्युक्त कोठामा भर्नुहोस ।					
	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. वार्षिक रकम (D)	
3.2.1	Alive chicken जिउदो					
3.2.2	Egg अण्डा					
3.2.3	Meat मासु					
3.2.4	Litter/Fertilizer सुली/मल					
3.3	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यबसायबाट मासिक रुपमा औसत कति नाफा (फार्मबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?			.....Good season धेरै चलेको बेला	.....Bad Season थोरै/कम चलेको बेला	
3.4	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?			Yes (छ) 1	No (छैन) 2	
3.5	Expenditure on input for production [NOTE IN APPROPRIATE COLUMN] उत्पादनका लागि आगतमा खर्च					
		Young animals जवान पशु (A)	Fodder चारा/अन्न /आहरा (B)	Medication for animals औषधि (C)	Others (specify) अन्य (खुलाउनुहोस) (D)	Total कुल (जम्मा) (E)
3.5.1	Daily दैनिक					
3.5.2	Monthly मासिक					
3.5.3	Yearly बार्षिक					
3.6	Key observation: सर्वेक्षकले अबलोकन गरेको आधारमा बयान गर्ने ।					

Enterprise Survey –Carpenters or Furniture Makers फर्निचर उधम

	1. General Background सामान्य पृष्ठभूमि			
1.1	Electricity connection status in the furniture फर्निचरमा बिधुत जडानको स्थिति	Yes जोडेको छ 1	No जोडेको छैन 2	
1. 2	What type of services do you provide? कस्तो प्रकारको सेवाहरु प्रदान गर्नुहुन्छ?	Readymade products तयारी सामान	1	
		Order based products अर्डर बमोजिमका उत्पादनहरु	2	
		Labor services ज्याला लिएर काम गरिदिने	3	
		Other I (specify) अन्य केहि भए (खुलाउनुहोस)	4	
		Other II (specify) अन्य केहि भए (खुलाउनुहोस)	5	
1.3	How many man-hours does it take to produce a table? एउटा टेबल बनाउन एकजना मानिसलाई कति घण्टा लाग्छ होला?	With electric equipment? बिधुतिय उपकरण को सहायताले ……hrs घन्टामा	if you did not use any electric equipment? कुनै पनि बिधुतिय उपकरण प्रयोग नगरिकन ……hrs घन्टामा	
1.4	Is there any other carpentry business in your VDC? के तपाईको गा.बि.स. मा अन्य यस्तै फर्निचर उधोगहरु छन ?	Yes (छ) 1	No (छैन) 2	
1.4.1	If yes, how many? यदि छन भने कतिवटा छन ?			
1.4.2	If yes, is there any loss due to other such business? यदि छन भने त्यस्ता फर्निचर उधोगहरुले गर्दा तपाईको व्यबसयामा नोक्सान पुगेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
1.4.3	If yes, do you think your enterprise has affected the business of other similar type? यदि छन भने तपाईको उधमले यस्ता अन्य फर्निचर उधोगहरुलाई असर गरेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
	2. Customers ग्राहकहरु			
2.1	Where do you sell your products? आफ्नो व्यबसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत
		[c] large market, WHERE? ठुलो बजार (कहाँ)	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत
2.3	Do some people in the community go elsewhere to buy furniture? के समुदायको केहि मानिसहरु फर्निचर किन्नको लागि अन्यत्र जान्छन?	Yes (छ) 1	No (छैन) 2	If yes, give reason; यदि जान्छन भने कारण खुलाउनुहोस
2.4	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यबसायको नियमित ग्राहकहरु छन?	.....		
2.5	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु		1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ		2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ		3
2.6	Is your business sufficient to meet the local demand? के तपाईको व्यापार / व्यबसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ) 1	No (छैन) 2	If no give reason; छैन भने कारण खुलाउनुहोस ……
2.6.1	If NO, why don't you increase your			

	production capacity? छैन भने आफ्नो व्यबसायको उत्पादन क्षमता किन बढाउनुहुन्न?					
2.7	How much time does it take by the farthest customers to come in your enterprise? टाढाको ग्राहकलाई तपाईको उधम सम्म आइपुग्न कति समय लाग्छ?			……Hrs	……km	
2.8	How many customers did you have approximately over the last 3 months? गत ३ महिनामा तपाईको उधममा कति जति ग्राहक आए?			Inside CREE सामुदायिक सस्थाको क्षेत्र भित्रबाट	Outside CREE सामुदायिक सस्थाको क्षेत्र बाहिरबाट	
	3. Annual Turnover/Price/Savings बार्षिक कारोबार /मूल्य /बचत					
3.1	What is your average daily/weekly/monthly/yearly revenue? [BEFORE DEDUCTION OF ANY PRODUCTION COST; NOTE IN APPROPRIATE COLUMN].] तपाईको मिलबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?					
	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)	
3.1.1	Readymade products तयारी सामान					
3.1.2	Order based products अर्डर बमोजिमका उत्पादनहरु					
3.1.3	Labor services ज्याला लिएर काम गरिदिने					
3.1.4	Firewood /dust (Byproducts) अवशेष बिक्रि					
3.1.5	Other-specify अन्य केहि भए (खुलाउनुहोस)					
3.2	Expenditure on raw materials					
		Wood	Others (specify)		Total	
3.2.1	Daily दैनिक रकम					
3.2.2	Monthly मासिक रकम					
3.2.3	Yearly बार्षिक रकम					
3.3	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यबसायबाट मासिक रुपमा औसत कति नाफा (मिलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?			……Good season धेरै चलेको बेला		……Bad Season थोरै/कम चलेको बेला
3.4	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?			Yes (छ)	No (छैन)	
				1	2	

3.5	Do you sell your products directly in the market or contractors collect it and transport to markets? तपाईले आफ्नो उत्पादन आफै बजारमा लगेर बेच्नुहुन्छ कि कुनै व्यापारीरठेकेदार आएर उसले नै बजार सम्म लग्ने गरेको छ?		
3.6	What are the major changes after electrification? विधुतिकरण पछी के कस्ता परिवर्तनहरु भए? प्रमुख भिन्नता	Before पहिले 1. 2. 3.	After पछी 1. 2. 3.
3.7	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।		

Enterprise Survey –Shops / Restaurants

1. General Information- सामान्य पृष्ठभूमि						
1.1	What are the electrical devices used except lighting in your shop? प्रकाशका लागि बाहेक अन्य बिधुतिय उपकरणहरु के के छन ?	1				
		2				
		3				
		4				
1.2	Type of shop पसलको किसिम	Hotel/Restaurant होटेल/ रेस्टुरेन्ट	1			
		Grocery किराना पसल	2			
		Meat shop मासु पसल	3			
		Other (specify) अन्य (खुलाउनुहोस)	4			
1.3	How many other shops are there in your VDC? तपाईको गा.वि.स. मा अन्य कति वटा पसल छन होला ?	.....				
1.4	How much time does it take by the farthest customers to come to your shop? टाढाका ग्राहकहरुलाई तपाईको पसल सम्म आउन कति समय लाग्छ?	.....Hrs घण्टा	.....km कि.मि.			
1.5	What is the type of customers? आउने ग्राहकहरुको किसिम कस्तो छ?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Both दुबै		
		1	2	3		
1.6	How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको उधममा आए होलान?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल		
1.7	How many households approximately are regular customers in your shop? लगभग कति घरधुरीहरु तपाईको पसलको नियमित ग्राहकहरु छन?	.....				
1.8	Who is more responsible to run the shop? तपाईको पसल संचालन गर्न को बढी जिम्मेबार छ?	Male पुरुष	Female महिला			
		1	2			
	2. Annual Turnover/Price/Savings- बार्षिक कारोबार /मूल्य /बचत					
2.1	What is the daily/weekly/monthly/yearly revenue you make from the selling of goods or services? [BEFORE DEDUCTION OF ANY PRODUCTION COST]- तपाईको उधमबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?					
		Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)	
2.1.1	Revenue आम्दानी					
2.1.2						
2.2	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यवसायबाट मासिक रुपमा औसत कति नाफा (पसलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?	.....Good season धेरै चलेको बेला	……Bad Season थोरै/कम चलेको बेला			
2.3	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?	Yes (छ)	No (छैन)			
		1	2			
2.4	What are the major changes after electrification for your business?	1.				

	बिधुतिकरण पछी के कस्ता परिवर्तनहरु भए?	2. 3.
2.5	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।	

Enterprise Survey –Other Manufacturing or Services

1	General Information सामान्य पृष्ठभूमि				
1.1	List all the products and services that you currently produce / sell: तपाईको उधमले हाल उत्पादन र बिक्रि गर्ने बस्तु तथा सेवाहरु को सुची तयार पार्नुहोस				
1.2	How many other similar type enterprises are there in your VDC? तपाईको गाउँ अर्थात सामुदायिक सस्थाको क्षेत्र भित्र (पहिलो चरण)अन्य यस्तै प्रकारका उधमहरु छन?				
1.2.1	If yes, is there any loss due to other such business? यदि छन भने त्यस्ता उधमहरुले गर्दा तपाईको व्यवसयामा नोक्सान पुगेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस	
1.2.2	If yes, do you think your enterprise has affected the business of other similar type? यदि छन भने तपाईंको उधमले यस्ता अन्य व्यवसायहरुलाई असर गरेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस	
2	Customers ग्राहकहरु				
2.1	Where do you sell your products? आफ्नो व्यवसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[c] large market, WHERE? ठुलो बजार (कहाँ)	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
2.2	Do some people in the community go elsewhere to buy the type of product / service you sell? के समुदायको केहि मानिसहरु तपाईको जस्तै उत्पादन किन्नका लागि अन्यत्र जान्छन?	Yes (छ) 1	No (छैन) 2	If yes, give reason; कारण खुलाउनुहोस	
2.3	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?	……			
2.4	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु			1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ			2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ			3
2.5	Is your business sufficient to meet the local demand? के तपाईको व्यापार / स्थानिय व्यवसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ) 1	No (छैन) 2	If no give reason; छैन भने कारण खुलाउनुहोस ……..	
2.5.1	If NO, why don't you increase your production capacity? छैन भने आफ्नो व्यवसायको उत्पादन क्षमता किन बढाउनुहुन्न?				
2.6	How much time does it take by the farthest customers to come in your enterprise?	……Hrs	……km		
2.7	How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल	

	उधममा आए होलान? How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको उधममा आए होलान?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल	
2.8	At what price and in which quantity do you sell your products? [IF THE ENTERPRISE SELLS DIFFERENT PRODUCTS / SERVICES, LIST THE 3 MOST IMPORTANT ONES] तपाई आफ्नो उत्पादन कति मुल्यमा कुन परिमाण मा बिक्रि गर्नुहुन्छ? (यदि उधमले विभिन्न उत्पादन, वस्तु तथा सेवा बेच्छ भने, प्रमुख तीनवटा उल्लेख गर्नुहोस)		Sale price बिक्रि मूल्य (A)	Q-ty/Month in high season धेरै चलेको बेला बिक्रि परिमाण प्रति महिना (B)	Q-ty/Month in low season थोरै/कम चलेको बेला बिक्रि परिमाण प्रति महिना (C)
2.8.1	Product 1, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) १				
2.8.2	Product 2, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) २				
2.8.3	Product 3, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) ३				

2.9	What is the monthly revenue [BEFORE DEDUCTION OF ANY COST] you make from the selling of end products? अन्तिम उत्पादन बिक्रि भएपछी मासिक आम्दानी कति हुन्छ? (कुनै पनि लागतको कटौती अघि)					……
		Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. वार्षिक रकम (D)	
2.9.1	Revenue आम्दानी					
2.9.2						

2.10	Expenditure on input / raw material for production आयात/कच्चा पदार्थ खरिदमा खर्च [LIST THE MOST IMPORTANT RAW MATERIALS, UP TO 5, NEEDED FOR PRODUCTION] (अत्यन्त महत्वपुर्ण कच्चा पदार्थहरु , ५ वटा सम्म जुन उत्पादनका लागि आवस्यक छन सुची बनाउनुहोस)						
		Raw material 1, specify: कच्चा पदार्थ १	Raw material 2, specify: कच्चा पदार्थ २	Raw material 3, specify: कच्चा पदार्थ ३	Raw material 4, specify: कच्चा पदार्थ ४	Raw material 5, specify: कच्चा पदार्थ ५	Total कुल
2.10.1	Daily दैनिक रकम						
2.10.2	Monthly मासिक रकम						
2.10.3	Yearly वार्षिक रकम						

2.11	How much profit (revenue minus cost of operation) do you make from this business per month on average? तपाईले यो व्यवसायबाट मासिक रुपमा औसत कति नाफा (हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?	……Good season धेरै चलेको बेला		……Bad Season थोरै/कम चलेको बेला
2.12	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?	Yes (छ) 1	No (छैन) 2	
2.13	What are the major changes after electrification? बिधुतिकरण पछी के कस्ता परिवर्तनहरु भए?	1. 2. 3. 4. 5.		
2.14	Is raw material locally available? के कच्चा पदार्थ स्थानीय क्षेत्रमा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

2.14.1	If no, where do you go to buy raw materials? छैन भने कच्चा पदार्थ लिन कहाँ जानुहुन्छ?	
2.15	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।	

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उद्यम तथा परिप्रयोगहरुको सर्वेक्षण**) Agro-Processing Mills**

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेवल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उद्यम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा बिकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी बिनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईंले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरबार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईंले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरबार्ता शुरु गर्न सक्छौ होला ?
यदि तपाईं अन्तरबार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक विधुत सस्था नम्बर:

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्वार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____

If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता	Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका
What is your level of education? तपाईको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यवसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) बिशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	

If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि बिवाहित हुनुहुन्छ भने तपाईंको जीवनसाथी यो व्यवसायमा संलग्न हुनुहुन्छ?		If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस
	Yes (छ)	No (छैन)	
	1	2	

Section 1: General information about the enterprise उद्यम व्यवसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उद्यमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उद्यम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm बिबिध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईंको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईंले उधम आफैंले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौंली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैंले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौंली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिवार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईंको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक बर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				.....
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक बर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईंको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				.....
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)..... अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईंको परिवारको कुल बार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							.....
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाईं बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग 1-Male पुरुष 2-Female महिला	**Family relation:** नाता 1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	**Remuneration:** तलब 1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने (दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यवसाय चलाएको स्थान तपाई वा तपाईको परिवारको स्वामित्वमा छ?	Yes (छ)	No (छैन)	
		1	2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यबसायिक वाताबरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यवसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?			
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु		✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस	
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी			
2	Access to land जग्गाको अभाव			
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव			
4	Access to spare parts पार्टपुर्जाको अभाव			
5	Access to qualified workers दक्ष कामदारको अभाव			
6	Salary and wage levels तलब तथा ज्याला स्तर			
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)			
8	Access to energy उर्जाको पहुँच			
9	Cost of energy उर्जाको मूल्य			
10	Reliability of energy supply बिधुत आपूर्तिको विश्वसनियता			
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच			
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच			
13	Condition of transport infrastructure यातायात सुविधाको अवस्था			
14	Access to telecommunications टेलिफोन सेवाको पहुँच			
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच			
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)			
17	Bribes and other unofficial payments घुस तथा कालोबजारी			
18	Crime, theft अपराधीकरण तथा चोरी			
19	Business licensing and regulation व्यवसाय इजाजत तथा नियम पालना			
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु			
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व			
22	Economic instability (e.g. inflation) आर्थिक उतारचढाव			
23	Weather conditions मौसमको प्रतिकूलता			
2.2	What is your nearest major market place? तपाईंको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम	
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.		
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाईं नियमित वस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?		Yes (छ) 1	No (छैन) 2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम			
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट

2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.	

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यबसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products / services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		
		B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....		
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....		
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....		
3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिवर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.			
		2.			
		3.			
		4.			
		5.			
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			

	सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।				
3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक सस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?	
		1	2		
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक सस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (वर्षमा)
		1	2	3	……..
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम .....
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस				

	Particulars विवरण (A)	Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
						Month महिना	Year साल	
3.7.1	NEA Electricity बिधुत प्राधिकरणको लाइन	MCB एम.सी.बि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?				Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1			
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..	
		Other, specify: अन्य (खुलाउनुहोस)	3			
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यवसाय सञ्चालनमा खपत हुन्छ होला?					
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत वर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?	Yes (छ) 1	No (छैन) 2			
3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?					
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी व्यवस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने				1
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने				2
		[c] others (specify) अन्य (खुलाउनुहोस)				3
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्नें					

	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B)		Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया /पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफ्नै बचत, ऋण, दुवै भए प्रतिशतमा	
		Month महिना	Year साल				
3.13.1							
3.13.2							
3.13.3							

3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ) 1	No (छैन) 2	
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?			

[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]

3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……	……KM कि.मि. or ……hrs घण्टा

3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)		Remarks कैफियत
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यवसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1	
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2	
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3	
D	I do not have the specific technical skills required to run electric equipment म संग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4	
E	Other: specify अन्य (खुलाउनुहोस)	5	

3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च विवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समावेश नगर्ने जुन तल समावेश हुन्छ।		
	Particulars विवरण	Amount (NRs) रकम (रुपियामा)	Remarks कैफियत
3.17.1	Rent भाडा		
3.17.2	Salary and wages तलब तथा ज्याला		
3.17.3	Maintenance & repair मर्मत तथा सम्भार		
3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		

	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		

3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन

3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन। [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरव्यवसाय सञ्चालन गर्छु।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरव्यवसाय चलाउछु।	2	
C	Stop operations and wait for power to come back तत्काल उधम/व्यवसाय बन्द गर्छु र	3	

	बिधुत कहिले आउछ कुरेर बस्छु ।			
D	Other: specify) अन्य (खुलाउनुहोस)		4	
3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा व्यबसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा झिसमिसे उज्यालो भए पनि समावेश गर्ने)	Yes (छ)	No (छैन)	
		1	2	
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय		in the evening बेलुकाको समय
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ)	No (छैन)	
		1	2	

	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)	Remarks कैफियत
3.22.1			
3.22.2			
3.22.3			

3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो व्यबसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?	Yes (छ)	No (छैन)	
		1	2	
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?			

	1		3		
	2		4		

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)
		1	2
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम		
4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी सँग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)
		1	2
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्नें गर्नुभएको छ?	Daily दैनिक	Monthly मासिक
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आबेदन दिएको छ?	Yes (छ)	No (छैन)
		1	2
4.3.1	If yes, यदि छ भने		

	year when you applied for a loan तपाईले ऋणका लागि आबेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्दत गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? ब्यबसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आवेदन दिदाको समय तपाईले ब्यबसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आवेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैसँग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आवेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services ब्यबसाय बिकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको ब्यबसायमा प्रतक्ष्य संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिबृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?	Yes (छ)	No (छैन)	Remarks कैफियत
		1	2	
5.1.1	If Yes, यदि छ भने			
A. Who participated: को सहभागी भयो?		B. Name of program: कार्यक्रमको नाम		
C. Where did it take place: कहाँ भएको थियो?		D. Implemented by: कसले आयोजना गरेको थियो?		
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)		F. Who were the other participants: अरु सहभागीहरु को थिए?		
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?		H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?		

5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?	Yes (छ)	No (छैन)	
		1	2	
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?	Type किसिम	When कहिले	Organizer तालीम दिने सस्था

5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?		
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?		
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यबसाय व्यबस्थापन सम्बन्धि शिपहरु (व्यबसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यबस्थापन, जनशक्ति व्यबस्थापन आदि सम्बन्धि तालीम)	1	
B	Technical Skills (Technical assistance with production) प्राबिधिक शिपहरु (उत्पादन सम्बन्धि प्राबिधिक ज्ञान)	2	
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रबिधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राबिधिक सहयोग)	3	
D	No training required कुनै तालीमको आवस्यकता छैन	4	
E	Other (please specify) अन्य (खुलाउनुहोस)	5	
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?		
A	None छैन	0	
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य	1	
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य	2	
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी	3	
F	Other (specify) अन्य (खुलाउनुहोस)	5	

Enterprise Survey –Agro processing Mills उधम सर्वेक्षण कृषि प्रसोधनमा आधारित मिलहरु

	1. General Background सामान्य पृष्ठभूमि						
1.1	On an average how much do you operate your business? तपाईको व्यवसाय औसतमा कति अवधि सञ्चालन हुन्छ?	……Hrs/day घण्टा प्रति दिन		1.1.1 During festive season चाडपर्वको बेलामा			……Hrs/day घण्टा प्रति दिन
		……Hrs / week घण्टा प्रति हप्ता					……Hrs / week घण्टा प्रति हप्ता
				1.1.2 During harvesting season उत्पादन हुने बेलामा			Hrs/day घण्टा प्रति दिन
							……Hrs / week घण्टा प्रति हप्ता
1.2	Are there any other agro-processing mills in your VDC/CREE/ village? तपाईको गाउँ अर्थात सामुदायिक सस्थाको क्षेत्र भित्र (पहिलो चरण)अन्य कृषि प्रसोधनमा आधारित मिलहरु छन?			Yes (छ)	No (छैन)		IF NO GO TO QUESTION 2.1
				1	2		
1.2.1	If yes, how many? यदि छन भने कति वटा?						
1.2.2	If yes, is there any business loss due to other such agro-mills? यदि छन भने त्यस्ता मिलहरुले गर्दा तपाईको व्यवसायमा नोक्सान पुगेको छ कि छैन?			Yes (छ)	No (छैन)		
				1	2		
1.2.3	If yes, do you think your enterprise has affected the business of other similar mills? यदि छन भने तपाईको उधमले यस्ता अन्य मिलहरुलाई असर गरेको छ कि छैन?			Yes (छ)	No (छैन)		
				1	2		
	2. Customers ग्राहकहरु						
2.1	How much time does it take by the farthest users to come to your mill? टाढाका ग्राहकहरुलाई तपाईको मिल सम्म आउन कति समय लाग्छ	……Hrs घण्टा		……km कि.मि.			
2.2	How many costumers visit your mill daily on average? औसतमा कति जना ग्राहकहरु दैनिक रुपमा तपाईको मिलमा आउछन?	……Good season धेरै चलेको बेला		……Bad Season थोरै चलेको बेलामा			
2.3	On average, how many of your daily customers are men and women? दैनिक आउने औसत ग्राहकहरु मध्ये पुरुष र महिला कति छन?	A. Male number पुरुषको संख्या		B. Female number महिलाको संख्या			
2.4	Do some people in the community go elsewhere for their processing? के समुदायको केहि मानिसहरु प्रसोधनको लागि अन्यत्र जान्छन?	Yes (छ)		No (छैन)		2.3.1 If yes, give reason; यदि जान्छन भने कारण खुलाउनुहोस	
		1		2			
2.5	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?			……			
	3. Annual Turnover/Price/Savings वार्षिक कारोबार/मूल्य/बचत						
3.1	What tariff do you collect for processing the grains? (Please fill the tariff rate per unit (kg) as appropriate "in cash" or "in kind" column.) [IF DIESEL MILL SWITCHED TO ELECTRICAL THEN ASK THE PREVIOUS RATE] तपाईले अन्न प्रसोधन गरेबापत महशुल कसरि लिईरहनुभएको छ? (महशुल दर प्रति कि.लो. दिइएको तालिकाको उपर्युक्त कोठामा भर्नुहोस) जिन्सीमा भए त्यसको प्रति एकाइ बजार मूल्य सोधेर लेख्ने यदि पहिला डिजेल मिल पनि बिजुली मिलमा रुपान्तरण गरिएको हो भने अधिल्लो दर समेत सोध्ने)			In cash नगदमा		In Kind जिन्सिमा		E =Electricity D=Diesel
				E	D	E	D	
		1	Maize मकै					
		2	Millet कोदो					
		3	Wheat गहुँ					
		4	Rice Hulling धान कुटेको					
		5	Rice Beating चिउरा कुटेको					
		6	Oil expelling तेल पेलेको					
		7	Other (specify) अन्य (खुलाउनुहोस)					

3.2	What is your average daily/weekly/monthly/yearly revenue from the mill? [BEFORE DEDUCTION OF ANY COST; NOTE IN APPROPRIATE COLUMN] तपाईको मिलबाट हुने औसत दैनिक, हप्ता, मासिक वा वार्षिक आम्दानी कति जति होला?					
	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. वार्षिक रकम (D)	
3.2.1	Tariff महशुल					
3.2.2	By-products अवशेष बिक्रि					
3.2.3	Total कुल					
3.3	Are you satisfied with this income? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?				Yes (छ) 1 / No (छैन) 2	
3.4	How much profit (revenue minus cost of operation) do you make from your agro-processing business per month on average? तपाईले यो मिल व्यवसायबाट मासिक रुपमा औसत कति नाफा (मिलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?			.....Good season धेरै चलेको बेला	.....Bad Season थोरै/कम चलेको बेला	
3.5	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।					

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उधम तथा परिप्रयोगहरुको सर्वेक्षण**) Poultry**

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेबल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उधम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा विकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी विनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरवार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरवार्ता शुरु गर्न सक्छौ होला ?
यदि तपाईं अन्तरवार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक विधुत सस्था नम्बर:

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्वार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____

If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता	Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका
What is your level of education? तपाईंको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यवसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	
If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि विवाहित हुनुहुन्छ भने तपाईको जीवनसाथी यो व्यवसायमा संलग्न हुनुहुन्छ?	If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस
	Yes (छ) / No (छैन)	
	1 / 2	

Section 1: General information about the enterprise उधम व्यबसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उधमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उधम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm विविध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईले उधम आफैले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिवार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक बर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				.....
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक वर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				.....
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)..... अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईको परिवारको कुल बार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							.....
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाई बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग	**Family relation:** नाता	**Education Level:** शैक्षिक योग्यता	**Skill Level:** शिपको स्तर	**Remuneration:** तलब
1-Male पुरुष 2-Female महिला	1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने (दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यवसाय चलाएको स्थान तपाई वा तपाईको परिवारको स्वामित्वमा छ?	Yes (छ)	No (छैन)	
		1	2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यवसायिक वातावरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यवसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?			
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु		✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस	
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी			
2	Access to land जग्गाको अभाव			
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव			
4	Access to spare parts पार्टपुर्जाको अभाव			
5	Access to qualified workers दक्ष कामदारको अभाव			
6	Salary and wage levels तलब तथा ज्याला स्तर			
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)			
8	Access to energy उर्जाको पहुँच			
9	Cost of energy उर्जाको मूल्य			
10	Reliability of energy supply बिधुत आपूर्तिको विश्वसनियता			
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच			
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच			
13	Condition of transport infrastructure यातायात सुबिधाको अवस्था			
14	Access to telecommunications टेलिफोन सेवाको पहुँच			
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच			
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)			
17	Bribes and other unofficial payments घुस तथा कालोबजारी			
18	Crime, theft अपराधीकरण तथा चोरी			
19	Business licensing and regulation व्यवसाय इजाजत तथा नियम पालना			
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु			
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व			
22	Economic instability (e.g. inflation) आर्थिक उतारचढाव			
23	Weather conditions मौसमको प्रतिकुलता			
2.2	What is your nearest major market place? तपाईंको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम	
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.		
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाईं नियमित बस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?		Yes (छ) 1	No (छैन) 2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम			
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट

2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.	

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यबसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products / services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		
		B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....		
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....		
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....		
3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिवर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.			
		2.			
		3.			
		4.			
		5.			
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			

	सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।					
3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक सस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?		
		1	2			
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक सस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (वर्षमा)	
		1	2	3	……..	
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम	
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस					

Particulars विवरण (A)		Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
						Month महिना	Year साल	
3.7.1	NEA Electricity बिधुत प्राधिकरणको लाइन	MCB एम.सी.वि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?				Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1			
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..	
		Other, specify: अन्य (खुलाउनुहोस)	3			
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यबसाय सञ्चालनमा खपत हुन्छ होला?					
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत वर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?	Yes (छ) 1	No (छैन) 2			
3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?					
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी व्यवस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने	1			
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने	2			
		[c] others (specify) अन्य (खुलाउनुहोस)	3			
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्ने					

	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B) Month महिना	Year साल	Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया / पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफ्नै बचत, ऋण, दुवै भए प्रतिशतमा	
3.13.1							
3.13.2							
3.13.3							

3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ) 1	No (छैन) 2	
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?			

[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]

3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……	……KM कि.मि. or ……hrs घण्टा

3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)		Remarks कैफियत
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यबसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1	
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2	
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3	
D	I do not have the specific technical skills required to run electric equipment म सँग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4	
E	Other: specify अन्य (खुलाउनुहोस)	5	

3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च विवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समावेश नगर्ने जुन तल समावेश हुन्छ ।		
	Particulars विवरण	Amount (NRs) रकम (रुपियामा)	Remarks कैफियत
3.17.1	Rent भाडा		
3.17.2	Salary and wages तलब तथा ज्याला		
3.17.3	Maintenance & repair मर्मत तथा सम्भार		
3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		

	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		

3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन

3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन । [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरव्यबसाय सञ्चालन गर्छु ।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरव्यबसाय चलाउछु ।	2	
C	Stop operations and wait for power to come back तत्काल उधम/व्यबसाय बन्द गर्छु र	3	

	बिधुत कहिले आउछ कुरेर बस्छु।		
D	Other: specify) अन्य (खुलाउनुहोस)	4	

3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा व्यबसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा झिसमिसे उज्यालो भए पनि समावेश गर्ने)	Yes (छ)	No (छैन)	
		1	2	
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय		in the evening बेलुकाको समय
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ)	No (छैन)	
		1	2	

	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)	Remarks कैफियत
3.22.1			
3.22.2			
3.22.3			

3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो व्यबसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?	Yes (छ)	No (छैन)	
		1	2	
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?			

	1		3		
	2		4		

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)
		1	2
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम		

4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी सँग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)	
		1	2	
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्ने गर्नुभएको छ?	Daily दैनिक	Monthly मासिक	
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आबेदन दिएको छ?	Yes (छ)	No (छैन)	
		1	2	
4.3.1	If yes, यदि छ भने			

	year when you applied for a loan तपाईले ऋणका लागि आबेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्दत गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? व्यवसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आवेदन दिदाको समय तपाईले व्यवसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आवेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैंसँग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आवेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services व्यवसाय बिकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको व्यवसायमा प्रतक्ष्य संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिबृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?	Yes (छ)	No (छैन)	Remarks कैफियत
		1	2	
5.1.1	If Yes, यदि छ भने			
A. Who participated: को सहभागी भयो?		B. Name of program: कार्यक्रमको नाम		
C. Where did it take place: कहाँ भएको थियो?		D. Implemented by: कसले आयोजना गरेको थियो?		
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)		F. Who were the other participants: अरु सहभागीहरु को थिए?		
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?		H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?		

5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?	Yes (छ)	No (छैन)	
		1	2	
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?	Type किसिम	When कहिले	Organizer तालीम दिने सस्था

5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?		
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?		
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यवसाय व्यवस्थापन सम्बन्धि शिपहरु (व्यवसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यवस्थापन, जनशक्ति व्यवस्थापन आदि सम्बन्धि तालीम)	1	
B	Technical Skills (Technical assistance with production) प्राविधिक शिपहरु (उत्पादन सम्बन्धि प्राविधिक ज्ञान)	2	
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रविधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राविधिक सहयोग)	3	
D	No training required कुनै तालीमको आवस्यकता छैन	4	
E	Other (please specify) अन्य (खुलाउनुहोस)	5	
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?		
A	None छैन	0	
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य	1	
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य	2	
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी	3	
F	Other (specify) अन्य (खुलाउनुहोस)	5	

Enterprise Survey –Poultry Farms and Other Animal Husbandry उधम सर्वेक्षण कुखुरा फार्म र अन्य पशुपालन

	1. General Background				
1.1	Total no. of birds/livestock in the farm फार्ममा जम्मा कुखुरा /पशु को संख्या	……	1.2 Type: किसिम		
1.3	Electricity connection status in the farm फार्ममा बिधुत जडानको स्थिति	Yes जोडेको छ 1	No जोडेको छैन 2		
1.4	If yes, for what purpose, do you use electricity? यदि जडान गरेको भए के का लागि बिधुत प्रयोग गर्नुभएको छ? [MULTIPLE ANSWERS POSSIBLE]		Lighting प्रकाश Heating ताप Other अन्य	1 2 3	
1.5	Are there any other poultry farms in your VDC? के तपाईको गा.वि.स. मा अन्य यस्तै कुखुरा फार्महरु छन ?		Yes (छ) 1	No (छैन) 2	
1.5.1	If yes, how many? यदि छन भने कतिवटा छन ?				
1.5.2	If yes, is there any loss due to other such poultry farms? यदि छन भने त्यस्ता फार्महरुले गर्दा तपाईको व्यबसयामा नोक्सान पुगेको छ कि छैन?		Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
1.5.3	If yes, do you think your enterprise has affected the business of other similar farms? यदि छन भने तपाईको उधमले यस्ता अन्य फार्महरुलाई असर गरेको छ कि छैन?		Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस
	2. Customers				
2.1	Where do you sell your products? आफ्नो व्यबसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[c] large market, WHERE? ठुलो बजार (कहाँ)	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	…….	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
2.2	Do some people in the community go elsewhere to buy the kind of animals you sell? के समुदायको केहि मानिसहरु तपाईको जस्तै उत्पादन किन्नका लागि अन्यत्र जान्छन?	Yes (छ) 1	No (छैन) 2	If yes, give reason; यदि छ भने कारण दिनुहोस	
2.3	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?	……			
2.4	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु			1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ			2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ			3
2.5	Is your business sufficient to meet the demand? के तपाईको व्यापार / व्यबसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ) 1	No (छैन) 2	2.5.1 If no give reason; छैन भने कारण खुलाउनुहोस ……	
2.5.2	If NO, why don't you increase your production capacity? छैन भने आफ्नो व्यबसायको उत्पादन क्षमता किन बढाउनुहुन्न?				
2.6	What type of supply system do you have? तपाइले कस्तो आपूर्ति प्रणाली अपनाउनुभएको छ?	Wholesale/Bulk थोक Retailer खुद्रा Both दुवै	1 2 3	Specify: खुलाउनुहोस	

	3. Annual Turnover/Price/Savings बार्षिक कारोबार /मूल्य /बचत				
3.1	At what price do you sell your product(s)? आफ्नो उत्पादन कति मुल्यमा बिक्रि गर्नुहुन्छ ?			Alive जिउदो .....[SPECIFY WHICH ANIMAL].....NRs Egg..... अण्डा प्रति गोटा Meat (KG)..... मासु प्रति कि.लो. Others (specify)..... अन्य (खुलाउनुहोस)	
3.2	What is your average daily/weekly/monthly/yearly gross revenue from the sale of your products? [BEFORE DEDUCTION OF ANY PRODUCTION COST; NOTE IN APPROPRIATE COLUMN].: तपाईको उधमबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?उपर्युक्त कोठामा भर्नुहोस ।				

	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)	
3.2.1	Alive chicken जिउदो					
3.2.2	Egg अण्डा					
3.2.3	Meat मासु					
3.2.4	Litter/Fertilizer सुली/मल					
3.3	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यबसायबाट मासिक रुपमा औसत कति नाफा (फार्मबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?			.....Good season धेरै चलेको बेला	.....Bad Season थोरै/कम चलेको बेला	
3.4	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?			Yes (छ) 1	No (छैन) 2	

3.5	Expenditure on input for production [NOTE IN APPROPRIATE COLUMN] उत्पादनका लागि आगतमा खर्च					
		Young animals जवान पशु (A)	Fodder चारा/अन्न /आहरा (B)	Medication for animals औषधि (C)	Others (specify) अन्य (खुलाउनुहोस) (D)	Total कुल (जम्मा) (E)
3.5.1	Daily दैनिक					
3.5.2	Monthly मासिक					
3.5.3	Yearly बार्षिक					
3.6	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।					

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उद्यम तथा परिप्रयोगहरुको सर्वेक्षण**) Carpenters**

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेबल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उद्यम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा विकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी विनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईंले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरवार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरवार्ता शुरु गर्न सक्छौ होला ?
यदि तपाईं अन्तरवार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक बिधुत सस्था नम्बर:

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्बार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर:_____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर:_____	Ethnicity जात:_____

If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता	Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका
What is your level of education? तपाईंको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यबसायिक तालीम); 5-higher degree (उच्च शिक्षा)	
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यबसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) बिशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	
If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि बिबाहित हुनुहुन्छ भने तपाईंको जीवनसाथी यो व्यबसायमा संलग्न हुनुहुन्छ?	If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस
	Yes (छ) / No (छैन)	
	1 / 2	

Section 1: General information about the enterprise उधम ब्यबसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उधमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उधम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm बिबिध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईंको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईंको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईंले उधम आफैंले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौंली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैंले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौंली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिबार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईंको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक वर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				…….
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक वर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईंको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				……
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)…… अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईंको परिवारको कुल बार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							…….
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाई बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग 1-Male पुरुष 2-Female महिला	**Family relation:** नाता 1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	**Remuneration:** तलब 1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने (दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यवसाय चलाएको स्थान तपाई वा तपाईको परिवारको स्वामित्वमा छ?	Yes (छ)	No (छैन)	
		1	2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यबसायिक वाताबरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यबसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?			
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु		✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस	
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी			
2	Access to land जग्गाको अभाव			
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव			
4	Access to spare parts पार्टपुर्जाको अभाव			
5	Access to qualified workers दक्ष कामदारको अभाव			
6	Salary and wage levels तलब तथा ज्याला स्तर			
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)			
8	Access to energy उर्जाको पहुँच			
9	Cost of energy उर्जाको मूल्य			
10	Reliability of energy supply बिधुत आपूर्तिको विश्वसनियता			
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच			
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच			
13	Condition of transport infrastructure यातायात सुविधाको अवस्था			
14	Access to telecommunications टेलिफोन सेवाको पहुँच			
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच			
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)			
17	Bribes and other unofficial payments घुस तथा कालोबजारी			
18	Crime, theft अपराधीकरण तथा चोरी			
19	Business licensing and regulation व्यबसाय इजाजत तथा नियम पालना			
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु			
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व			
22	Economic instability (e.g. inflation) आर्थिक उतारचढाव			
23	Weather conditions मौसमको प्रतिकुलता			
2.2	What is your nearest major market place? तपाईंको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम	
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.		
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाईं नियमित वस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?		Yes (छ)	No (छैन)
			1	2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम			
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट

2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.	

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यबसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products / services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		
		B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....		
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....		
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....		
3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिबर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.			
		2.			
		3.			
		4.			
		5.			
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			

	सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।				
3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक संस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?	
		1	2		
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक संस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (बर्षमा)
		1	2	3	……..
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम .....
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस				

Particulars विवरण (A)		Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
						Month महिना	Year साल	
3.7.1	NEA Electricity बिधुत प्राधिकरणको लाइन	MCB एम.सी.बि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?				Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1			
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..	
		Other, specify: अन्य (खुलाउनुहोस)	3			
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यबसाय सञ्चालनमा खपत हुन्छ होला?					
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत बर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?	Yes (छ) 1	No (छैन) 2			
3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?					
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी ब्यबस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने				1
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने				2
		[c] others (specify) अन्य (खुलाउनुहोस)				3
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्ने					

	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B)		Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया /पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफ्नै बचत, ऋण, दुवै भए प्रतिशतमा	
		Month महिना	Year साल				
3.13.1							
3.13.2							
3.13.3							

3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ) 1	No (छैन) 2	
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?			

[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]

3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……	……KM कि.मि. or ……hrs घण्टा

3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)		Remarks कैफियत
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यबसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1	
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2	
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3	
D	I do not have the specific technical skills required to run electric equipment म सँग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4	
E	Other: specify अन्य (खुलाउनुहोस)	5	

3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च विवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समावेश नगर्ने जुन तल समावेश हुन्छ ।		
	Particulars विवरण	Amount (NRs) रकम (रुपियामा)	Remarks कैफियत
3.17.1	Rent भाडा		
3.17.2	Salary and wages तलब तथा ज्याला		
3.17.3	Maintenance & repair मर्मत तथा सम्भार		
3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		

	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		

3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन

3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन । [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरव्यबसाय सञ्चालन गर्छु ।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरव्यबसाय चलाउछु ।	2	
C	Stop operations and wait for power to come back तत्काल उधम/व्यबसाय बन्द गर्छु र	3	

	बिधुत कहिले आउछ कुरेर बस्छु।			
D	Other: specify) अन्य (खुलाउनुहोस)		4	
3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा व्यवसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा झिसमिसे उज्यालो भए पनि समावेश गर्ने)	Yes (छ)	No (छैन)	
		1	2	
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय		in the evening बेलुकाको समय
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ)	No (छैन)	
		1	2	
	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)		Remarks कैफियत
3.22.1				
3.22.2				
3.22.3				
3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो व्यवसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?	Yes (छ)	No (छैन)	
		1	2	
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?			
	1		3	
	2		4	

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)				
		1	2				
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम						
4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी सँग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)				
		1	2				
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्ने गर्नुभएको छ?	Daily दैनिक	Monthly मासिक				
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आवेदन दिएको छ?	Yes (छ)	No (छैन)				
		1	2				
4.3.1	If yes, यदि छ भने						
	year when you applied for a loan तपाईले ऋणका लागि आवेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्दत गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? व्यबसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आवेदन दिदाको समय तपाईले व्यबसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आवेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैंसँग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आवेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services व्यबसाय बिकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको व्यबसायमा प्रतक्ष्य संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिबृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?	Yes (छ)	No (छैन)	Remarks कैफियत	
		1	2		
5.1.1	If Yes, यदि छ भने				
A. Who participated: को सहभागी भयो?		B. Name of program: कार्यक्रमको नाम			
C. Where did it take place: कहाँ भएको थियो?		D. Implemented by: कसले आयोजना गरेको थियो?			
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)		F. Who were the other participants: अरु सहभागीहरु को थिए?			
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?		H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?			
5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?	Yes (छ)	No (छैन)		
		1	2		
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?	Type किसिम	When कहिले	Organizer तालीम दिने सस्था	

5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?		
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?		
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यवसाय व्यवस्थापन सम्बन्धि शिपहरु (व्यवसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यवस्थापन, जनशक्ति व्यवस्थापन आदि सम्बन्धि तालीम)	1	
B	Technical Skills (Technical assistance with production) प्राविधिक शिपहरु (उत्पादन सम्बन्धि प्राविधिक ज्ञान)	2	
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रविधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राविधिक सहयोग)	3	
D	No training required कुनै तालीमको आवस्यकता छैन	4	
E	Other (please specify) अन्य (खुलाउनुहोस)	5	
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?		
A	None छैन	0	
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य	1	
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य	2	
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी	3	
F	Other (specify) अन्य (खुलाउनुहोस)	5	

Enterprise Survey –Carpenters or Furniture Makers फर्निचर उधम

	1. General Background सामान्य पृष्ठभूमि				
1.1	Electricity connection status in the furniture फर्निचरमा बिधुत जडानको स्थिति	Yes जोडेको छ	No जोडेको छैन		
		1	2		
1. 2	What type of services do you provide? कस्तो प्रकारको सेवाहरु प्रदान गर्नुहुन्छ?	Readymade products तयारी सामान	1		
		Order based products अर्डर बमोजिमका उत्पादनहरु	2		
		Labor services ज्याला लिएर काम गरिदिने	3		
		Other I (specify) अन्य केहि भए (खुलाउनुहोस)	4		
		Other II (specify) अन्य केहि भए (खुलाउनुहोस)	5		
1.3	How many man-hours does it take to produce a table? एउटा टेबल बनाउन एकजना मानिसलाई कति घण्टा लाग्छ होला?	With electric equipment? बिधुतिय उपकरण को सहायताले	if you did not use any electric equipment? कुनै पनि बिधुतिय उपकरण प्रयोग नगरिकन		
		……hrs घन्टामा	……hrs घन्टामा		
1.4	Is there any other carpentry business in your VDC? के तपाईको गा.बि.स. मा अन्य यस्तै फर्निचर उधोगहरु छन ?	Yes (छ)	No (छैन)		
		1	2		
1.4.1	If yes, how many? यदि छन भने कतिवटा छन ?				
1.4.2	If yes, is there any loss due to other such business? यदि छन भने त्यस्ता फर्निचर उधोगहरुले गर्दा तपाईको व्यबसयामा नोक्सान पुगेको छ कि छैन?	Yes (छ)	No (छैन)	Give Reason कारण दिनुहोस	
		1	2		
1.4.3	If yes, do you think your enterprise has affected the business of other similar type? यदि छन भने तपाईको उधमले यस्ता अन्य फर्निचर उधोगहरुलाई असर गरेको छ कि छैन?	Yes (छ)	No (छैन)	Give Reason कारण दिनुहोस	
		1	2		
	2. Customers ग्राहकहरु				
2.1	Where do you sell your products? आफ्नो व्यबसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[c] large market, WHERE? ठुलो बजार (कहाँ)	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	.....	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
2.3	Do some people in the community go elsewhere to buy furniture? के समुदायको केहि मानिसहरु फर्निचर किन्नको लागि अन्यत्र जान्छन?	Yes (छ)	No (छैन)	If yes, give reason; यदि जान्छन भने कारण खुलाउनुहोस	
		1	2		
2.4	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यबसायको नियमित ग्राहकहरु छन?	.....			
2.5	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु			1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ			2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ			3
2.6	Is your business sufficient to meet the local demand? के तपाईको व्यापार / व्यबसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ)	No (छैन)	If no give reason; छैन भने कारण खुलाउनुहोस	
		1	2		
2.6.1	If NO, why don't you increase your				

	production capacity? छैन भने आफ्नो व्यबसायको उत्पादन क्षमता किन बढाउनुहुन्न?					
2.7	How much time does it take by the farthest customers to come in your enterprise? टाढाको ग्राहकलाई तपाईको उधम सम्म आइपुग्न कति समय लाग्छ?			……Hrs	……km	
2.8	How many customers did you have approximately over the last 3 months? गत ३ महिनामा तपाईको उधममा कति जति ग्राहक आए?			Inside CREE सामुदायिक सस्थाको क्षेत्र भित्रबाट	Outside CREE सामुदायिक सस्थाको क्षेत्र बाहिरबाट	
	3. Annual Turnover/Price/Savings बार्षिक कारोबार /मूल्य /बचत					
3.1	What is your average daily/weekly/monthly/yearly revenue? [BEFORE DEDUCTION OF ANY PRODUCTION COST; NOTE IN APPROPRIATE COLUMN].] तपाईको मिलबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?					
	Source स्रोत	Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)	
3.1.1	Readymade products तयारी सामान					
3.1.2	Order based products अर्डर बमोजिमका उत्पादनहरु					
3.1.3	Labor services ज्याला लिएर काम गरिदिने					
3.1.4	Firewood /dust (Byproducts) अवशेष बिक्रि					
3.1.5	Other-specify अन्य केहि भए (खुलाउनुहोस)					
3.2	Expenditure on raw materials					
		Wood	Others (specify)		Total	
3.2.1	Daily दैनिक रकम					
3.2.2	Monthly मासिक रकम					
3.2.3	Yearly बार्षिक रकम					
3.3	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यबसायबाट मासिक रुपमा औसत कति नाफा (मिलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?			……Good season धेरै चलेको बेला		……Bad Season थोरै/कम चलेको बेला
3.4	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?			Yes (छ)	No (छैन)	
				1	2	

3.5	Do you sell your products directly in the market or contractors collect it and transport to markets? तपाईले आफ्नो उत्पादन आफै बजारमा लगेर बेच्नुहुन्छ कि कुनै व्यापारीरठेकेदार आएर उसले नै बजार सम्म लग्ने गरेको छ?		
3.6	What are the major changes after electrification? विधुतिकरण पछी के कस्ता परिवर्तनहरु भए? प्रमुख भिन्नता	Before पहिले	After पछी
		1. 2. 3.	1. 2. 3.
3.7	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।		

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उद्यम तथा परिप्रयोगहरुको सर्वेक्षण) Shops

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेबल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उद्यम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा विकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी विनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईंले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरवार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईंले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरवार्ता शुरु गर्न सक्छौ होला ?
यदि तपाईं अन्तरवार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक बिधुत सस्था नम्बर:

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्वार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____

If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता	Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका

What is your level of education? तपाईंको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यवसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) बिशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	

If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि बिबाहित हुनुहुन्छ भने तपाईंको जीवनसाथी यो व्यवसायमा संलग्न हुनुहुन्छ?		If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस
	Yes (छ)	No (छैन)	
	1	2	

Section 1: General information about the enterprise उधम ब्यबसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उधमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उधम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm बिबिध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईंको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईंको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईंले उधम आफैंले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौंली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैंले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौंली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिवार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईंको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक वर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				.....
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक वर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईंको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				.....
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)..... अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईंको परिवारको कुल वार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							.....
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाईं बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग 1-Male पुरुष 2-Female महिला	**Family relation:** नाता 1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	**Remuneration:** तलब 1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने (दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यवसाय चलाएको स्थान तपाईं वा तपाईंको परिवारको स्वामित्वमा छ?	Yes (छ)	No (छैन)	
		1	2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईंले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यबसायिक वाताबरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यबसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?			
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु		✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस	
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी			
2	Access to land जग्गाको अभाव			
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव			
4	Access to spare parts पार्टपुर्जाको अभाव			
5	Access to qualified workers दक्ष कामदारको अभाव			
6	Salary and wage levels तलब तथा ज्याला स्तर			
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)			
8	Access to energy उर्जाको पहुँच			
9	Cost of energy उर्जाको मूल्य			
10	Reliability of energy supply बिधुत आपूर्तिको विश्वसनियता			
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच			
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच			
13	Condition of transport infrastructure यातायात सुविधाको अवस्था			
14	Access to telecommunications टेलिफोन सेवाको पहुँच			
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच			
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)			
17	Bribes and other unofficial payments घुस तथा कालोबजारी			
18	Crime, theft अपराधीकरण तथा चोरी			
19	Business licensing and regulation व्यबसाय इजाजत तथा नियम पालना			
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु			
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व			
22	Economic instability (e.g. inflation) आर्थिक उतारचढाव			
23	Weather conditions मौसमको प्रतिकुलता			
2.2	What is your nearest major market place? तपाईको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम	
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.		
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाई नियमित बस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?		Yes (छ) 1	No (छैन) 2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम			
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट

2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.	

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईंको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यबसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products / services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		
		B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....		
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....		
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....		
3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिबर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.			
		2.			
		3.			
		4.			
		5.			
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिबर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			

	सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।					
3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक सस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?		
		1	2			
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक सस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (बर्षमा)	
		1	2	3	……..	
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम	
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस					

Particulars विवरण (A)		Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
						Month महिना	Year साल	
3.7.1	NEA Electricity बिधुत प्राधिकरणको लाइन	MCB एम.सी.बि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?				Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1			
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..	
		Other, specify: अन्य (खुलाउनुहोस)	3			
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यवसाय सञ्चालनमा खपत हुन्छ होला?					
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत बर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?	Yes (छ) 1	No (छैन) 2			
3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?					
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी व्यवस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने				1
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने				2
		[c] others (specify) अन्य (खुलाउनुहोस)				3
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्ने					

	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B) Month महिना	Year साल	Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया /पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफ्नै बचत, ऋण, दुवै भए प्रतिशतमा	
3.13.1							
3.13.2							
3.13.3							

3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ) 1	No (छैन) 2	
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?			

	[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]			
3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……	……KM कि.मि. or ……hrs घण्टा

3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)		Remarks कैफियत
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यवसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1	
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2	
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3	
D	I do not have the specific technical skills required to run electric equipment म सँग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4	
E	Other: specify अन्य (खुलाउनुहोस)	5	

3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च बिवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समावेश नगर्ने जुन तल समावेश हुन्छ ।		
	Particulars बिवरण	Amount (NRs) रकम (रुपियामा)	Remarks कैफियत
3.17.1	Rent भाडा		
3.17.2	Salary and wages तलब तथा ज्याला		
3.17.3	Maintenance & repair मर्मत तथा सम्भार		
3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		

	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		

3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन

3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन । [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरब्यबसाय सञ्चालन गर्छु ।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरब्यबसाय चलाउछु ।	2	
C	Stop operations and wait for power to come back तत्काल उधम/ब्यबसाय बन्द गर्छु र	3	

	बिधुत कहिले आउछ कुरेर बस्छु।			
D	Other: specify) अन्य (खुलाउनुहोस)		4	
3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा व्यबसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा झिसमिसे उज्यालो भए पनि समावेश गर्ने)	Yes (छ)	No (छैन)	
		1	2	
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय		in the evening बेलुकाको समय
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ)	No (छैन)	
		1	2	

	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)	Remarks कैफियत
3.22.1			
3.22.2			
3.22.3			

3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो व्यबसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?		Yes (छ)	No (छैन)	
			1	2	
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?				
	1		3		
	2		4		

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)
		1	2
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम		
4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी सँग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)
		1	2
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्ने गर्नुभएको छ?	Daily दैनिक	Monthly मासिक
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आवेदन दिएको छ?	Yes (छ)	No (छैन)
		1	2
4.3.1	If yes, यदि छ भने		

	year when you applied for a loan तपाईले ऋणका लागि आबेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्त गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? व्यवसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आवेदन दिदाको समय तपाईले व्यवसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आवेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैसँग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आवेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services व्यवसाय बिकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको व्यवसायमा प्रतक्ष्य संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिबृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?	Yes (छ)	No (छैन)	Remarks कैफियत
		1	2	
5.1.1	If Yes, यदि छ भने			
A. Who participated: को सहभागी भयो?		B. Name of program: कार्यक्रमको नाम		
C. Where did it take place: कहाँ भएको थियो?		D. Implemented by: कसले आयोजना गरेको थियो?		
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)		F. Who were the other participants: अरु सहभागीहरु को थिए?		
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?		H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?		

5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?	Yes (छ)	No (छैन)	
		1	2	
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?	Type किसिम	When कहिले	Organizer तालीम दिने संस्था

5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?		
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?		
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यवसाय व्यवस्थापन सम्बन्धि शिपहरु (व्यवसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यवस्थापन, जनशक्ति व्यवस्थापन आदि सम्बन्धि तालीम)	1	
B	Technical Skills (Technical assistance with production) प्राबिधिक शिपहरु (उत्पादन सम्बन्धि प्राबिधिक ज्ञान)	2	
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रविधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राबिधिक सहयोग)	3	
D	No training required कुनै तालीमको आवस्यकता छैन	4	
E	Other (please specify) अन्य (खुलाउनुहोस)	5	
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?		
A	None छैन	0	
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य	1	
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य	2	
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी	3	
F	Other (specify) अन्य (खुलाउनुहोस)	5	

Enterprise Survey –Shops / Restaurants

1. General Information- सामान्य पृष्ठभूमि					
1.1	What are the electrical devices used except lighting in your shop? प्रकाशका लागि बाहेक अन्य बिधुतिय उपकरणहरु के के छन ?	1			
		2			
		3			
		4			
1.2	Type of shop पसलको किसिम	Hotel/Restaurant होटेल/ रेस्टुरेन्ट	1		
		Grocery किराना पसल	2		
		Meat shop मासु पसल	3		
		Other (specify) अन्य (खुलाउनुहोस)	4		
1.3	How many other shops are there in your VDC? तपाईको गा.बि.स. मा अन्य कति वटा पसल छन होला ?	.....			
1.4	How much time does it take by the farthest customers to come to your shop? टाढाका ग्राहकहरुलाई तपाईको पसल सम्म आउन कति समय लाग्छ?	.....Hrs घण्टा	.....km कि.मि.		
1.5	What is the type of customers? आउने ग्राहकहरुको किसिम कस्तो छ?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Both दुवै	
		1	2	3	
1.6	How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको उधममा आए होलान?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल	
1.7	How many households approximately are regular customers in your shop? लगभग कति घरधुरीहरु तपाईको पसलको नियमित ग्राहकहरु छन?	.....			
1.8	Who is more responsible to run the shop? तपाईको पसल संचालन गर्न को बढी जिम्मेबार छ?	Male पुरुष	Female महिला		
		1	2		
	2. Annual Turnover/Price/Savings- बार्षिक कारोबार /मूल्य /बचत				
2.1	What is the daily/weekly/monthly/yearly revenue you make from the selling of goods or services? [BEFORE DEDUCTION OF ANY PRODUCTION COST]- तपाईको उधमबाट हुने औसत दैनिक, हप्ता, मासिक वा बार्षिक आम्दानी कति जति होला?				
		Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. बार्षिक रकम (D)
2.1.1	Revenue आम्दानी				
2.1.2					
2.2	How much profit (revenue minus cost of operation) do you make from this business **per month** on average? तपाईले यो व्यवसायबाट मासिक रुपमा औसत कति नाफा (पसलबाट हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?	.....Good season धेरै चलेको बेला	……Bad Season थोरै/कम चलेको बेला		
2.3	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?	Yes (छ)	No (छैन)		
		1	2		
2.4	What are the major changes after electrification for your business?	1.			

	बिधुतिकरण पछी के कस्ता परिवर्तनहरु भए?	2. 3.
2.5	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।	

GIZ-financed PRODUSE Impact Evaluation Study

जीआईजेड PRODUSE प्रभाव मूल्यांकन अध्ययन

Enterprise Survey – Generic (उद्यम तथा परिप्रयोगहरुको सर्वेक्षण**) Others**

Namaste, My name is……. And I am working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a survey ***on small enterprises and energy use.*** The survey will serve as the basis for future development projects. In order to make these projects as useful as possible to local enterprises we depend on exact and truthful information. Therefore it is necessary that we talk to the person with the most insight into the enterprise's activities.

The information you provide will be strictly confidential. The interview will take approximately **45-60** minutes. Participation in this survey is voluntary, and if you should come to any question you don't want to answer, just let me know and I will go on to next question. Or you can stop the interview at any time without having to give a reason. However, we hope that you will participate in this survey since your views are important to us.

At the time do you want to ask me anything about the survey?
May I begin the interview now?
If so, please sign or mark below to indicate you are willing to be interviewed.

I am ready to be interviewed

Signature: _____

Date: _____

नमस्कार मेरो नाम .....हो र म सस्टेनेबल इनर्जी एण्ड टेक्नोलोजी म्यानेजमेन्ट प्रा.लि.को सर्वेक्षण टिमको एउटा सदस्य हो । हामीले साना उद्यम र तिनीहरुको सञ्चालनको लागि उर्जाको प्रयोग सम्बन्धमा एउटा सर्वेक्षण गरिरहेका छौ । यसले भविश्यमा बिकासका परियोजनाहरुलाइ सहयोग पुग्ने हाम्रो अपेक्षा छ । यसै सन्दर्भमा हामीलाई सत्य र तथ्य जानकारी दिनुहुन हामी बिनाम्रतापुर्वक अनुरोध गर्दछौ । तपाईले हामीलाई दिने जानकारी तथा सुचनाको गोपनियता प्रति हामी सदैव सचेत रहनेछौ । हामीले लिने अन्तरवार्ता करिब ४५ देखि ६० मिनेट लामो हुनेछ । यहाको सहभागिता स्वयम्सेवी अर्थात निशुल्क खालको हुनेछ । प्रश्नको जवाफ दिने क्रममा कुनै प्रश्न बुझ्नुभएन भने दोहोराएर सोध्न सक्नुहुन्छ । कुनै पनि प्रश्नको जवाफ दिन नचाहनुभएमा हामी उक्त प्रश्न छाडेर अन्य प्रश्न सोध्नेछौ । तपाईले दिनुहुने सम्पूर्ण सुचनाहरु यो अध्ययनको लागि महत्वपुर्ण हुनेछन । यस सर्वेक्षण सम्बन्धि अन्य केहि जिज्ञाशा भए हामीलाई सोध्न सक्नुहुनेछ ।

अब हामी अन्तरवार्ता शुरु गर्न सक्छौ होला ?
यदि तपाई अन्तरवार्ता दिन तयार हुनुहुन्छ भने कृपया तल हस्ताक्षर गरिदिनुहोला ।

हस्ताक्षर .....

मिति .....

CREE ID सामुदायिक विधुत सस्था नम्बर:

Form No. फाराम नम्बर (For Official Use Only)	**Interview date** अन्तर्वार्ता मिति		**Name of Enumerator** सर्वेक्षकको नाम	**Survey Location** सर्वेक्षण गरिएको स्थान
ID :	DD/MM/YY		ENUM	PLACE
Respondent's Name जवाफदाताको नाम	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____
Name of the enterprise owner	Male पुरुष	Female महिला		
	1	2	Age उमेर: _____	Ethnicity जात:_____

If the respondent and owner are different यदि जवाफदाता र मालिक फरक भए,	Respondent's relation to the owner जवाफदाताको मालिक सँगको नाता	Respondent's role in enterprise? उधममा जवाफदाताले खेल्ने भूमिका
What is your level of education? तपाईंको शैक्षिक योग्यता कति हो ?	**Education Level:** शैक्षिक योग्यता 1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	
Did you get any vocational training related to the operation of the business? उधम सञ्चालन सम्बन्धि व्यवसायिक तालीम पाउनुभएको छ?	**Skill Level:** शिपको स्तर 1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) बिशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	

If the respondent is the owner: यदि जवाफदाता आफैं मालिक भएमा	If you are married, is your partner involved in the enterprise? यदि बिवाहित हुनुहुन्छ भने तपाईंको जीवनसाथी यो व्यवसायमा संलग्न हुनुहुन्छ?		If yes, what is his / her role? यदि छ भने उहाको भूमिका के कस्तो छ ? खुलाउनुहोस
	Yes (छ)	No (छैन)	
	1	2	

Section 1: General information about the enterprise उधम व्यवसाय बारे सामान्य जानकारी

1.1	Type of the enterprise – specific उधमको किसिम (खुलाउनुहोस)					
1.2	Type of enterprise – categories उधम कुन ग्रुप अन्तर्गत पर्दछ? (TO BE FILLED BY ENUMERATOR)	Agro-processing कृषि प्रसोधन	1	Manufacturing उत्पादन	4	
		Rural Carpentry ग्रामिण फर्निचर	2	Shop पसल	5	
		Livestock based पशुपालन	3	Other service firm बिबिध (उल्लेख गर्नुहोस)	6	
1.3	Have you registered your business in any Government Authority? तपाईंको उधम कुनै सरकारी निकायमा दर्ता गर्नुभएको छ?	Yes (छ)	No (छैन)	1.3.1 If yes, where? छ भने कहाँ गर्नुभएको छ?		
		1	2	.....		

1.4	When did the enterprise first come into operation? तपाईंको उधम पहिलोपटक कहिलेदेखि सन्चालनमा आएको हो?	Month महिना	Year साल					
1.5	Did you set up the enterprise yourself, or did you buy or inherit it from anyone? तपाईले उधम आफैंले स्थापना गर्नुभएको हो वा कसैसंग किन्नुभएको हो वा पुर्खौंली पेशाको रुपमा आएको हो? [DO NOT READ]	Set it up myself (आफैंले स्थापना गरेको)						1
		Inherited it from parents or other family members (पुर्खौली पेशाको रुपमा रही आएको)						2
		Took it over from someone outside the family (परिवार बाहिर अरु कसै सँग किनेको)						3
1.6	What was your previous occupation, before you started this enterprise? यो उधम सञ्चालन गर्नु भन्दा पहिले तपाईंको पेशा के थियो? [DO NOT READ]	Farmer (किसान)						1
		Had a different enterprise (अर्कै फरक खालको उधम थियो)						2
		Employee with some local firm (थानीय फर्ममा नोकरी थियो)						3
		Migrant worker (अन्यत्र कामदार)						4
1.7	Is the enterprise in operation throughout the year? उधम एक बर्षभरी सञ्चालन हुन्छ ?	Yes (हुन्छ)	No (हुदैन)	1.7.1 If no, which months of the year is it in operation? यदि हुदैन भने कुन कुन महिनामा चल्छ?				.....
		1	2					
1.7.2	If the enterprise is not in operation all year, why not? यदि उधम एक वर्षभरि नै चलेको छैन भने किन कारण खुलाउनुहोस?							
1.8	Is the enterprise in operation all days of the week? तपाईंको उधम हप्ताको सात दिन नै चल्छ?	Yes (चल्छ)	No (चल्दैन)	1.8.1 If no, how many days in a week is the enterprise in operation? यदि चल्दैन भने एक हप्तामा कति दिन चल्दैन ?				.....
		1	2					
1.8.2	If the enterprise is not in operation all days of the week, why not? यदि उधम एक हप्तामा सबैदिन चल्दैन भने के कारणले हो सो खुलाउनुहोस?							
1.9	Do you have additional sources of income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन कि छैनन?	Yes (छ)	No (छैन)	1.9.1 If Yes, यदि छ भने				
		1	2	Agriculture कृषि	1			
				Other (Specify)..... अन्य (खुलाउनुहोस)	2			
1.9.2	If you have additional sources of income, how much (in %) does this enterprise contribute to your family's total **annual** income? तपाईंको अन्य अतिरिक्त आम्दानीको स्रोतहरु छन भने यो व्यवसायले तपाईंको परिवारको कुल बार्षिक आम्दानीमा कति प्रतिशत योगदान गरेको छ?							.....
1.10	Number of staff or people (including family members) working in the enterprise: (NOT THE OWNER HIM/HERSELF) तपाईं बाहेक यो उधममा घर परिवारका सदस्यहरु तथा कामदार गरि कति जना मान्छेहरु काम गर्छन?							
1.10.1	If there are other persons than you यदि अन्य मान्छेहरु भए निम्न विवरण दिनुहोस							
1.11	Job Title नोकरी शिर्षक (A)	Gender लिङ्ग (B)	Family relation to the owner मालिक सँग पारिवारिक नाता (C)	Education level शैक्षिक योग्यता (D)	Skill level दक्षता स्तर (E)	How many hours/week प्रति हप्ता कति घण्टा (F)	Remuneration तलब (G)	Remarks कैफियत
1.11.1								
1.11.2								

1.11.3								
1.11.4								
1.11.5								
1.11.6								
1.11.7								
1.11.8								
1.11.9								
1.11.10								

Code कोड

Gender: लिङ्ग	**Family relation:** नाता	**Education Level:** शैक्षिक योग्यता	**Skill Level:** शिपको स्तर	**Remuneration:** तलब
1-Male पुरुष 2-Female महिला	1-Father/Mother (बाबु आमा) 2- Wife/husband (श्रीमान श्रीमती) 3-Brother/sister(दाजु भाइ) 4-son/daughter(छोरा छोरी) 5-other (specify) अन्य	1-illiterate (अशिक्षित), 2-literate but incomplete secondary school(शिक्षित तर माध्यमिक अनुत्तीर्ण); 3-completed higher secondary school(दश जोड दुइ पास); 4-vocational degree(व्यवसायिक तालीम); 5-higher degree (उच्च शिक्षा)	1-unskilled(अदक्ष) 2-trained on the job (कामको शिलशिलामा दक्ष) 3-professional with special training (SPECIFY) विशेष तालिम लिएर योग्यतम भएको (खुलाउनुहोस)	1-no payment(तलब दिन नपर्ने) 2-paid in kind (जिन्सीमा काम गर्ने) 3-paid in cash (specify salary NRP / day) (नगद दिने (दैनिक .....रकम)

1.12	Is the space on which you operate the business your own or your family's property? अहिले उधम व्यबसाय चलाएको स्थान तपाईं वा तपाईंको परिवारको स्वामित्वमा छ?	Yes (छ)	No (छैन)	
		1	2	
1.12.1	If no, how much do you pay for rent, or what kind of agreement do you have with the owner of the land? यदि छैन भने कति भाडा तिर्नुहुन्छ? वा जग्गाधनी सँग कस्तो किसिमको सम्झौता भएको छ?	----------		
1.12.2	Why did you choose this location for your enterprise? तपाईंले उधम सञ्चालन गर्न किन यो स्थान रोज्नुभएको हो?			

Section 2: Business environment व्यवसायिक वाताबरण

2.1	What are the **3 most important** obstacles for the operation and growth of this enterprise? **[DO NOT READ – MARK BELOW THE ITEMS THAT BEST CORRESPOND TO THE RESPONDENT'S REPLY]** यो व्यवसायको सञ्चालन र बिस्तारका लागि मुख्य तीन समस्या तथा चुनौतिहरु के के होलान?			
	Condition/Situation/ Circumstances अवस्था /समस्या तथा चुनौतिहरु		✓ In Appropriate column उपर्युक्त कोठामा ठिक चिन्ह लगाउनुहोस	
1	Lack of customers / demand ग्राहकको कमी/मागमा कमी			
2	Access to land जग्गाको अभाव			
3	Access to equipment & machinery मेशिन तथा उपकरणको अभाव			
4	Access to spare parts पार्टपुर्जाको अभाव			
5	Access to qualified workers दक्ष कामदारको अभाव			
6	Salary and wage levels तलब तथा ज्याला स्तर			
7	Access to training (accounting, production, marketing) तालीमको अभाव (लेखापालन, उत्पादन, बजारीकरण आदि)			
8	Access to energy उर्जाको पहुँच			
9	Cost of energy उर्जाको मूल्य			
10	Reliability of energy supply बिधुत आपूर्तिको बिश्वसनियता			
11	Access to raw materials / intermediary goods कच्चा पदार्थको पहुँच			
12	Access to transport infrastructure यातायात सुबिधाहरु संगको पहुँच			
13	Condition of transport infrastructure यातायात सुबिधाको अवस्था			
14	Access to telecommunications टेलिफोन सेवाको पहुँच			
15	Access to credit (e.g. collateral) ऋण तथा धितोको पहुँच			
16	Cost of credit (e.g. interest rates) ऋण लागत (ब्याजदर)			
17	Bribes and other unofficial payments घुस तथा कालोबजारी			
18	Crime, theft अपराधीकरण तथा चोरी			
19	Business licensing and regulation व्यवसाय इजाजत तथा नियम पालना			
20	Customers fail to pay ग्राहक तथा उपभोक्ताले रकम तिर्न असमर्थ रहनु वा नतिर्नु			
21	Political uncertainty or conflict राजनैतिक अस्थिरता तथा द्वन्द्व			
22	Economic instability (e.g. inflation) आर्थिक उतारचढाब			
23	Weather conditions मौसमको प्रतिकुलता			
2.2	What is your nearest major market place? तपाईंको सबैभन्दा नजिकको मुख्य बजार केन्द्र कुन हो?		Name: नाम	
2.2.1	Walking Time (if applicable): हिड्दा लाग्ने समय	...Hrs. घण्टा	2.2.2 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट
2.2.3	Distance to the nearest market place नजिकको मुख्य बजार पुग्न लाग्ने दुरी	.....KM कि.मि.		
2.3	Is there another larger market to which you go regularly to buy inputs or sell your products? तपाई नियमित बस्तु तथा सामान किन्न जाने वा आफ्ना उत्पादन बेच्न जाने ठुलो बजार छ ?		Yes (छ)	No (छैन)
			1	2
2.3.1	If YES, what is that? Name यदि छ भने त्यो बजार कुन हो ? नाम			
2.3.2	Travel time to the larger market place walking (if applicable): हिड्दा लाग्ने समय	….Hrs घण्टा	2.3.3 Travel time by car (if applicable): गाडीबाट पुग्न लाग्ने समय	……Mins मिनेट

2.3.4	Distance to the larger market place मुख्य ठुलो बजार पुग्न लाग्ने दुरी	.....KM कि.मि.	

Section 3: Energy use उर्जाको प्रयोग

3.1	Do you use electricity to run your enterprise or not? तपाईको उधम सञ्चालन गर्न बिधुतको प्रयोग भएको छ कि छैन? **IF NO GO TO Q.N.3.4** यदि छैन भने प्रश्न नम्बर ३.४ मा जानुहोस		Yes (छ) 1	No (छैन) 2	
3.1.1	Did you run this enterprise before the grid electricity (CREE) came to your place? यदि छ भने तपाईले यो व्यवसाय सामुदायिक बिधुत आउनुभन्दा पहिले देखि नै सञ्चालन गर्नुभएको थियो?		Yes (थियो) 1	No (थिएन) 2	
	[IF NO, GO TO QUESTION **3.4**] यदि थिएन भने प्रश्न नम्बर ३.४ मा जानुहोस **THIS SECTION : ASK ONLY IF THE ENTERPRISE EXISTED BEFORE ELECTRIFICATION**				
3.1.2	If yes, which type was it? यदि थियो भने कुन किसिमको थियो?	[a] same products / services, produced manually उस्तै उत्पादन तथा सेवा हातले उत्पादन गरेर		1	
		[b] same products / services, using other electricity source उस्तै उत्पादन तथा सेवा अन्य बिधुतको स्रोत प्रयोग गरेर		2	
		[c] other products / services अन्य उत्पादन तथा सेवा		3	
3.1.3	If the enterprise has changed its products / services: यदि उधमले उत्पादन तथा सेवा परिवर्तन गरेको भए	A. Which products / services have you added after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात थप भयो ?	.....		
		B. Which products / services have you abandoned after electricity came? कुन उत्पादन तथा सेवा बिधुतिकरण पश्चात बन्द भयो?	.....		
3.2	Where the enterprise located before electricity was came? बत्ति आउनुभन्दा पहिला उधम कुन ठाउमा अवस्थित थियो?		.....		
3.2.1	If previously located in a different location, why did you change the enterprise or move to the new location? यदि पहिला छुट्टै ठाउँमा संचालित थियो भने किन उधम नया ठाउँमा सार्नुभएको हो?		.....		
3.3	What are the important changes of using electricity for your business? तपाईको उधमले बिधुत प्रयोग गर्दा भएका प्रमुख परिवर्तनहरु के के होलान? [NOTE UP TO 5 CHANGES MENTIONED BY THE RESPONDENT]	1.			
		2.			
		3.			
		4.			
		5.			
3.3.1	Has the use of electricity changed the use of labour in your enterprise? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा हुने गरेको श्रममा केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changed your customer base (how many customers or type of customers)? If yes, please describe and quantify the change. बिधुतको प्रयोगले तपाईको उधममा आउने ग्राहकको संख्या तथा किसिमको केहि परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस।	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			
3.3.2	Has the use of electricity changes the quality of the products or services that you sell? If yes, please describe. बिधुतको प्रयोगले तपाईले बिक्रि गर्ने उत्पादन तथा	[RECORD VERBATIM] भनाई जस्ताको तस्तै लेख्नुहोस			

	सेवाको गुणस्तरमा परिवर्तन भएको छ? यदि छ भने बयान गर्नुहोस र भएको परिवर्तनलाई नोट गर्नुहोस ।				
3.4	Are you currently involved in the CREE committee and/or its activities? अहिले तपाई सामुदायिक सस्थाको कार्य समिति वा अन्य कुनै गतिविधिमा संलग्न हुनुहुन्छ?	Yes (छ)	No (छैन)	3.4.1 If yes, what is your role in the CREE? यदि छ भने त्यसमा तपाईको भूमिका के कस्तो छ ?	
		1	2		
3.5	Did you involve during the CREE formation and/or submission of application to for first-time electrification in your area? सामुदायिक सस्था गठन हुदाका बखत वा पहिलोपटक बिधुतिकरणका लागि आवेदन दिदा तपाई संलग्न हुनुहुन्थ्यो?	No (थिएन)	Marginally involved (अलिअलि भईयो)	Actively involved (सम्पूर्ण रुपमा लागियो)	3.5.1 If yes, since when (year)? यदि हो भने कहिले देखि (बर्षमा)
		1	2	3	……..
3.6	Have you contributed (cash) for the electrification? बिधुतिकरणका लागि तपाईले नगद समेत योगदान गर्नुभएको छ?	……			3.6.1 If yes, How much? यदि छ भने कति रकम .....
3.7	List all electricity sources that you are currently using to operate the enterprise: अहिले उधम सञ्चालन गर्न प्रयोग भएका बिधुतिय स्रोतहरुको सुची भन्नुहोस				

Particulars विवरण (A)		Connection Type/ जडान Specifications (B)	Consumption in last month अघिल्लो महिनाको खपत (C)	Average monthly consumption over last 12 months गत १२ महिनामा मासिक औसत खपत (D)	Cost per month (last month) प्रति महिना खर्च / गत महिनाको खर्च (E)	Used since when कहिले देखि प्रयोग गरेको? (E)		Remarks कैफियत
						Month महिना	Year साल	
3.7.1	NEA Electricity विधुत प्राधिकरणको लाइन	MCB एम.सी.बि ….A एम्पियर 1- phase 3-phase	…….kWh युनिट	…….kWh युनिट				
3.7.2	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.7.3	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.7.4	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.7.5	Others (specify) अन्य (खुलाउनुहोस)							
	IF NON-ELECTRI-FIED CREE GO TO Q.N.3.13 यदि बत्ति नबलेको सस्थामा भए ३.१३ मा जानुहोस							
3.8	**If the enterprise used electricity before the grid came, what kind? [IF NO, GO TO QUESTION 3.9]**							
3.8.1	Solar PV सोलार	Peak Watt	……Wh	….Wh	(n.a.)			
3.8.2	Battery ब्याट्री	Numbers नम्बर Size(AH)	number of charges / month	number of charges / month				
3.8.3	Diesel generator डिजेल जेनेरेटर	HP (kW)	in liters लिटर	in liters लिटर	for diesel			
3.8.4	Others (specify) अन्य (खुलाउनुहोस)							

3.9	Do you have dedicated energy meter for your enterprise? उधमको लागि तपाईले छुट्टै इनर्जी मिटरको प्रयोग गर्नुभएको छ?			Yes (छ) 1	No (छैन) 2
3.9.1	IF NO यदि छैन भने	I use the same meter for my household lighting and other private uses मैले सोहि मिटरबाट घरमा बत्ति बाल्ने तथा अन्य प्रयोग समेत गरेको छु	1		
		I share the meter with another household or enterprise (other than my family) मैले अर्कैको घर वा उधम संग मिटर साझेदारी गरेको छु (आफ्नो घरपरिवार बाहेक)	2	3.9.2 If [2]: What is the arrangement you have with the owner? How much do you pay/ they pay? मिटर मालिक संग तपाईको कस्तो सहमति भएको छ ? तपाई वा तिनीहरुले मासिक कति रकम तिर्छन ?	……..
		Other, specify: अन्य (खुलाउनुहोस)	3		
3.10	If you don't use dedicated energy meter, how much of the electricity consumption indicated above is for your business operations? तपाईको उधमको लागि छुट्टै मिटर छैन भने माथि उल्लेख भएको खपतको कति जति व्यवसाय सञ्चालनमा खपत हुन्छ होला?				
3.11	Over the last year, have you ever been unable to pay your electricity bill in time? गत बर्षमा तपाईले समयमा नै बिधुतको महशुल तिर्न नसकेको अवस्था आयो कि आएन?	Yes (छ) 1	No (छैन) 2		
3.11.1	**[IF NO, GO TO QUESTION 3.13]** यदि आएन भने प्रश्न न ३.१३ मा जानुहोस If yes: How much dues left? यदि थियो भने कति जति रकम तिर्न बाँकी छ?				
3.12	If you are/were unable to pay your monthly bill, how do you manage with the respective CREE? यदि तपाईले मासिक रुपमा बिधुत महशुल तिर्न सक्नुभएको छैन भने सामुदायिक सस्था संग कसरी व्यवस्थापन गरिरहनुभएको छ? [DO NOT READ]	[a] pay the due amount once you have enough money आफु संग धेरै रकम भएको बेला तिर्न बाँकी सबै महशुल एकै पटकमा तिरिदिने			1
		[b] pay the due amount with penalty जरिवाना सहित बाँकी रकम तिर्ने			2
		[c] others (specify) अन्य (खुलाउनुहोस)			3
3.13	Which electric equipment are you using to operate your business? List each machine / appliance तपाईको उधम सञ्चालन गर्न कुन बिधुतिय उपकरणहरु प्रयोग गर्नुभएको छ? मेशिन तथा उपकरणहरुको सुची तयार पार्ने				

	List of Equipment उपकरणको सुची (A)	bought when कहिले किन्नुभएको हो? (B) Month महिना	Year साल	Unit Cost प्रति युनिट (एकाइ) रकम (C)	new or 2nd hand नया /पुरानो (D)	source of investment capital (own savings, loan), if mixed: % of each source (E) लगानीको स्रोत आफ्नै बचत, ऋण, दुवै भए प्रतिशतमा	
3.13.1							
3.13.2							
3.13.3							

3.14	Did you sell off old equipment that was replaced by the electric equipment you are using now? के तपाईले अहिले प्रयोग गर्नुभएको बिधुतिय उपकरण ल्याईसकेपछी पुरानो उपकरणहरु बिक्रि गर्नुभयो?	Yes (छ) 1	No (छैन) 2	
3.14.1	If yes, at what price? यदि छ भने कति मूल्य / रकममा बेच्नुभयो?			

[NOTE: IF DETAIL OF EACH EQUIPMENT IS NOT AVAILABLE, PROVIDE TOTAL INVESTMENT]

3.15	Is there R&M service for your electric equipment available in your CREE area? तपाईको सामुदायिक सस्थाको क्षेत्र भित्र तपाईको उधमको बिधुतिय उपकरणहरुको मर्मत तथा सम्भार सेवा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

3.15.1	If no, where do you go for R&M? यदि छैन भने मर्मत सम्भारको लागि कहाँ जानुहुन्छ?	……	……KM कि.मि. or ……hrs घण्टा

3.16	If the enterprise is in the CREE area but does not use electricity (other than for lighting): What are the reasons for not using electricity? [DO NOT READ; MULTIPLE ANSWERS POSSIBLE] यदि उधम सामुदायिक सस्थाको क्षेत्रभित्र नै छ तर बिधुत प्रयोग गर्दैन भने (बत्ति बाहेक अरु), बिधुत प्रयोग नगर्नुको कारणहरु के के होलान? (एक भन्दा बढी जवाफ आउन सक्नेछन)		Remarks कैफियत
A	The plot where I operate my business does not have a connection मैले जुन ठाउँमा व्यवसाय सञ्चालन गरेको छु त्यो ठाउँमा जडान भएको छैन	1	
B	Electricity would not be a benefit for my enterprise मेरो उधमको लागि बिधुत फाईदाजनक छैन	2	
C	I am unwilling or unable to invest in electric equipment म बिधुतिय उपकरण खरिद गर्न इच्छुक छैन वा मेरो सामर्थ्य नै छैन	3	
D	I do not have the specific technical skills required to run electric equipment म सँग बिधुतिय उपकरण सञ्चालन गर्न चाहिने प्राबिधिक ज्ञान छैन	4	
E	Other: specify अन्य (खुलाउनुहोस)	5	

3.17	**Monthly** expense for operating the enterprise (besides electricity): [EXCEPT RAW MATERIALS INPUT, WHICH IS COVERED BELOW] उधम सञ्चालन गर्न लाग्ने मासिक खर्च बिवरण (बिधुत अतिरिक्त) कच्चा पदार्थहरुको खर्च समाबेश नगर्ने जुन तल समाबेश हुन्छ ।		
	Particulars बिवरण	Amount (NRs) रकम (रुपियामा)	Remarks कैफियत
3.17.1	Rent भाडा		
3.17.2	Salary and wages तलब तथा ज्याला		
3.17.3	Maintenance & repair मर्मत तथा सम्भार		
3.17.4	Communication : telephone, internet, etc. सूचना तथा सञ्चार- टेलिफोन/इन्टरनेट आदि		
3.17.5	Other, SPECIFY अन्य (खुलाउनुहोस)		

	IF NON-ELECTRIFIED CREE GO TO Q.N. 3.22) बत्ति नबलेको सस्थामा भए प्रश्न ३.२२ मा जानुहोस		
3.18	Are you affected by the load shedding? लोडसेडिंग (बिधुत कटौती) बाट असर परेको छ कि छैन?	Yes (छ) 1	No (छैन) 2
3.18.1	If YES, how many load shedding hours in a day last month? यदि छ भने गत महिना दिनको औसत कति घन्टाका दरले बिधुत कटौती (लोडसेडिंग) भयो ?		
3.18.2	What is the minimum load-shedding month? सबैभन्दा थोरै लोडसेडिंग (बिधुत कटौती) हुने महिना कुन हो?		
3.18.3	How many hours in a day in that month? सबैभन्दा कम बिधुत कटौती हुने महिनामा दिनको कति घण्टा लोडसेडिंग हुन्छ?		

3.19	Have you experienced any unexpected power outage other than the load shedding? लोडसेडिंग तालिका बाहेक अन्य बेलामा पनि बिधुत कटौती भएको छ?	Yes (छ) 1	No (छैन) 2
3.19.1	If YES, how many hours or days in the last month? यदि छ भने गत महिना कति घण्टा वा दिन बिधुत कटौती भयो होला?	Hours घण्टा	days दिन

3.20	What does this enterprise do, when electricity supply is interrupted (unforeseen or load-shedding)? बिधुत कटौती भएको बेला उधम के गर्नुहुन्छ? (लोडसेडिंग वा अन्य कारणले बिधुत कटौती हुँदा) धेरै जवाफ आउन सक्छन । [DO NOT READ OUT; MULTIPLE ANSWERS ARE POSSIBLE]		Remarks कैफियत
A	Continue operations on backup supply (Invertor, Diesel, Solar PV, Others) अन्य स्रोत जस्तै इन्भर्टर, डिजेल, ब्याट्री, सोलार आदिको प्रयोग गरि उधमरव्यवसाय सञ्चालन गर्छु ।	1	
B	Continue business operations without use of electricity बिधुतको प्रयोग बिना पनि उधमरव्यवसाय चलाउछु ।	2	
C	Stop operations and wait for power to come back तत्काल उधम/व्यवसाय बन्द गर्छु र	3	

	बिधुत कहिले आउछ कुरेर बस्छु।				
D	Other: specify) अन्य (खुलाउनुहोस)			4	
3.21	Do you operate your business during night time (including early morning/evening)? तपाईको उधम वा व्यवसाय रातिको समयमा पनि चलाउनुहुन्छ? (झमक्क साँझ वा झिसमिसे उज्यालो भए पनि समावेश गर्ने)	Yes (छ)	No (छैन)		
		1	2		
3.21.1	If yes, do you use electric light? For how many hours? यदि चलाउने गरेको छ भने बिधुतिय बत्ति बाल्नुहुन्छ?छ भने कति घण्टा बाल्नुहुन्छ?	in the morning बिहानको समय		in the evening बेलुकाको समय	
3.22	Other investments in the last 3 years? गत तीन बर्षमा अन्य कुनै लगानीहरू भएको छ?	Yes (छ)	No (छैन)		
		1	2		
	If yes, type of Investment यदि छ भने लगानीको किसिम	Amount Invested (NRs) लगानी भएको रकम (रुपियामा)		Remarks कैफियत	
3.22.1					
3.22.2					
3.22.3					
3.23	Have you received any incentives for using electricity in your business? (if applicable) तपाईले आफ्नो व्यवसायमा बिधुत प्रयोग गरेबापत कुनै सहुलियत वा छुट पाउनुभएको छ?	Yes (छ)	No (छैन)		
		1	2		
3.23.1	If yes what are those? यदि छ भने तिनीहरु के के हुन?				
	1		3		
	2		4		

Section 4: Access to finance आर्थिक पहुँच

4.1	Do you hold an account with a formal bank? तपाईले कुनै आधिकारिक बैंकमा खाता खोल्नुभएको छ?	Yes (छ)	No (छैन)					
		1	2					
4.1.1	If yes, bank name: यदि छ भने बैंक को नाम							
4.2	Are you associated in any saving groups/cooperatives? तपाई कुनै बचत रुप तथा सहकारी सँग आबद्द हुनुहुन्छ?	Yes (छ)	No (छैन)					
		1	2					
4.2.1	If yes, how much do you save? यदि छ भने कसरी बचत गर्ने गर्नुभएको छ?	Daily दैनिक	Monthly मासिक					
4.3	Has this enterprise ever applied for a loan with any financial institution? तपाईको उधमले कुनै पनि वित्तिय सस्थामा ऋणको लागि कहिल्यै आबेदन दिएको छ?	Yes (छ)	No (छैन)					
		1	2					
4.3.1	If yes, यदि छ भने							
	year when you applied for a loan तपाईले ऋणका लागि आबेदन दिएको साल (A)	from which institution कुन सस्थामा ? (B)	Amount कति रकम? (C)	4.3.2 Did anyone assist / facilitate? त्यसका लागि कसैले सहयोग वा मद्दत गरेको थियो ?		4.3.3 Has the loan been granted? ऋण पाउनुभएको थियो ?		4.3.4 Interest Rate ब्याज दर
				Yes (छ)	No (छैन)	Yes (छ)	No (छैन)	
				1	2	1	2	
4.3.5	What did you use as collateral? धितोको लागि तपाईले के प्रयोग गर्नुभयो?							

4.4	Have you prepared a Business Plan before you started this business or when you applied for a loan? व्यबसाय शुरु गर्नुभन्दा पहिले वा ऋणको लागि आवेदन दिदाको समय तपाईले व्यबसायको योजना बनाउनुभएको थियो?	Yes (छ)	No (छैन)	If yes, with anyone's support? यदि थियो भने कसैको सहयोग लिनुभयो?
		1	2	
4.4.1	IF NO: Why has this enterprise never applied for a loan? Multiple entries are possible. [DO NOT READ] यदि थिएन भने किन किन तपाईको उधमको लागि ऋणको लागि आवेदन दिन नपरेको होला? (धेरै जवाफ आउन सक्छन)			
A	No need for loan, sufficient money available आफैसँग पुग्ने पैसा भएकोले ऋण लिईरहन परेन		1	
B	Application procedures are too complex आवेदन प्रक्रिया नै झन्झटिलो छ		2	
C	Interest rates are too high ब्याजदर नै धेरै चर्को छ		3	
D	Collateral requirements are too high धितोको लागि आवस्यक कुरा धेरै छन		4	
E	The value of the credit available is too little ऋण रकम ज्यादै थोरै मात्र पाइन्छ		5	
F	The repayment period is too short ऋण तिर्नुपर्ने अवधि पनि छोटो छ		6	
G	Think that repayment would be difficult ऋण तिर्न नै कठिनाई हुन्छ जस्तो लाग्छ		7	
H	OTHER (specify) अन्य (खुलाउनुहोस)		8	

Section 5: Business Development Services व्यबसाय बिकास तथा सेवा

5.1	Have you or any other person involved in your business (your partner, children, parents, employees etc) participated in any training / capacity building / other program? तपाई अथवा तपाईको व्यबसायमा प्रतक्ष्य संलग्न अन्य कोहि (तपाईको साथी, छोराछोरि,बाबुआमा, कामदार आदि) कुनै पनि किसिमको तालीम, क्षमता अभिवृद्दि वा अन्य कार्यक्रममा सहभागी हुनुभएको छ?	Yes (छ)	No (छैन)	Remarks कैफियत
		1	2	
5.1.1	If Yes, यदि छ भने			
A. Who participated: को सहभागी भयो?		B. Name of program: कार्यक्रमको नाम		
C. Where did it take place: कहाँ भएको थियो?		D. Implemented by: कसले आयोजना गरेको थियो?		
E. How long did the training take (number of days): तालीमको अवधि कति लामो थियो (कति दिन)		F. Who were the other participants: अरु सहभागीहरु को थिए?		
G. Did you pay, if yes how much: सहभागी हुन तपाईले रकम तिर्नुभयो? यदि हो भने कति रकम?		H. Most important learning achievements for you: तपाईको लागि त्यसबाट मुख्य सिकाइहरु के के भए?		

5.2	Have you heard of any training program offered but you decided not to participate? तपाईले कुनै तालीम कार्यक्रम हुन गैरहेको सुन्नुभयो तर पनि सहभागी नहुने निर्णय गर्नुभएको थियो ?	Yes (छ)	No (छैन)	
		1	2	
5.2.1	If yes, specify: What type of training, when, which institution? यदि थियो भने खुलाउनुहोस कस्तो किसिमको तालीम, कहिले र कुन संस्थाले ?	Type किसिम	When कहिले	Organizer तालीम दिने सस्था

5.2.3	Why did you not participate? उक्त तालीममा सहभागी नहुने निर्णय गर्नुको कारण के थियो?		
5.3	Which one of the following types of training or assistance would be most useful for your enterprise? [READ] तल उल्लेख गरिएका मध्ये कुन किसिमको तालीम तथा सहयोग तपाईको उधमको लागि बढी महत्वपुर्ण हुन्छ होला?		
A	Business Management Skills: (Training in business planning, marketing, accounting, financial management, human resource management, etc.) व्यबसाय व्यवस्थापन सम्बन्धि शिपहरु (व्यबसायिक योजना, बजारीकरण, लेखापालन, आर्थिक व्यबस्थापन, जनशक्ति व्यबस्थापन आदि सम्बन्धि तालीम)	1	
B	Technical Skills (Technical assistance with production) प्राबिधिक शिपहरु (उत्पादन सम्बन्धि प्राबिधिक ज्ञान)	2	
C	IT-SKILLS (Technical assistance with computers, ICT) सूचना तथा प्रबिधि (कम्पुटर, इन्टरनेट, मोबाइल आदि प्राबिधिक सहयोग)	3	
D	No training required कुनै तालीमको आवस्यकता छैन	4	
E	Other (please specify) अन्य (खुलाउनुहोस)	5	
5.4	Does this enterprise engage in any form of cooperation with other enterprises? [DO NOT READ] यो तपाईको उधम अन्य कुनै उधम सँग कुनै पनि कामको लागि सहकार्य गरिरहेको छ ?		
A	None छैन	0	
B	Joint purchase of inputs कच्चा पदार्थ खरिदको लागि सहकार्य	1	
C	Joint marketing of products/services उत्पादन तथा सेवाको बजारीकरणको लागि सहकार्य	2	
D	Sharing equipment or tools उपकरण तथा औजारहरुको साझेदारी	3	
F	Other (specify) अन्य (खुलाउनुहोस)	5	

Enterprise Survey –Other Manufacturing or Services

1	General Information सामान्य पृष्ठभूमि				
1.1	List all the products and services that you currently produce / sell: तपाईको उधमले हाल उत्पादन र बिक्रि गर्ने वस्तु तथा सेवाहरु को सुची तयार पार्नुहोस				
1.2	How many other similar type enterprises are there in your VDC? तपाईको गाउँ अर्थात सामुदायिक सस्थाको क्षेत्र भित्र (पहिलो चरण)अन्य यस्तै प्रकारका उधमहरु छन?				
1.2.1	If yes, is there any loss due to other such business? यदि छन भने त्यस्ता उधमहरुले गर्दा तपाईको व्यवसयामा नोक्सान पुगेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस	
1.2.2	If yes, do you think your enterprise has affected the business of other similar type? यदि छन भने तपाईंको उधमले यस्ता अन्य व्यवसायहरुलाई असर गरेको छ कि छैन?	Yes (छ) 1	No (छैन) 2	Give Reason कारण दिनुहोस	
2	Customers ग्राहकहरु				
2.1	Where do you sell your products? आफ्नो व्यवसायमा हुने उत्पादनहरु कहाँ बेच्नुहुन्छ?	[a] within this village गाउँ भित्रै	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[b] to local market (the nearest market place) नजिकको स्थानीय बजार	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[c] large market, WHERE? ठुलो बजार (कहाँ)	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
		[d] other, SPECIFY: अन्य (खुलाउनुहोस)	……..	% of your total sales तपाईको बिक्रीको कति प्रतिशत	
2.2	Do some people in the community go elsewhere to buy the type of product / service you sell? के समुदायको केहि मानिसहरु तपाईको जस्तै उत्पादन किन्नका लागि अन्यत्र जान्छन?	Yes (छ) 1	No (छैन) 2	If yes, give reason; कारण खुलाउनुहोस	
2.3	How many households approximately are regular customers of your business? लगभग कति घरधुरीहरु तपाईको व्यापारको नियमित ग्राहकहरु छन?	……			
2.4	If you sell your products outside the village, how do you sell it? यदि तपाई आफ्ना उत्पादनहरु गाउँभन्दा बाहिर बेच्नुहुन्छ भने कसरी बेच्नुहुन्छ?	[a] I (or some family member) take it to the market म (परिवारका अन्य सदस्य) ले बजार सम्म पुर्याउछु			1
		[b] a trader comes to pick it up from here व्यापारी आफै यहाँ आएर लिएर जान्छ			2
		[c] someone from within the village takes it to the market for me गाउँ भित्र बाट कसैले मेरो लागि यो बजार सम्म पुर्याईदिन्छ			3
2.5	Is your business sufficient to meet the local demand? के तपाईको व्यापार / स्थानिय व्यवसाय माग पुरा गर्न पर्याप्त छ?	Yes (छ) 1	No (छैन) 2	If no give reason; छैन भने कारण खुलाउनुहोस ……..	
2.5.1	If NO, why don't you increase your production capacity? छैन भने आफ्नो व्यवसायको उत्पादन क्षमता किन बढाउनुहुन्न?				
2.6	How much time does it take by the farthest customers to come in your enterprise?	……Hrs	……km		
2.7	How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल	

	उधममा आए होलान? How many customers did you have approximately over the last 3 months? गत ३ महिनामा लगभग कति जति ग्राहकहरु तपाईको उधममा आए होलान?	Inside CREE सामुदायिक सस्था भित्र	Outside CREE सामुदायिक सस्था बाहिर	Total कुल	
2.8	At what price and in which quantity do you sell your products? [IF THE ENTERPRISE SELLS DIFFERENT PRODUCTS / SERVICES, LIST THE 3 MOST IMPORTANT ONES] तपाई आफ्नो उत्पादन कति मुल्यमा कुन परिमाण मा बिक्रि गर्नुहुन्छ? (यदि उधमले विभिन्न उत्पादन, बस्तु तथा सेवा बेच्छ भने, प्रमुख तीनवटा उल्लेख गर्नुहोस)		Sale price बिक्रि मूल्य (A)	Q-ty/Month in high season धेरै चलेको बेला बिक्रि परिमाण प्रति महिना (B)	Q-ty/Month in low season थोरै/कम चलेको बेला बिक्रि परिमाण प्रति महिना (C)
2.8.1	Product 1, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) १				
2.8.2	Product 2, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) २				
2.8.3	Product 3, specify:…….. उत्पादन/बस्तु (खुलाउनुहोस) ३				

2.9	What is the monthly revenue [BEFORE DEDUCTION OF ANY COST] you make from the selling of end products? अन्तिम उत्पादन बिक्रि भएपछी मासिक आम्दानी कति हुन्छ? (कुनै पनि लागतको कटौती अघि)					……
		Daily NRs. दैनिक रकम (A)	Weekly NRs. हप्ता रकम (B)	Monthly NRs. मासिक रकम (C)	Yearly NRs. वार्षिक रकम (D)	
2.9.1	Revenue आम्दानी					
2.9.2						

2.10	Expenditure on input / raw material for production आयात/कच्चा पदार्थ खरिदमा खर्च [LIST THE MOST IMPORTANT RAW MATERIALS, UP TO 5, NEEDED FOR PRODUCTION] (अत्यन्त महत्वपुर्ण कच्चा पदार्थहरु , ५ वटा सम्म जुन उत्पादनका लागि आवस्यक छन सुची बनाउनुहोस)						
		Raw material 1, specify: कच्चा पदार्थ १	Raw material 2, specify: कच्चा पदार्थ २	Raw material 3, specify: कच्चा पदार्थ ३	Raw material 4, specify: कच्चा पदार्थ ४	Raw material 5, specify: कच्चा पदार्थ ५	Total कुल
2.10.1	Daily दैनिक रकम						
2.10.2	Monthly मासिक रकम						
2.10.3	Yearly वार्षिक रकम						

2.11	How much profit (revenue minus cost of operation) do you make from this business per month on average? तपाईले यो व्यबसायबाट मासिक रुपमा औसत कति नाफा (हुने आम्दानीबाट खर्च घटाएर आउने रकम) कमाउनुहुन्छ?	……Good season धेरै चलेको बेला		……Bad Season थोरै/कम चलेको बेला
2.12	Are you satisfied with this profit? के तपाई यो आम्दानी बाट सन्तुष्ट हुनहुन्छ?	Yes (छ) 1	No (छैन) 2	
2.13	What are the major changes after electrification? बिधुतिकरण पछी के कस्ता परिवर्तनहरु भए?	1. 2. 3. 4. 5.		
2.14	Is raw material locally available? के कच्चा पदार्थ स्थानीय क्षेत्रमा उपलब्ध छ?	Yes (छ) 1	No (छैन) 2	

2.14.1	If no, where do you go to buy raw materials? छैन भने कच्चा पदार्थ लिन कहाँ जानुहुन्छ?	
2.15	Key observation: सर्वेक्षकले अवलोकन गरेको आधारमा बयान गर्ने ।	

Annex 3:

Focus group discussion guidelines

Guideline for consumer focus groups in electrified and non-electrified CREE areas

How to organize the focus group:

- Call local consumers for a brief session (approx.. 45 min)
- The minimum number of participants is 10, the maximum number is 25
- Make sure that all participants permanently live within the 1st phase CREE zone.
- Make sure you have representation of at least 5 independent households
- Make sure you have a cross-section through the community age and social class distribution (representatives of at least the age groups 15-30 and 30-50), and representatives of poorer and better-off households)
- Make sure you have a gender distribution of at least 30% of each gender in the group
- Make sure that none of the focus group participants are themselves entrepreneurs (who will be interviewed separately)
- Make sure that the timing of the focus group does not bias those who attend. Meaning, if it is the busiest time of day for working-age people/mothers tending to children/cooking, etc - we do not just want only young and old participants, or few women
- Make sure you tell the participants it will be brief, their participation is not mandatory, but greatly appreciated, though no compensation will be provided (we do not want people to expect they will get anything by participating)

Introductory remark:

"Namaste, our names are ……. and ……. We are working as part of research team under Sustainable Energy and Technology Management (SETM). We are carrying out a study ***on energy use in CREE areas.*** *The focus group discussion will serve as the basis for future development projects. In order to make these projects as useful as possible to local consumers, we depend on complete and honest information. We encourage all people within the group to participate equally and to share their views and provide feedback regardless of what other people have said. If we feel some people are timid, and some people dominate the group, we may ask some to step down and let others have a turn. We just want to hear from everyone, as you all have something very valuable to contribute to this discussion and we very much look forward to what you have to say. If you do not understand the question we encourage you to say so, and to ask for more explanation, as we want to make sure everyone understands equally.*

The information you provide will be strictly confidential. The discussion will take approximately ***45*** *minutes. Participation in this focus group is of course voluntary. If you are not willing to participate, please let us know now. […]*

We highly appreciate that you are taking the time to discuss with us."

The following questions should be discussed in focus groups in electrified CREEs:

1. What are the **most important** changes that electricity has brought to your everyday life? [MAX 10 MINUTES OF DICUSSION] बिधुत आइसकेपछि तपाईहरुको दैनिक जीवनमा आएका /भएका महत्वपूर्ण परिवर्तनहरु के के हुन? छलफल गर्नुहोस

2. What difference does it make for you that the local agro-processing mill now operates with electricity? [IF THAT IS THE CASE] [MAX. 5 MIN OF DISCUSSION]
   [NOTE: MAKE SURE TO RECORD: BEFORE ELECTRICITY CAME, WHAT WAS THE SITUATION (DIESEL MILL? MANUAL? HYDRO-MILL?)] अहिले स्थानीयस्तरमा बिधुतको प्रयोग गरि कृषि प्रशोधन मिल सञ्चालन भएपछी कस्तो फरक महशुश गर्नुभएको छ? त्यसको प्रभाव के परेको छ?पहिला कुन मिल थियो अहिले भएका परिवर्तन बारे छलफल गर्नें

3. [ASK ONLY AFTER 5 MIN OF FREE DISCUSSION ON PREVIOUS QUESTION:] Is the quality of the milled product different now? बिधुतिय मिलबाट हुन्ने अन्नप्रसोधनको गुणस्तरमा केहि फरक महशुस गर्नुभएको छ? छलफल गर्नुहोस

4. What difference does is make for you that the furniture manufacturer uses an electric saw? [IF APPLICABLE] फर्निचर उत्पादकले बिधुतिय आरा तथा उपकरण प्रयोग गरेपछी के परिवर्तन भएको महशुश गर्नुभएको छ? छलफल गर्नुहोस यदि उपर्युक्त छ भने

5. [ASK ONLY AFTER 5 MIN OF FREE DISCUSSION ON PREVIOUS QUESTION:] Is the quality of the furniture different now? अहिले फर्निचरको गुणस्तरमा केहि फरक महशुस गर्नुभएको छ? छलफल गर्नुहोस

6. What difference does is make for you that the xy business [REPEAT THIS QUESTION FOR ANY FIRM TYPE THAT EXISTS IN THE VILLAGE THAT IS USING ELECTRICITY] uses electricity? यो सामुदायिक क्षेत्र भित्र रहेका उधम,व्यवसायहरुले बिधुत प्रयोग गर्दा तपाइंले कस्तो फरक महशुस गर्नुभएको छ? फरक फरक किसिमका उधमहरुको बारेमा सोध्ने (खुलाएर लेख्नुहोस)

7. [ASK ONLY AFTER 5 MIN OF FREE DISCUSSION ON PREVIOUS QUESTION:] Is the quality of the xy product different now? अहिले दिने उत्पादन तथा सेवाको गुणस्तरमा केहि फरक महशुस गर्नुभएको छ? छलफल गर्नुहोस

8. Are there any products or services available in the village now that were not available before electricity came?
   What are these products?
   FOR ANY PRODUCT THAT IS MENTIONED, ASK: अहिले गाउँमा नै उपलब्ध भएका उत्पादन तथा सेवाहरु जुन बिधुत आउनुभन्दा पहिले उपलब्ध थिएनन ? तिनीहरु के के हुन छलफल गर्नुहोस र नोट गर्नुहोस

10. What are the advantages of the product now being available here (price? quality? less effort to get it? other?) अहिले गाउँमा उपलब्ध हुने उत्पादन तथा सेवाको के फाइदा छ? मुल्य कति? गुणस्तर? के कम मेहनतमा नै पाइन्छ? अरु?

11. Do you buy more of the product / service since it is locally available? के स्थानीय स्तरमा नै उत्पादन तथा सेवा पाइएको कारणले गर्दा धेरै किन्ने गर्नुभएको छ?

12. Are there any products / services that were available before but that are no longer available after electricity came? What are these products (if any)? Why do you think they disappeared from the local market? बिधुत आउनुभन्दा पहिले गाउँमा कुनै त्यस्ता उत्पादन तथा सेवाहरु थिए जुन बिधुत आएपछी हाल संचालनमा छैनन ?ती उत्पादनहरु के के हुन? के कति कारणहरुले स्थानीय बजारबाट लोप भएका होलान?

13. Do you know of anyone who lost a job in a local enterprise after the enterprise started using electricity? Do you know if that person found a new job, and where? कुनै उधम जसले बिधुत प्रयोग गरिसकेपछि कोहि कसैले स्थानीय उक्त उधमबाट आफ्नो रोजगारी गुमाएको यहाहरुलाई थाह छ ? यदि थाह छ भने, त्यो व्यक्तिले नया रोजगारी पाएको भए कुन ठाउँमा हो?जानकारी दिनुहोस

14. Can you observe that more people come from surrounding villages / wards to buy products or services since electricity is available here? यहाँ बिधुत आइसकेपछि संगै जोडिएका तथा छिमेकी गाउँ तथा वडाहरु बाट धेरै मान्छेहरु आउने गरेको जस्तो लाग्छ कि लाग्दैन ?
    What do they buy? यदि आउछन भने त्यस्ता ग्राहकहरुले के किन्छन?
    Do you think that is good for your village? यस्तो ब्यापार हुनु तपाईको गाउँको लागि सकारात्मक हो जस्तो लाग्छ कि लाग्दैन?

15. Have you participated in any awareness event or training, organized by the CREE or by any other organization, which promoted productive end-uses of electricity? IF YES, was it useful? Are you considering to set up any business? What are the difficulties? सामुदायिक सस्था वा अन्य परिप्रयोग वा उधम सम्बन्धि काम गर्ने सस्थाहरुले दिएका कुनै किसिमको जनचेतना सम्बन्धि कार्यक्रम वा तालिममा सहभागी हुनुभएको छ?यदि छ भने त्यो उपयोगी थियो? के तपाईले नया उधम ब्यवसाय खोल्न खोज्नुभएको छ? मुख्य कठिनाइहरु के के छन?

The following questions should be discussed in focus groups in NON-electrified CREEs:

1. What are the **most important** changes that you hope electricity will bring to your everyday life? [MAX 10 MINUTES OF DICUSSION] बिधुत आइसकेपछि तपाईहरुको दैनिक जीवनमा के कस्ता महत्वपूर्ण परिवर्तनहरु हुन्छन होला? के आशा गर्नुभएको छ ? छलफल गर्नुहोस

2. Where do you have your grains milled? Are you expecting that this service will change in any ways once electricity comes? [IF THAT IS THE CASE] [MAX. 5 MIN OF DISCUSSION] अन्न प्रशोधनको लागि कुन ठाउँमा जानुहुन्छ?तपाईलाइ गाउँमा बिधुत आइसकेपछि यो उधम परिवर्तन हुन्छ जस्तो लाग्छ कि लाग्दैन?

3. [ASK ONLY AFTER 5 MIN OF FREE DISCUSSION ON PREVIOUS QUESTION:] How satisfied are you with the quality of the milling? अहिले भएको प्रशोधनको गुणस्तरसंग सन्तुष्ट हुनुहुन्छ कि हुनुहुन्न?

4. Are there any products or services that require electricity that you hope will become available within your village once there will be a grid connection? तपाईको गाउँमा त्यस्ता उत्पादन तथा सेवाहरुको सम्भावना छ जुन बिधुत आइसकेपछि सम्भब हुन्छ भन्ने सोच्नुभएको छ ? छलफल गर्नुहोस र लेख्नुहोस

5. What is the expected advantage from your point of view if that product or service will become available in the village? त्यस्ता उत्पादन तथा सेवाहरु गाउँमा आइसकेपछि के कस्ता फाइदा हुन्छन भन्ने सोच्नुभएको छ? छलफल गर्नुहोस

6. Do you have any concerns that electricity will bring any negative side-effects? तपाईहरुलाई बिधुत आइसकेपछि त्यसले केहि नकारात्मक असर पार्छ भन्ने पनि लाग्छ? यदि लाग्छ भने के के लाग्छ भन्नुहोस?

7. Are you, or do you know anyone who is planning to open a new business once electricity comes?
   IF YES, what kind of business? तपाईहरु वा अरु कुनै व्यक्तिले बिधुत आइसकेपछि नया उधम तथा व्यबसाय संचालन गर्ने सोच्नुभएको छ? यदि छ भने कस्तो किसिमको? छलफल गर्नुहोस

Annex 4:
Methodological considerations on model specification

Methodological considerations on model specification

A logarithmic transformation of the dependent variable is indicated when it helps to linearize a relationship, given that the model we estimate (OLS) imposes a linear relationship between the explanatory and dependent variable. *Figure 3* shows histograms of the profit variable in our sample, and its logarithmic transformation. We find that the distribution of profits is highly skewed to zero, while the logarithmic transformation is closer to normal. *Figure 4* further shows that skewness can be removed in the regression residuals of our main specification (*Table 13* in the main text, *column 1*). The log-level linear model hence offers a better fit with our data than the level-level model.

Figure 3: Distribution of monthly profits and its logarithmic transformation.

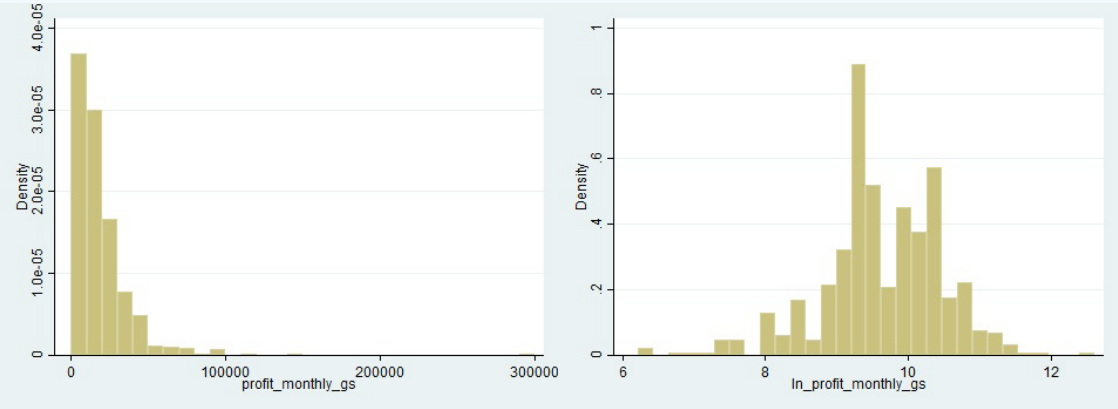
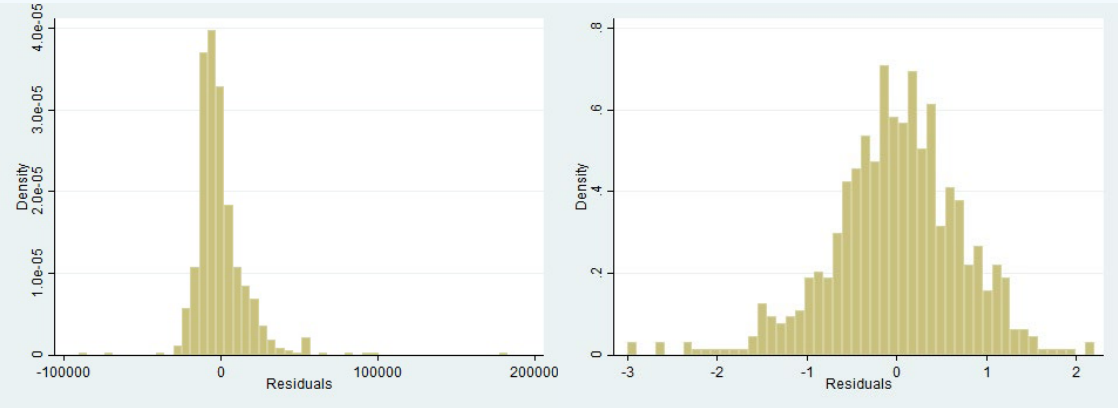


Figure 4: Distribution of residuals from OLS regression of monthly profits (left) and logarithmic transformation of monthly profits (right) on electricity access and standard set of controls.



In terms of the interpretation of estimated coefficients, using the logarithm instead of the level of firm profit implies that we examine the effect of electricity and other covariates on percentage changes in profits, rather than on absolute changes.

As a robustness check, we run all regressions on profit and revenues using levels instead of logarithms. Coefficients on all explanatory variables have the same sign but are estimated with less precision than in the log-levels specification, reflecting the improved model fit after logarithmic transformation.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Referenced Literature

Adenikinju, A. (2003): Electric infrastructure failures in Nigeria. A survey-based analysis of the costs and adjustment responses. In: *Energy Policy* 31 (14), pp. 1519–1530.

Akpan, U.; Essien, M.; Isihak, S. (2013): The impact of rural electrification on rural micro-enterprises in Niger Delta, Nigeria. In: *Energy for Sustainable Development* 17 (5), pp. 504–509.

Alby, P.; Dethier, J.-J.; Straub, S. (2013): Firms Operating under Electricity Constraints in Developing Countries. In: *The World Bank Economic Review* 27 (1), pp. 109–132.

Allcott, H.; Collard-Wexler, A.; O'Connell, S. (2014): How Do Electricity Shortages Affect Industry? Evidence from India. In: *NBER Working Paper* (19977).

Attigah, B., Rammelt, M., Mayer-Tasch, L. (2015): Increasing the Impact of Electrification Through the Promotion of Productive Uses. In: Hostettler, S.,; Gadgil, A., Hazboun, E. (eds.), "Sustainable Access to Energy in the Global South", Cham: Springer, pp. 33–47.

Barnes, D. (Hg.) (2007): The challenge of rural electrification. Strategies for developing countries. ebrary, Inc. 1st ed. Washington, DC, s.l.: Energy Sector Management Assistance Program.

Barrett, C.; Reardon, T.; Webb, P. (2001): Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. In: *Food Policy* 26 (4), S. 315–331.

Bensch, G.; Peters, J.; Schmidt, C. (2011): Impact Evaluation of Productive Use – An Implementation Guideline for Electrification Projects. Essen: Rheinisch-Westfälisches Institut für Wirtschaftsforschung (Ruhr Economic Papers).

Bensch, G.; Peters, J.; Schmidt, C. (2012): Impact evaluation of productive use – An Implementation Guideline for Electrification Projects. In: *Energy Policy* 40, pp. 186–195.

Cabraal, R. A.; Barnes, D.; Agarwal, S. (2005): Productive Use of Energy for Rural Development. In: *Annual Review of Environment and Resources* 30 (1), pp. 117–144.

Chaurey, A.; Ranganathan, M.; Mohanty, P. (2004): Electricity access for geographically disadvantaged rural communities –technology and policy insights. In: *Energy Policy* 32 (15), pp. 1693–1705.

Choudhary, D.; Pandit, B.; Kala, S. P.; Todaria, N. P.; Dasgupta, S.; Kollmair, M. (2014): Upgrading Bay Leaf Farmers in Value Chains – Strategies for Improving Livelihoods and Poverty Reduction from Udayapur District of Nepal. In: *Society & Natural Resources* 27 (10), pp. 1057–1073.

Cook, P. (2011): Infrastructure, rural electrification and development. In: *Energy Journal* 15 (3), pp. 304–313.

Dinkelman, T. (2011): The Effects of Rural Electrification on Employment: New Evidence from South Africa. In: *American Economic Review* 101 (7), pp. 3078–3108.

Eifert, B.; Gelb, A.; Ramachandran, V. (2008): The Cost of Doing Business in Africa. Evidence from Enterprise Survey Data. In: *World Development* 36 (9), pp. 1531–1546.

Energy Sector Management Assistance Program (2002): Rural Electrification and Development in the Philippines: Measuring the Social and Economic Benefits. Washington, D.C.: World Bank.

Fafchamps, M.; Shilpi, F. (2003): The spatial division of labour in Nepal. In: *Journal of Development Studies* 39 (6), pp. 23–66.

Gesellschaft für Internationale Zusammenarbeit (GIZ) (2013): Productive Use of Energy (PRODUSE). Measuring Impacts of Electrification on Small and Micro-Enterprises in Sub-Saharan Africa. Edited by Lucius Mayer-Tasch, Mohua Mukherjee and Kilian Reiche. Eschborn, Germany: GIZ.

Ghani, E.; Kerr, W.; O'Connell, S. (2011): Spatial Determinants of Entrepreneurship in India. In: *NBER Working Paper* (17514).

Ghimire, R.; Huang, W.; Shrestha, R. B. (2014): Factors Affecting Nonfarm Income Diversification among Rural Farm Households in Central Nepal. In: *International Journal of Agricultural Management and Development* 4 (2), pp. 123–132.

Gibson, J.; Olivia, S. (2010): The Effect of Infrastructure Access and Quality on Non-Farm Enterprises in Rural Indonesia. In: *World Development* 38 (5), pp. 717–726.

Goedhuys, M.; Sleuwaegen, L. (2010): High-growth entrepreneurial firms in Africa. A quantile regression approach. In: *Small Business Economics* 34 (1), pp. 31–51.

Grimm, M.; Hartwig, R.; Lay, J. (2013): Electricity Access and the Performance of Micro and Small Enterprises: Evidence from West Africa. In: *The European Journal of Development Research* 25 (5), pp. 815–829.

Grogan, L.; Sadanand, A. (2013): Rural Electrification and Employment in Poor Countries. Evidence from Nicaragua. In: *World Development* 43, pp. 252–265.

Haggblade, S. (Hg.) (2007): Transforming the rural nonfarm economy. Opportunities and threats in the developing world; a World Bank and International Food Policy Research Institute project. International Food Policy Research Institute. Baltimore, Md.: Johns Hopkins Univ. Press.

Haggblade, S.; Hazell, P.; Reardon, T. (2010): The Rural Non-farm Economy. Prospects for Growth and Poverty Reduction. In: *World Development* 38 (10), pp. 1429–1441.

International Energy Agency (2010): Comparative Study on Rural Electrification Policies in Emerging Economies. Keys to successful policies. Paris: OECD/IEA.

Isgut, A. (2004): Non-farm Income and Employment in Rural Honduras. Assessing the Role of Locational Factors. In: *Journal of Development Studies* 40 (3), pp. 59–86.

Isgut, D.; Hallward-Driemeier, M.; Mengistae, T. (2005): Investment Climate and Firm Performance in Developing Economies. In: *Economic Development and Cultural Change* 54 (1), pp. 1–31.

Kanagawa, M.; Nakata, T. (2008): Assessment of access to electricity and the socio-economic impacts in rural areas of developing countries. In: *Energy Policy* 36 (6), pp. 2016–2029.

Khandker, S.; Samad, H.; Ali, R.; Barnes, D. (2012a): Who benefits most from rural electrification? Evidence in India. In: *World Bank Policy Research Working Paper* (6095).

Khandker, S.; Barnes, D.; Samad, H. (2012b): The Welfare Impacts of Rural Electrification in Bangladesh. In: *Energy Journal* 33 (1), pp. 187–206.

Kirubi, C.; Jacobson, A.; Kammen, D.; Mills, A. (2009): Community-Based Electric Micro-Grids Can Contribute to Rural Development. Evidence from Kenya. In: *World Development* 37 (7), pp. 1208–1221.

Lanjouw, J.; Lanjouw, P. (2001): The rural non-farm sector: issues and evidence from developing countries. In: *Agricultural Economics* 26 (1), pp. 1–23.

Lipscomb, M.; Mobarak, M.; Barham, T. (2013): Development Effects of Electrification: Evidence from the Topographic Placement of Hydropower Plants in Brazil. In: *American Economic Journal: Applied Economics* 5 (2), pp. 200–231.

Mainali, B.; Silveira, S. (2011): Financing off-grid rural electrification. Country case Nepal. In: *Energy* 36 (4), pp. 2194–2201.

Morrison Paul, C.; Schwartz, A. (1996): State Infrastructure and Productive Performance. In: American Economic Review 86 (5), pp. 1095–1111.

NOUNI, M.; MULLICK, S.; KANDPAL, T. (2008): Providing electricity access to remote areas in India. An approach towards identifying potential areas for decentralized electricity supply. In: Renewable and Sustainable Energy Reviews 12 (5), pp. 1187–1220.

Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) (2002): Glossary of key terms in evaluation and results based management. Paris: OECD (Evaluation and aid effectiveness).

Peters, J.; Harsdorff, M.; Ziegler, F. (2009): Rural electrification: Accelerating impacts with complementary services. In: Energy for Sustainable Development 13 (1), pp. 38–42.

Peters, J.; Sievert, M. (2015): Impacts of Rural Electrification Revisited – The African Context. Essen: Rheinisch-Westfälisches Institut für Wirtschaftsforschung (Ruhr Economic Papers).

Peters, J.; Sievert, M. (2015): The provision of electricity to rural communities through Micro-Hydro Power in rural Indonesia. Essen: Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI: Materialien, 88).

Peters, J.; Sievert, M.; Strupat, C. (2013): Impacts of a Micro-Enterprise Clustering Programme on Firm Performance in Ghana. Essen: Rheinisch-Westfälisches Institut für Wirtschaftsforschung (Ruhr Economic Papers).

Peters, J.; Vance, C.; Harsdorff, M. (2011): Grid Extension in Rural Benin. Micro-Manufacturers and the Electrification Trap. In: World Development 39 (5), pp. 773–783.

Quatraro, F.; Vivarelli, M. (2015): Drivers of Entrepreneurship and Post-entry Performance of Newborn Firms in Developing Countries. In: The World Bank Research Observer 30 (2), pp. 277–305.

Rao, N. (2013): Does (better) electricity supply increase household enterprise income in India? In: *Energy Policy* 57, pp. 532–541.

Rao, N.; Agarwal, A.; Wood, D. (2016): Impacts of Small-Scale Electricity Systems. A Study of Rural Communities in India and Nepal. Washington, D.C.: World Resources Institute.

Reardon, T.; Stamoulis, K.; Pingali, P. (2007): Rural nonfarm employment in developing countries in an era of globalization. In: Agricultural Economics 37, pp. 173–183.

Reardon, T.; Taylor, E.; Stamoulis, K.; Lanjouw, P.; Balisacan, A. (2000): Effects of Non-Farm Employment on Rural Income Inequality in Developing Countries: An Investment Perspective. In: Journal of Agricultural Economics 51 (2), pp. 266–288.

Rijkers, B.; Söderbom, M.; Loening, J. (2010): A Rural–Urban Comparison of Manufacturing Enterprise Performance in Ethiopia. In: World Development 38 (9), pp. 1278–1296.

Rud, J. P. (2012): Electricity Provision and Industrial Development: Evidence from India. In: Journal of development economics 97, pp. 352–367.

Sustainable Energy for All (2014): Annual Report.

Szakonyi, D.; Urpelainen, J. (2015): Energy poverty among urban street vendors in India. Evidence from Patna, Bihar. In: Energy for Sustainable Development 24, pp. 44–49.

United Nations (2010): Energy for a Sustainable Future.

van de Walle, D.; Ravallion, M.; Mendiratta, V.; Koolwal, G. (2013): Long-Term Impacts of Household Electrification in Rural India. Washington, D.C.: World Bank (World Bank Policy Research Working Paper).

Winkler, H.; Simões, A. F.; La Rovere, E. L.; Alam, M.; Rahman, A.; Mwakasonda, S. (2011): Access and Affordability of Electricity in Developing Countries. In: World Development 39 (6), pp. 1037–1050.

World Bank (2008): The Welfare Impact of Rural Electrification: A Reassessment of the Costs and Benefits. An IEG Impact Evaluation. Washington, D.C.: World Bank.

World Bank (2015): Beyond Connections: Energy Access Redefined. Washington, D.C.: World Bank. (ESMAP Technical Report 008/15).

World Bank (2017): Sustainable Energy for All 2017 – Progress toward Sustainable Energy. Washington, D.C.: World Bank.

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