

# **Challenges of Gender, Power and Change in Solar Energy Interventions in Rural India**

Imagined Beneficiaries and the Makings of Women's Empowerment in the Village Electrification Project

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## Preface

I used to think that women should stay at home. Now I think that our community is clear in their mind that women can do everything. Women are more independent now . . . When we went to India, there were women from many countries; Gambia, Sierra Leone, Cameroon . . . Then I thought that girls can do anything and serve their country. To me this was a new thought. The girls were very young and good at learning . . . When I saw the other girls in Tilonia I saw that women and men are equal in this and that women have capabilities (Standal 2008, p.93).

This excerpt is from an interview I did with a man named Shukrullah, during my Master's study fieldwork in Afghanistan. Due to his appearance with full beard, wearing *taqiyah* and educated as Mullah for 14 years in a Pakistani Madrasa, he fit well into Western stereotypes of Afghan men. During our conversation he expressed astonishment and joy in recounting his experience of being trained as a Barefoot Solar Engineer (BSEs) with his sister at Barefoot College in India in relation to implementation of Solar Home Systems (SHS) in his community. The transformation of his perception of women's capabilities was shared by all the men and women interviewed in the study, where local women and men had been given a key role as BSEs. Women involved in the project also experienced positive effects on health, education and mobility as well as psychological empowerment from socialising within women's networks and interaction with their family and husband. Women were also slowly given space in community decision-making as new perceptions of women's abilities changed from being only informal and outside women's traditional base of knowledge, to formal acknowledgement of women's ability to provide services for their people, such as maintaining the solar energy equipment and in community decision-making. This was electricity's first arrival in the area, and its services were highly desired. Though the difference of context from rural Afghanistan to the rural communities in North India explored in this dissertation is large, the struggles for women in the communities are similar; lack of autonomy due to marginalising structures of poverty, patriarchy and lack of resources such as modern energy. The findings from Afghanistan document that a gender-sensitive approach that included women's training and control of the new technology had a distinctive effect on gender relations, expanding the perceptions of a woman's possible abilities and roles. Further, the findings from Afghanistan brought to light how much access to modern energy matter to women's lives and the importance of grasping how development interventions need to be implemented and carried out in a way that positively

affects women's strategic interests. This PhD dissertation builds on the on the question of how access to energy can contribute to gender equality and women's everyday life. What role does access to electricity play in such a process, and what role does the modes of intervention play? And how can women themselves meaningfully participate in such a process, ensuring that such interventions meet their needs and priorities? Over time, some of the findings from this PhD study has also been presented and published in other academic work (Standal, Winther and Danielsen in press; Winther et al. 2017; Standal 2016; Standal and Winther 2016) in an effort to produce relevant knowledge to answer these questions for the broader audience. Lately, these questions have also spurred my curiosity of electricity's impact on gender relations in other contexts in Central-Asia (Kim and Standal forthcoming) and Norway where electricity has been part of people's everyday life for a longer time

## Glossary of Selected Hindi Terms

Ahirwar	A person of the Ahirwar caste. Officially categorised as Scheduled Caste.
<i>Ashapura</i>	Place/village of hope.
Adivasi	Term denoting a person of tribal origin in India. Officially categorised by GoI as Scheduled Tribes (ST).
<i>Bahu</i>	Daughter-in-law. Commonly also used to refer to a wife. The plural used in this thesis is <i>bahus</i> derived from English plural.
<i>Bigha</i>	A traditional unit of measurement of area of land in several South Asian contexts. The size of a <i>bigha</i> varies from place to place, in the UP project sites one acre was approximately 1.7 <i>bighas</i> .
<i>Bindi</i>	A decorative mark worn in the the forehead by Hindu women.
Brahmin	A person of the highest priestly Hindu caste.
<i>Charpoy</i>	Traditional woven bed
<i>Chowkidar</i>	Guard or watchman
<i>Chula</i>	Traditional hearth/cookstove
Dalit	Term denoting a person of the lowest castes. Dalits were excluded from the Varna system of Hinduism and often referred to as untouchables. Officially categorised by GoI as Scheduled Castes (SC)
Dhanuk	Caste group traditionally occupied with midwifery.
Dhobi	Caste group or person traditionally occupied with washing.

Diwali	Hindu festival of light.
<i>Halwa</i>	Breakfast pudding or dessert pudding.
Holi	Hindu festival ‘of colour’.
<i>Jajmani</i>	Hereditary economic relationship that link service castes ( <i>jati</i> ) with landlords.
<i>Jati</i>	The Hindi term for caste. It implies birth into a social group, (historically) associated with an occupation.
<i>Jyotipur</i>	Place/village of light.
Kushwaha	A person of Kushwaha caste group, traditionally occupied in agriculture. Officially categorised as Other Backward Castes in UP.
<i>Kutcha</i>	Structure made of materials that have to be replaced frequently. Walls and roofs of <i>kutcha</i> houses are typically made of adobe, unburned bricks, loosed packed stone, grass or plastic.
<i>Mahajans</i>	Patrons in a patron-client relationship between Adivasis and <i>mahajans</i> in the Tasar silk market in the states Jharkhand and Bihar. Adivasis sell silk cocoons to <i>mahajans</i> and depend on <i>mahajans</i> for cash loans in times of emergency (Moulik and Purushotham 1983). Mahajan is also an Indian surname related to caste origin. Often denoted as merchant or moneylender.
<i>Mahila</i>	Woman.
<i>Pucca</i>	Structures made of permanent or durable materials, such as asphalted roads or houses where walls and roofs are made of concrete, cemented bricks, asbestos sheets and metal.

<i>Purdah</i>	Segregation of the sexes by physical segregation such as confinement to the home and/or requirement for women to cover their bodies in certain dress codes.
<i>Reshamgaon</i>	Silk village.
<i>Roti</i>	Round flat and soft unleavened bread.
<i>Sari</i>	Traditional women's dress in South Asia consisting of a length of cloth draped around the body.
<i>Sula</i>	Thread.
<i>Varna</i>	One of the four social groups that formed the structure for the earliest Hindu social organisation.





## Abbreviations

BPL	Below Poverty Line
CSPP	Community Solar Power Plant
CSR	Corporate Social Responsibility
FAG	Financial Advisory Group
GACC	Global Alliance for Clean Cookstoves
GAD	Gender and Development
GoI	Government of India
IEA	International Energy Agency
IREDA	Indian Renewable Energy Development Agency
MDG	Millennium Development Goal
MFA	Norwegian Ministry for Foreign Affairs
MNRE	Ministry of New and Renewable Energy in India
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
Norad	Norwegian Agency for Development Cooperation
NRHM	National Rural Health Mission
NTNU	Norwegian University of Science and Technology
OBC	Other Backward Castes
SC	Scheduled Castes, also known as Dalits
SDG	Sustainable Development Goal
SE4ALL	Sustainable Energy for All Initiative
ST	Scheduled Tribes, also known as Adivasi

VEC	Village Energy Committee
VO	Village operator
PPP	Public-Private Partnership
PPPP	Public-Private People Partnership
PV	Photovoltaic (technology for converting solar energy into electricity)
UP	Uttar Pradesh
WED	Women, Environment and Development
WiD	Women in development
WEO	World Energy Outlook

# 1. Introduction

Electricity is perhaps the most necessary and the most revolutionary thing which you can take into the rural areas. The moment you take electricity, all kind of things begin to move. Petty industries grow up, agriculture is affected; everything is in fact affected. The whole life of people is changed (Jawaharlal Nehru, in Kale, 2014 p.1).

One of post-independence India's grand projects was the electrification of the country (Kale 2014). As the quote starting this thesis shows, India's first Prime Minister Jawaharlal Nehru envisaged electrification as a transformative process of both national unification and modernisation. This grand project was envisioned as more than merely national industrialisation or modernity for the urban elite, but also encompassed providing electricity to rural villages (Nehru, in Kale, 2014 p.1). Despite Nehru's ambitions, India's electrification has not, until recent years, significantly extended to rural areas. Nehru's vision of electrifying India has been revitalised in rural areas through different national schemes such as the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) scheme 2005, the Remote Village Electrification Programme (RVE) 2011, and the Jawaharlal Nehru National Solar Mission 2010. These schemes are dedicated to bridging the rural-urban energy poverty divide, and in terms of numbers, the effects of these schemes are visible as Indian villages are being electrified at a rapid rate. To reach also the small and isolated villages, India has seen a rise in decentralised energy systems of different kinds such as biowaste and renewables (Mohan and Topp 2018). This means that many rural communities in contemporary India are only now gaining electricity for the first time, an experience that differs considerably depending on the type of intervention, technology and contextual community factors.

Nehru's vision of changing 'the whole life of people' prompts the question of who are the people? India is greatly diversified in terms of religion, class, caste and gender, which also defines people's access to resources. Despite India's recent strides in delivering electricity to rural areas, efforts to provide access to electricity for 'the people' have been less successful, as many households remain unelectrified even when the village has electricity. There is also a need to see 'the people' beyond the household unit, as uneven power relations within families, frequently framed by gender or age, also determine access to and benefits from resources. As has been noted within development research for decades, the different socially constructed roles

of men and women in society mean that they often have different, and at times conflicting, needs (Moser 1989, p. 1800). This research study responds to concerns raised about the lack of progress on empirically based knowledge about women's agency and empowerment in the global South (Hanmer and Klugman 2016) and aims to analyse the impact of electricity access provided through a development intervention from the standpoint of the women 'beneficiaries', with a focus on their everyday realities and lived experiences. India's recent embracement of solar energy, exemplified in the National Solar Mission, can be seen as a new phase in India's history of energy development. Contemporary energy policy debates in India concern two distinct narratives: Energy development, which is seen as critical to economic growth; and energy for all, which prioritises basic development and poverty eradication. These narratives share a common goal of increasing renewable energy sources, but the first focuses primarily on coal and centralised management, while the latter privileges a decentralised energy future with more civil society and private actors in the off-grid sector (Mohan and Topp 2018, pp. 77-78)

India's recent ambition to extend electricity access to rural areas in an effort to provide basic development and poverty eradication includes a strategic partnership between Norway and India on solar energy for development in the off-grid sector.<sup>1</sup> In early 2009, the private Norwegian company Scatec Solar ASA, solar electrified, at its own expense, two villages in rural Uttar Pradesh (UP), India. Scatec solar had previously worked with solar power plants in the global South, but this was their first attempt at entering into the markets of decentralised solar systems and India. The solar electrification of the villages in UP became the foundation stone for the extended Village Electrification Project, which was carried out from 2011 as a Public Private People partnership<sup>2</sup> (PPP) between Scatec Solar, the Norwegian Agency for Development Cooperation (Norad), the Indian Ministry of New and Renewable Energy (MNRE) and the Indian Renewable Energy Development Agency (IREDA). The Village Electrification Project aimed to electrify 30 villages in four states in India, and was set out on the same premises of expectations as originally phrased by Nehru. It was to be a wonder tale of

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<sup>1</sup> The Norwegian royal embassy in Delhi facilitated research- and development collaboration on renewable energy between the Indian Energy and Resources Institute (TERI), the Norwegian private corporation Scatec Solar ASA and the Indian government, in line with the Norwegian government's focus in the Norwegian Indian Strategy (2009). For more information: [https://www.regjeringen.no/globalassets/upload/UD/Vedlegg/Utvikling/Indiastategi\\_Norsk\\_engelsk\\_endelig.pdf](https://www.regjeringen.no/globalassets/upload/UD/Vedlegg/Utvikling/Indiastategi_Norsk_engelsk_endelig.pdf). Downloaded 15.01.2015

<sup>2</sup> The term PPPP and integration of 'people' will be discussed in Ch. 4 and 10. I employ the conventional term PPP while referring to the partnership in order to avoid confusion.

how solar electrification would, in Scatec Solar's own words, lead to; 'poverty alleviation and mitigation of climate change', as well as providing Scatec Solar with an entry into the rural solar market in India (Inception report undated, p. 3). In addition, the Village Electrification Project had women's empowerment as a stated focus. Women were considered to be important end-users who would benefit especially from solar electricity due to their close ties with the home (Appropriation Document 2008, p.5). The company thus pledged to ensure women's participation in decision-making concerning the ownership and running of the solar infrastructure at village levels (Completion Report, p.25). The Village Electrification was also part of Norway's Clean Energy Initiative (2007-2015), which had gender as an explicit focus (Norad Results report 2017, p. 140).

The objective of this dissertation is to explore how the distribution of solar energy in the form of a PPP for rural electrification in India has brought changes to the everyday lives of 'the people' with an emphasis on the project's effects on gender relations and women's lives. For this purpose this thesis investigates the case of the Village Electrification Project and its implementation of Community Solar Power Plants (CSPP)s in local communities in Uttar Pradesh (UP) and Jharkhand. In seeking to understand the project's effects on women's lives and gender relations, the thesis focuses on spatial framings and norms attributed to 'women,'<sup>3</sup> in line with Moore's conceptualisation of the category of woman as spatially and historically constituted (Moore 1988, p 12). Particular emphasis is placed on the nexus between rural electrification, the spatial economy of women's work, women's access to decision-making and social reproduction. This thesis views efforts at rural electrification as more than merely a question of implementing technology with certain functions, but as a social process involving different human struggles or as Nye phrases it; 'someone makes it, someone owns it, some oppose it, many use it, and all interpret it' (Nye 1991, p ix). The overall guiding objective of the thesis is to understand in what ways the implementation of the Village Electrification Project, and its underlying aims of empowering local men and women beneficiaries through enhanced access to energy, has made a difference for women's lives in the local communities. As will be discussed later, empowerment is here understood in various ways, from making

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<sup>3</sup> The terms women and woman are not meant to signify a homogenous harmonic group of individuals with mutual interests. As will be discussed throughout the analysis the intersections of (women's) individual position within family and community such as age, class, caste and religion, and not least geographical location influence their agency, experiences and priorities.

everyday life easier by enhancing access to resources, to gaining the ability to actively challenge discriminating gender relations.

This thesis is a multi-layered study of how the implementation of a socio-technical system influences gender relations and women's empowerment. In the foreground, the Village Electrification Project is a story of how the arrival of electricity redefines rural villages on both community and household levels as electrification changes everyday life and history (Nye 1991). However, this study is also a parallel story of how Norwegian commercial and development investment concerning the idea of rural electrification in India went from boisterous optimism to abandonment, after the Village Electrification Project began to face economic and maintenance challenges. These intersecting stories each in their own way affect women and gender relations 'on the ground' in the local communities, but also the incorporation (or lack thereof) of gender perspectives into the Village Electrification Project and the efficacy of public-private partnerships. The study thus shifts focus between different locations and levels of analysis, such as the village sites in India and Oslo (the PPP's administrative centre), in what George Marcus (1995, p. 106) refers to as a way to 'follow the thing', meaning a mode of 'constructing a multi-sited space of research', by tracing 'the circulation through different contexts of a manifestly material object of study (at least as initially conceived)'. In this case 'the thing' is the implementation of Scatec Solar's CSPPs for rural electrification. The 'thing' also corresponds closely with the 'idea' of electrification as it is produced in a Western context and implemented in communities and homes in India. This research therefore contributes to knowledge of how electrification and development projects in the form of PPPs materialise in people's everyday lives in the investigated local communities. Due to the economic and maintenance challenges of the Village Electrification Project, it is also a story of failed development that touches upon what happens when electricity that has been introduced is gradually taken away from communities.

## **Rural Solar Electrification in the Globalised Political Economy**

This study aims to generate knowledge that can address the interrelated and global problems of energy poverty and the need to move towards a low carbon economy. It does so by drawing on key contemporary debates concerning inequality (in relation to gender, class and caste), development cooperation, climate change and the rise of non-fossil energy technologies, and

focusing on selected research sites within rural solar electrification schemes in India. What can we learn from studying processes of rural electrification in India? And which analytical lenses will produce relevant knowledge? Energy production and energy use are vital to the reproduction of the global economy and in sustaining the different ideologies and values that uphold the global political economy. A geographical<sup>4</sup> and political economy perspective on energy provides a lens for exploring how the economic dimensions of energy production and consumption are embedded dynamics within historical and contemporary processes such as imperialism, capitalism, development, and global climate change policies. A feminist approach to understanding the political economy provides a lens for understanding the globally embedded dynamics of local energy access and use and for understanding how efforts at rural electrification may affect local patterns and processes of social differentiation related to gender, class, caste and ideology and influence the way in which local women may act to transform their subordinated position in the encounter with the Village Electrification Project. India is a highly relevant area of study concerning energy and feminist political economy: Firstly it is important in terms of numbers. India will in all likelihood soon be the world's most populous country. Increasing energy consumption, which is largely driven by India's economic liberalisation since the early 1990s, has wide ranging consequences; secondly, India is characterised by deep social and economic inequalities that illustrate the challenges inherent in efforts aimed at providing environmentally friendly and socially just energy politics and economic redistribution.

Despite its fundamental role in economic production and political economy, energy is frequently perceived as a neutral technology (Standal, Winther and Danielsen, in press). However, energy production and consumption are part of social, cultural and political processes and behaviours that are constituted by space and place, and that produce and reproduce social differentiation through practices that may be considered or labelled as 'masculine' or 'feminine', 'skilled' or 'unskilled', and so on (Wajman 1991). As will be discussed throughout this thesis, women's relation to and ownership of energy is different to men's and linked with the gendered spatial domains associated with private/public, inside/outside, home/market, and unskilled/skilled activities. Within such domains, women and men have had and continue to have distinctive activities and responsibilities which have led women's work (and hence their

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<sup>4</sup> Focus on energy within the disciplines of physical and human geography is not a new phenomenon, but has undergone notable awakening and change as energy debates are at the forefront of paramount societal challenges and transformations in today's world, such as climate change, energy security and development. Geographies of energy draw on several disciplines, such as anthropology or science and technology studies, but put forth geographical knowledge as key to understand contemporary global and local energy dilemmas (Zimmer 2011).

social status) to be undervalued both within patriarchy and capitalism (Raju 2011; Moore 1988). To capture an analytical understanding of the gendered forms of power in these processes, this study applies a feminist political economy as the basis for its theoretical framework. Political economy is an approach to understanding social relations from a materialist perspective and points to how production, political institutions, ideologies and economic systems play out in the globalised world economy.<sup>5</sup> Energy plays a fundamental role in the globalised economy, both in terms of providing input for production and trade, and enabling economic growth on macro and micro levels, but also through its salience in international relations as a means of providing nations and international institutions with power and leverage within global political arenas. Energy is thus political, and energy affects the work division and subsequent social differentiation of women and men in all contexts (Standal, Winther and Danielsen, in press). A political economy perspective on rural electrification provides an analytical framework that allows for exploring and better understanding the linkages between ideas, processes and actors operating at different scales, from the political economic ideology of private sector-led development, such as the MNRE, Norad and Scatec Solar, to the political economy of the rural communities within the Village Electrification Project that is investigated in the thesis.

This PhD study is situated within the strand of feminist political economy scholarship that applies gender as an analytical ‘governing’ idea (Peterson 2005, p. 502). This provides a theoretical grounding to explore how ideas of femininity and masculinity, as well as how other intersecting identities of class and caste are favoured culturally and materially in society. Feminist political economy’s focus on such hierarchies of privileges and how they are challenged, produced and reproduced is highly relevant to analyse how the Village Electrification Project has affected the women ‘beneficiaries’ and assess to what extent and how women and men can benefit and engage in social change that undermines discrimination and marginalisation.

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<sup>5</sup> The breadth and history of political economy and new political economy is beyond the scope of this thesis. Its beginning as economic moral philosophy in 18<sup>th</sup> and 19<sup>th</sup> century is often attributed to scholars like Adam Smith, Thomas Malthus and David Ricardo. Political economy evolved through close interaction with mathematics developing the ideas of rational choice and *homo economicus*. Later the field has integrated perspective of international affairs, within the field of international political economy and new political economy (e.g. Keohane, Robert O. 2009. “The old IPE and the new”, in *Review of International Political Economy*, 16(1):34-46; and Ferber, M.A and Nelson, J.A (eds). 2004. *Beyond Economic Man: Feminist Theories and Economics*. Chicago: Chicago University Press).



## Energy Interventions and Gender Relations: Filling the Knowledge Gaps

The revitalisation of Nehru's vision of rural electrification comes with an international backdrop of an increasing focus on people's access to modern energy as a premise for development. This focus has spurred large-scale global initiatives such as Sustainable Energy for All (SE4All) and the formation of a separate Sustainable Development Goal on 'Affordable and Clean Energy' (SDG#7). Despite an alarming increase in energy consumption in the world, energy poverty persists: about 1.1 billion people lack electricity and 2.8 billion use traditional fuels for cooking.<sup>6</sup> The number of people lacking modern energy is concentrated in the global South,<sup>7</sup> which reveals the great economic inequalities in the world. In few countries the inequalities are starker than in India, where a startling 239 million people are without access to electricity, and 834 million lack facilities for cooking with modern energy sources.<sup>8</sup> Though the number of communities lacking electricity has been on the decline, the number of people depending on traditional biomass fuels such as firewood or animal dung for cooking has been on the rise due to India's population increase (Balachandra 2011, p. 5556).

The consequences of inadequate access to modern energy are devastating. On a global scale, the use of traditional fuels for heating and cooking take about 4,3 million lives annually through indoor air pollution.<sup>9</sup> Further, lack of electricity and light has negative effects on education and income-generating opportunities (Clancy et al. 2011). Kerosene lanterns are commonly used in conjunction with homework or making handicrafts and the toxic particles, soot and odour they emit limit the time spent on income and educational activities. Research has also shown a positive impact of electrification and children's (especially girls) education due to reallocation of their home duties from daytime to the evenings when electricity is available (Winther et al. 2017, p. 400). In most communities in India (and global South in

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<sup>6</sup>The numbers are the official statistics used by the International Energy Agency (IEA) that are based on the 2017 databases of the World Energy Outlook WEO: <https://www.iea.org/energyaccess/database/>. Downloaded 28.02.2018

<sup>7</sup> The term global South is here meant to encompass countries with interconnected histories of colonialism, neo-imperialism and maintaining inequalities in living standards, life expectancy, and access to resources. Such countries have previously been referred to as 'developing' or 'Third world'. The term global South is however, meant to assert a global positioning of such countries in terms of political geography: 'Forging a Global South, has played an important part in drawing attention to the concept, as has interactivity among societies of the South in pursuing their own developmental agenda' (Dirlik 2007).

<sup>8</sup> <https://www.iea.org/energyaccess/database/>. Downloaded 28.02.2018

<sup>9</sup> WHO fact sheet N°292. Downloaded 15.01.2015

general) procurement and use of energy is most often women's responsibility (Standal and Winther 2016, p. 29). Finding fuelwood is a heavy work burden for women and often children, and women's reproductive role of childbearing and childcare make them prone to additional health problems from the heavy carrying and indoor air pollution (Akbar et al. 2011; Matinga 2010; Pope et al. 2010). Indoor air pollution has the strongest effects on women and small children, since they are the ones spending time in the kitchen. Lack of energy may also lead to environmental degradation if plant and tree cover diminish because of overuse. This is especially acute in the context of rapid population increase. Women all over the world also put themselves at risk of injuries, animal attacks and sexual violence when walking long distances to find fuelwood (ibid.).

As shown above, lack of modern energy reveals not only inequalities between the global North and South, but also gender inequalities as the absence of modern energy technologies affects women and men differently. The issues of energy and gender have separately been given much importance for development, and there has been rising attention to the relation between gender and energy in institutions such as, ENERGIA, ESMAP and the World Bank. These institutions have advocated for the integration of gender and energy in development cooperation on the basis of reducing women's labour and increasing women's empowerment and economic productivity. However, there has only recently been an emerging scholarship on the gender-energy-development nexus, and most studies, and the field has been dominated by scholars from engineering or economics (Listo 2018, p. 9) and there is a predominance of grey literature initiated by NGOs or policymakers that focuses on women's uses of electricity and the immediate effect of such changes (Haves 2012, p. 2). To date, only a few published studies have looked into energy in relation to gender roles and power relations (Clancy et al. 2011, p. 12), such as critical discourse analysis of the (gendered) politics of energy (e.g. Listo 2018; Marshall, Ockwell and Byrne 2017; Abdelnour 2015; Crewe 1997).<sup>10</sup> One area that requires more attention and new research approaches concerns gender relations and qualitative research into how electrification not only produces gendered outcomes, but affects and is affected by gender relations:

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<sup>10</sup> The lack of independent research concerning the gender-energy-development nexus has been a problem for both policy makers and institutions. The question of energy and women was not brought up in the WDR 2012 on Gender Equality because they simply lacked the data (personal communication Ana Revenga). Similarly, the energy and gender nexus network ENERGIA has made strong appeals for the research community to provide more research into these topics.

...while there is substantial evidence on electricity's positive impact on women's welfare, little is known about electricity's impact on gender relations. Furthermore, many studies document whether or not electrification had a positive effect on women (and men) – and the magnitude of the effect – without accounting for how and why electricity resulted in a given set of gendered outcomes. By ignoring these relational and explanatory aspects, the majority of studies do not explain what it would take to ensure and strengthen women's empowerment through electrification, and thus have limited value to policymaker (Winther et al. 2017, p. 390).

Politically, gender and energy have primarily been understood as unrelated issues as technology is perceived as neutral (Kaminara 2015; Clancy and Roehr 2003), but it has been politicised within development policy through discourses and agendas focused on addressing women's drudgery and women's empowerment (Standal, Winther and Danielsen in press). The 'drudgery agenda', which has been one of the most visible representations of concerns connected to women and energy, points to the need for immediate action to relieve women's burden from lack of modern energy, and is often related to other development priorities such as health or deforestation. In contrast, the 'empowerment agenda' has been promoted as 'win-win' solution to increase women's access to modern energy, provide new income opportunities, boost gender equality and contribute to economic growth within families and communities. This focus is similar to earlier presentations of Women in Development (WiD) thinking (e.g. Boserup 1970) and communicates a very instrumental understanding of gender equality. Women are promoted as 'missing links' to (energy) development and game-changers who have inherent qualities that can translate access to modern energy into economic productivity and well-being for their families: 'This role goes beyond women just being the users of energy services, but as change agents in the energy sector: in selling, maintaining and financing energy products and services'.<sup>11</sup> These representations produce donor-driven potent 'fairy tales' of women as the deserving and 'value for money' recipient of development efforts (Cornwall, Harrison and Whitehead 2007).

In terms of how access to and use of energy impacts women, there are some cross-cutting findings from academic and grey literature on the subject. The most common first use

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<sup>11</sup> Editorial: Boiling Point Issue 66: Women, Energy and Economic Empowerment: [http://www.esmap.org/sites/esmap.org/files/DocumentLibrary/GENDERWomen%20Energy%20and%20Economic%20Empowerment\\_0.pdf](http://www.esmap.org/sites/esmap.org/files/DocumentLibrary/GENDERWomen%20Energy%20and%20Economic%20Empowerment_0.pdf). Downloaded 15.01.16

of electricity is for electric light. Some studies report that this extends the day for the beneficiaries (Standal 2008; Cecelski et al. 2005<sup>12</sup>). If not subsidised, kerosene can be expensive, and due to Kerosene's smell and soot, electric light could be used for a longer time in the evenings (Standal and Winther 2016). It is a well-acknowledged fact that rural women in the South are often pressed for time in managing their daily activities of childcare, household and agricultural responsibilities (Standal 2008; Matinga 2005).

Electric light has also been coupled with increasing livelihood activities such as more time for doing handicrafts or other small-scale income-generating activities. A study from Bangladesh showed that 11.2% of women in households with electricity were involved in income-generating activities compared to 5.6% of women in un-electrified households (Barkat 2002). Informants from my previous research from Afghanistan (Standal 2008 p. 62) stated that the income in many families had doubled as a result of children being able to do more carpet weaving after the implementation of electric light. However, other studies find that electricity does not necessarily translate into higher or new economic productivity (Winther et al. 2017, p. 401; Standal and Winther 2016, p. 38). Women's engagement in livelihood activities differs widely in different contexts and framed by activities and norms prior to electrification, as well as the approach of energy intervention. Further, some findings suggest that the extended time can be a mixed blessing. In Afghanistan, having light available meant that women could also spend nights for doing their chores avoiding 'angry' husbands, and they also felt the pressure of maintaining a modern home (Standal 2008, p. 85). Some studies have, however, found that women with access to electricity spend significantly less time performing household chores such as fuel collection compared to households without electricity (Khandker et al. 2014; Grogan and Sadanand 2013). As the mixed results illustrate, there is a need to gain more knowledge in different contexts and to understand the underlying structures that influence women's benefits from electrification.

Electricity and light have also been coupled with improvement in children's, and especially girls', education (Winther et al. 2017, p.). A study in Bangladesh serves as a useful illustration; the findings indicated that among land-rich families, electricity access increased the length of girl's enrolment in school by 20% and boys' by 16% (Khandker et al. 2009, p. 37). Among children from land-poor families, electricity had a lower impact but nevertheless led to 19% increase in length of school enrolment for girls and 13% for boys (ibid.. p. 22, 37).

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<sup>12</sup> [https://www.ashden.org/files/pdfs/reports/Ashden\\_Gender\\_Report.pdf](https://www.ashden.org/files/pdfs/reports/Ashden_Gender_Report.pdf). Downloaded 15.01.2015

Hence, poor girls gained almost as much as rich girls, while the result for boys was less for both economic groups. My own research from Afghanistan showed that electric light in the home led to a flexibility for girls to do chores in the home in the evening and go to school in the daytime compared to earlier. But this did not always materialise as other concerns such as lack of women teachers or long walking distance to school also mattered greatly (Standal 2008, p. 67).

Several studies also point to the relation between energy, gender and health problems. Especially within the field of medicine, studies have found evidence on indoor air pollution causing child pneumonia, lung cancer, chronic pulmonary problems and low birth weight (Akbar et al. 2011, Ezzati and Kammen 2002). In addition health problems from carrying heavy loads of wood for heating and cooking have been documented (Matinga et al. 2013, Parikh 2011, Kelkar 1997). Women's responsibilities for biomass wood collection are implicated in spinal injuries, pregnancy complications, premature births (Matinga 2010, p. 33; Pope et al. 2010; 71), as well as headaches, backaches and attacks from snakes and wild animals (Parikh 2011, p.7592). A study by Matinga, Annegarn and Clancy (2013, p 196) illustrates how wood collection has become such a part of *habitus* that the dangerous health effects are ignored by both women themselves and health workers, as expressed by one of their informants:

We simply wouldn't think about it that way because... like... that information is not there in our training. They [nurses] would treat the patient; they wouldn't send her away, but they would just say 'It's backache' and give *amapainkillers* [pain killers] and *irubbing* stuff. People, even nurses, are simply not aware.

A number of reports and studies also point to how women's energy responsibilities prevent them from engaging in other important activities. Matinga's (2005) review of empirical evidence on the linkages between gender, energy and child mortality found that the time-constraints women in rural settings face directly reduce mothers' abilities to care for their children. Women are forced to use coping strategies such as carrying small children on their back when collecting fuel and water, putting even more strain on their health and consequently putting themselves and children at risk. Often small children are also left at home under supervision of other children, which increase the exposure to accidents and injuries. In addition, women's time shortage reduces frequency and quality of feeding of children, compromising their health (Holmboe-Ottesen 1996, in Matinga 2005, p. 33-35).

Though often not linked to the larger issue of gender and access to modern energy, telecommunications and associated media have impact on gender relations. Some studies have shown that access to media can change perceptions about the role of women in society and increase consciousness of gender issues and women's rights (La Ferrara et al. 2012; Jensen and Oster 2009; Standal 2008; Barkat et al., 2002). Jensen and Oster (2009) and Barkat et al.'s (2002) studies of the impact of television in rural India and Bangladesh, found that it tended to encourage lower son preference, more self-determination, less acceptance of domestic violence, as well as decreased tendencies to arrange marriages for their children, and suffer wage discrimination. Especially, cable television offers a wider spectrum of programs such as soap operas. Indian soaps like *Kyonki saas bhi kabhi bahu thi* (Because a mother-in-law was once a daughter-in-law too), which depict family relations and women's issues have been popular (Jensen and Oster 2009, p.1062). Often the soaps depict families in urban areas with higher income, where women have higher education than in rural areas, and where women often have employment and personal income. My previous research (Standal 2008, p 59) showed that access to radio and television allowed rural women in Afghanistan an opportunity to get information about women's rights from Iran, where women have better access to health services, education and employment opportunities. This provided the women an opportunity to claim their own rights under an accepted Muslim discourse on women's role in society.

Tenhunen (2009) has looked into the impact of the diffusion of mobile phones, Smartphones and the Internet on gender relations in rural West-Bengal. Ownership and diffusion of mobile phones had a slower uptake for women than men; however, access to mobile phones increased young married women's security networks as phones allowed them better contact with their natal family: 'Just a decade ago, women could face food scarcity or suffer mistreatment in their husbands house for years before the news would reach their parents' (Tenhunen 2009, p. 42). Still, the social dynamics of gender relations can also limit the effects of women's benefits from access to mobile phones both financially and socially. Research from urban Uganda and India showed that women's access to and use of mobile phones enabled some of the women to advance economically, but because they felt men consequently withdrew from their financial responsibilities and obligations, and the society directing its pity at these successful women, 'they end up paying for it as "they end up doing it all"'. Further, the study found that women's use of mobile phones were contingent on men's approval (Masika and Bailur 2015, p.54).

Several studies explore the digital divide in society in terms of access to both hardware (mobile phones, computers) and software (applications and websites) and the skills required to use Information Communication Technology (ICT) tools. The digital divide is also characterised by unequal opportunity for ICT use between men and women in social, political, economic, and cultural domains (Younghoon, et al. 2012 Rababah & Abu-Shanab 2011). These studies point to the fact that men are first and primary users of ICT, often caused by how stereotypes of men and women are formed, principally connecting technology to men's domain (Cooper 2006).

A few studies have also focused on the effect of women's participation and inclusion in energy interventions. Building on the data from this PhD study, Standal and Winther (2016) compare the inclusion and participation of women in the earlier mentioned Afghan project, where women were trained to operate and repair Solar Home Systems (SHS), with the Village Electrification Project (of this study) in India, where women had no such roles. The findings indicate how inclusion of women in the 'technological domain' changes the cultural category of women by changing the perceptions of women's capabilities and authoritative knowledge (Standal and Winther 2016). However, most electrification projects with targeted inclusion of women are donor influenced and it is uncertain how durable any changes in gender perceptions might be, particularly whether they endure after donors leave the project (Winther et al. 2017, p. 406).

This study intends to contribute to understandings of how rural electrification developments can affect change in women's lives in the local communities, by focusing attention on the 'makings' of empowerment from the Village Electrification Project. This kind of knowledge would be useful not only in answering the question of whether electrification empowers women or not, but the way in which women experience the intersection of gender, religion, class, caste and (development or economic) ideology in their encounter with an electrification project and given that encounter, in exploring the way in which women have acted or potentially could act to transform their subordinated position.

Access to modern energy can have a great effect on the transformation of rural communities and families in a globalising world. With access to electricity, households' consumption patterns change and they are to a greater extent connected to the outside world through media and social networks with mobile phones, television and radios. The digital divide is also decreasing as more and more people have Internet access via their mobile phones. Still,

these developments are not equally distributed or happening in a predetermined fashion (as assumed in perspectives of technological determinism), therefore site- and context-specific knowledge is needed to understand the effects of this transformation. In this context a gender focus needs particular attention as this is often neglected, because concepts such as technology, households, families and communities are taken as neutral and uncomplicated entities, disregarding the power relations associated to them.

This research also pertains to provision and access to modern energy in the context of a growing trend in development, where private market actors are integrated in development cooperation in liaison with development institutions. There has been a notable emerging optimism for merging development cooperation with the private sector in order to provide 'smarter and more efficient aid'. This trend has been increasingly present in Norwegian development with the intention of providing a lasting and economically viable building of energy provision that goes beyond aid.<sup>13</sup> The Village Electrification Project is an example of this trend where private companies, like Scatec Solar, comes in with both technical expertise and a vision of serving unstable markets in the global South by turning development into a lasting business. Most research on PPPs and development have been concentrated around Corporate Social Responsibility, where aspects of gender, class and race perspectives are conspicuously absent from debates and initiatives (Prieto-Carrón et al. 2006), or the focus has tended not to go beyond analysis of economic potential before venturing into new markets. There are few studies looking into how PPPs impact the focus on gender and inclusion of women in development projects delivering energy services, but there has been noted that gender has been poorly addressed within PPPs for health, despite that gender is an important determinant of health (Hawkes et al. 2017). This research study aims to contribute knowledge concerning how electricity distributed through private sector-led development impact on gender focus and inclusion of women, by exploring how gender is understood and produced in the Village Electrification Project

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<sup>13</sup> <https://www.regjeringen.no/en/dokumenter/meld.-st.-35-20142015/id2423253/> and <https://www.riksrevisjonen.no/rapporter/Documents/2013-2014/BistandTilRenEnergi.pdf>



## Research Questions and Sites

This research aims to bridge the knowledge gap concerning how rural electrification distributed through a PPP, can make a difference in women's lives and contribute to the transformation of unequal gender relations in local communities. This study investigates the Village Electrification Project from the standpoint of the local women, using a 'gender lens', to critically explore and bring to focus how women's position and participation in society are framed by hegemonies of masculinity where political, social, and economic relations and institutions are structured around gender inequality. The thesis is concerned with understanding, firstly, the ways in which women experience the intersection of gender, class, caste, religion and ideology (e.g. expressed through, ideology, religion, development policy, and state priorities) in their encounter with the Village Electrification Project. Second, given that encounter, the thesis explores the ways in which women have acted or potentially could act to transform their subordinated position. Drawing on three project sites in Uttar Pradesh (UP) and Jharkhand in India, which have implemented CSPPs initiated by Scatec Solar and the PPP, this study addresses the following research question: *In what ways has the implementation of the Village Electrification Project, and the projects' use of empowerment as a stated focus, made a difference in women's lives in the local communities?* The 'difference' that is explored relates to women's position within the political economy of their communities, as well as the global world. This interlinks with central issues of feminist political economy concerning how gender and women's position in society are produced and reproduced through a gendered geography (e.g. public/masculine and private/feminine) that frames women's work, social reproduction and women's access to decision-making. These three interrelated areas form cross-cutting analytical concepts that are used as an analytical framework in this study, as they are relevant to unpacking how women's position within political economy is also constituted by everyday access to, use and ownership of energy resources. This research question opens up for a critical reflection, based on women and men beneficiaries' experiences, on what is being done in the name of 'empowerment', through the implementation of the Village Electrification Project. The stated focus of empowerment in the Village Electrification Project focuses on the provision of energy, and includes the commitment (or lack thereof) of Scatec Solar, Norad and GoI to provide electricity for women and men, and their efforts to involve women in the process and ownership of the project and the CSPP infrastructure.

To answer the overarching research question, a series of underlying questions concerning the effects of the Village Electrification Project is addressed: i) How have women been included in the engagement and ownership of the electrification process in UP and Jharkhand?; ii) What role does technology play in this process?; iii) Has household electrification in UP and income-generation in Jharkhand resulted in consumption that enables women with new resources and agency?; iv) What has happened to gendered divisions of labour?; v) Has increased income generation in Jharkhand materialised in greater autonomy and control? vi) Has the Village Electrification Project enabled women in the local communities to challenge gender discriminatory institutions and structures?; vii) How is the concepts of gender and women's empowerment understood and produced in the merger of private business interests and development institutions in the Village Electrification Project?; viii) How has the merging of private business interests and state development institutions in the Village Electrification Project, and the subsequent distribution of power, ownership and responsibilities, affected the implementation of empowerment as a stated focus?; ix) Is there a link between the demise of the Village Electrification Project and how gender was incorporated in the project activities?<sup>14</sup> By drawing on analytical frameworks of feminist political economy and theoretical debates of empowerment, this thesis investigates how the category of woman is understood in family and community relations and draws connections from the women's standpoints and their experiences, to the spaces of development policy and discourses concerning rural electrification.

The project sites of this study are presented in detail in Table 1, below. The village Jyotipur (UP) was part of Scatec Solar's independent and preliminary project, while Ashapura (UP) and Reshamgaon (Jharkhand) were targeted within the PPP's Village Electrification Project. As Jyotipur was conceived as part of the Village Electrification Project's learning case, and followed the same model of rural electrification, this preliminary project is considered as part of the Village Electrification Project for the purpose of this study.

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<sup>14</sup> These sub-questions are expanded and detailed in the introduction of each analysis chapter (Ch.6-9).

**Table 1: Research sites**

<b>Village</b>	<b>Purpose</b>	<b>Project</b>	<b>Responsibility</b>	<b>Location</b>
Jyotipur	Household electrification	Preliminary project	Scatec Solar AS	UP
Ashapura	Household electrification	Village Electrification Project	PPP	UP
Reshamgaon	Solar-powered silk-reeling machines	Village Electrification Project	PPP	Jharkhand

\* Names are fictional to preserve informants anonymity

The aim of the CSPP in Jyotipur and Ashapura was to provide households with electricity for light, radios, television, mobile charging and computers. In addition the CSPP were used to provide electricity for street lights and local schools to improve children's education, and were (initially) intended to provide power to agricultural machines in order to provide income opportunities. In Reshamgaon, the CSPP was set up to provide electricity for silk-reeling machines in village-based reeling centres. The centres are used by local women self-help groups<sup>15</sup> who reel Tasar silk thread to sell to factories making silk garments. All three research sites had incorporated a model of community participation such as Village Operators (VO) and Village Energy Committees (VEC) in order to ensure the communities' ownership and long term engagement in sustaining the energy infrastructure.

## **Structure of Thesis**

In this introductory chapter I have presented a background of rural electrification in India and its relation to political economy and gender. The introduction has also provided an overview of

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<sup>15</sup> As will be described in Ch. 9, self-help groups are NGO established village committees of about 10-20 local women. The self-help groups are involved in a livelihood project together and they come together in regular meetings, make small collective savings and rely on their own funds for giving and taking out small loans to its members. The NGO also assist the self-help groups in linking them with banking systems or government institutions.

hegemonic discourses and research literature connected to the gender-energy-development nexus, as well as laying out the research questions and rationales of the study. Chapter 2 presents the theoretical approach of feminist political economy that structures my enquiry into whether and how the implementation of the Village Electrification Project, and the projects' use of empowerment as a stated focus, made a difference for women's lives in the local communities. This theoretical approach is based on a feminist political economy approach to understanding how women's work, social reproduction and women's access to decision-making are framed. The incorporation of these analytical concepts provides a 'gender lens' for understanding processes of change related to rural electrification and the intricate and complex entanglements of gender relations in this. Chapter 3 presents and discusses the choice of methods applied in this study and the science of philosophy that these methods build on. Chapters 4 and 5 present a detailed background and setting of the Village Electrification Project. Chapter 4 enters into the domain of the energy production element of the project, reviewing the start and formation of the Village Electrification Project and its organisation as a public-private-people partnership. Chapter 5 presents the domain of the local communities constituting the consumers in the Village Electrification Project. A detailed description of the social economy and geography of the communities is given here.

Chapters 6 through 10, provide the analysis of the Village Electrification Project and discuss the imaginaries of women beneficiaries and makings of empowerment within it. The analysis is structured thematically around key domains concerning i) how electricity interventions affect gender relations and women's needs; ii) women's role in the electrification process; iii) women's role in family domestic work; iv) women's participation in livelihood schemes and v) how gender and empowerment are understood and produced in the organisation of the energy provision in the Village Electrification Project. The analysis is therefore not ordered chronologically or geographically. It is important to stress that I do not view these thematically key domains as independent, but rather interrelated, entities. However, this representation facilitates a systematic examination that also allows for exploring the connections and discrepancies between the different domains.

Chapter 6 tells the story of the implementation of solar electricity in Jyotipur and Ashapura village in UP. The Village Electrification Project was pitched as a technical energy project aimed at providing electricity and contributing to women's empowerment through benevolent community participation. The electrification process of Jyotipur and Ashapura is a story of redefining of Indian village culture by providing new meanings of spaces and places

as it brings new aspects to everyday life of people in practical, social and political terms. Chapter 6 analyses how these aspects affect women by exploring the following underlying questions: In what ways has the implementation of the Village Electrification Project for household electrification, and the projects' use of empowerment as a stated focus, made a difference for women's lives in Jyotipur and Ashapura? How have women been included in the engagement and ownership of the electrification process? What role does technology play in this process? Chapter 6, also expands on the electrification process in Jyotipur and Ashapura by exploring the gendered aspects of the electrified home. The redefinition of Indian Village culture also includes shifts in new consumption practices. These changes have a profound influence on women's everyday lives as new 'things' provide them and their families with new resources and assets, but also inflict polarisation and unwanted gendered outcomes. Chapter 6 analyses these aspects by addressing the question: Has household electrification resulted in consumption that enables women with new resources and agency

Chapter 7 draws on converging findings from all three research sites and continues to explore the gendered spaces of electrification and their relation to women's domestic duties. The analysis highlights how electrification can improve women's everyday work and subsequent framing of gender relations by exploring the interrelated questions: What difference does the implementation of electricity play on women's work responsibilities? What difference does electricity and mode of intervention play on gendered divisions of labour? Does the social value of women's labour affect consumption of electricity-related appliances for household chores?

Chapter 8 moves the focus to the Village Electrification Project in communities in Jharkhand where the CSPP was used for women's livelihood schemes. By exploring issues of women's access to solidarity networks, income and credit through the self-help group model, the chapter addresses how the added component of electricity affects women's empowerment when projects are tailored toward a more specific and holistic approach to incorporate women by addressing the following underlying questions: In what ways has the self-help group model and the added component of electricity through the Village Electrification Project, and their stated on women's empowerment made a difference in women's lives in the local communities in Jarkhand? How have women been included in the engagement and ownership of the CSPP? Has income-generation in Jharkhand resulted in consumption that enables women with new resources and agency? Has increased income generation materialised in greater autonomy and control? In what ways has the forging of women's solidarity networks through the self-help

group model enabled them to challenge discriminatory structures and institutions? What role does the electrification and CSPP play in forging women's solidarity networks and greater economy and control of income?

In chapter 9 the focus is shifted from the local women to the domain of energy provision in the Village Electrification Project. This chapter builds on the findings from the preceding chapters and its relation to how the makings of women's empowerment (through implementation) in the Village Electrification Project have been influenced by imaginaries concerning the woman beneficiaries by the institutions involved in the public-private-partnership. Such an exploration raises several fundamental questions that are addressed in this chapter: How is the concepts of gender and women's empowerment understood and produced in the ruling discourse of the PPP/Village Electrification Project? How has the merging of private business interests and state development institutions in the Village Electrification Project, and the subsequent distribution of power, ownership and responsibilities, affected the implementation of empowerment as a stated focus? Is there a link between the demise of the Village Electrification Project and how gender was incorporated in the project activities? And finally, is it justifiable or sensible to expect the implementing agencies in the Village Electrification Project to pay attention to gendered concerns?

The discussion of findings and conclusions of this thesis monograph are presented in Chapter 10. This chapter returns to the overarching and underlying research questions posed in the introductory chapter and summarises the main findings concerning the Village Electrification Project and how they relate to the applied theoretical framework of feminist political economy and the three interrelated analytical concepts of womens work, social reproduction and women's access to decision-making.

## **2. Applying Feminist Political Economy as Theoretical Gender Lens**

This study investigates the Village Electrification Project from the standpoint of local women, using a ‘gender lens’ to explore in what ways the implementation of the project, and the projects’ use of empowerment as a stated focus, has made a difference for women’s lives in the local communities. To this end, the analysis and findings of this study draw upon feminist political economy, as a theoretical lens that brings to focus how women’s position in society is framed by hegemonies of masculinity where political, social, and economic relations and institutions are structured around gender inequality. This chapter will first introduce a brief background into the origins of feminist political economy scholarship. Next, this chapter discusses women’s work under the domains of family, capitalism and development as it relates to the context of the research sites in this study. Capitalism is here understood as practices that support the accumulation of profit under private ownership and which are expressed through the ideology of neoliberalism that privileges the free market, privatisation, deregulation, finance capital and technocratic elitism. Development is understood both as a process of social change, and in relation to the undertakings of different development actors and institutions, which bring meaning to the concept of development with various ideologies and practices. As will be discussed, women’s work within the family, capitalism, and neoliberal development share common ground, relating to a binary spatial economy that is divided between public and private realms (categories that have been conceptualized respectively as corresponding to productive and reproductive domains under capitalism). This spatial economy shapes gendered divisions of labour and underpins the ‘category of woman’ (Moore 1988, p.12) by framing women’s position spatially in society. However, these spatial realms also contain contradicting expectations and imaginaries concerning the work women should and can actually do.

In this thesis, the analytical concepts of social reproduction and women’s decision-making are discussed as underlying and cross-cutting aspects of women’s work. As described in the introduction, studies addressing women, energy and development interventions often explore the impacts of energy on women’s empowerment without addressing how women’s lives are framed by unequal gender relations (e.g. gender segregation, land rights etc.) that limit their access to, and potential to use and control energy. Further, they are often overreliant on quantifiable indicators, which reduce the issue of women and energy to the technical and economic domain. Exploring the implementation of the Village Electrification Project, and the projects’ use of empowerment as a stated focus, and how this has made a difference for

women's lives in the local communities requires addressing the way in which women experience the intersection of gender, class, caste and ideology (e.g. expressed through development interventions, policy, religion and state's priorities) in their encounter with the Village Electrification Project and given that encounter, exploring the way in which women have acted or potentially could act to transform their subordinated position. Crucial to understanding social organisation and women's position in rural India are the organisation of kinship and family, gendered norms and ideologies of religion, and impacts of neoliberalisation, post-colonialism and development policy. This interlinks with central issues of feminist political economy that concern how gender and women's position in society are produced and reproduced through a gendered geography of the political economy that frames women's work, social reproduction and women's access to decision-making. This chapter deals with women's work as an analytical concept that visualises the social, economic and political context of that work within the study of the Village Electrification Project. The aim of this chapter is to discuss some of the key frameworks that define the ideological undercurrents of women's work that are explored in the thesis and frame how women's position in society are constituted by everyday access, ownership and use of energy resources.

### ***The Politics of Seriousness: Feminism and the Political Economy***

Feminist political economy (also denoted as political economy of gender, or geography of feminist economics) emerged as a distinctive field of scholarship through its critique of the governing orthodox neoliberal economic model, as well as new political economy scholarship's androcentric focus, that overlooked gender relations as significant to their analysis. This has prompted feminist political economy to explore how social differentiation attributed to feminine and masculine characteristics is challenged or reproduced by neoliberal economic integration through processes of globalisation. One of the most influential advocates of this criticism within feminist political economy was Marilyn Waring and her book *If Women Counted* (1988). Building on previous work on how women's work is invisible (e.g. Ester Boserup 1970; Barbara Rogers 1981), Waring's critique of the over-confidence of GDP as a measurement and replacement of progress, and her analysis of women's 'invisible' contribution (through unpaid care work within the private sphere) to the GDP and capitalist economy, resulted in new awareness of 'invisible' work within policies and knowledge production. One of the results was the establishment of the Human Development Indicator (HDI) as an



alternative to measure development (McKay and Bjørnholt 2014). Waring's work constitutes a benchmark in understanding how the identities of masculinity and femininity devalue women's work and contribution to the national and global economies. In a similar vein as Waring, feminist political economy scholars have been preoccupied with gendered spatial domains of the private/public, inside/outside, home/market where women are relegated to the private sphere, while men dominate the public space (e.g. Kabeer 2016; Raju 2011; Agarwal 1994; Moser 1989). This has arguably led to the devaluation of women and their work (as an extended de-valuation of the feminine) (Raju 2011; Moore 1988). Another central objective of feminist political economy has been to provide knowledge that enables new policies. In addition to Waring's work, Bina Agarwal's (1994) *A Field of One's Own: Gender and Land Rights in South Asia*, and J.K. Gibson-Graham's (1996), *The End of Capitalism (as we knew it): A Feminist Critique of Political Economy*, have been important contributions to this end.<sup>16</sup> Though about three decades have passed since feminist political economy was put on the agenda, there has been a resurgent interest in concepts associated with feminist political economy (Werner et al. 2017, p. 2), in relation to contemporary challenges such as the financial crises (e.g. 2008) that have shocked the global economy (and to some extent fused reflections over the sustainability of neoliberal market economy integration) (e.g. Massey 2014; Pollard 2012), the 'crisis of care' from capitalism's depletion of social provisions and welfare schemes (e.g. Fraser 2017) and to some extent natural resources and environmental challenges (e.g. the scholarship of Bina Agarwal, Vandana Shiva and Andrea Nightingale).

The relevance of a feminist political economy approach is how it seeks to make visible hegemonies of masculinity within economic systems that are analytically hidden in mainstream positivist or rationalist epistemological approaches of political economy scholarship, as the latter approaches are focused only on gendered outcomes, or deem gender mundane and irrelevant (Enloe 2013, p. 39; Peterson 2005, p. 499-500). Typically, women's experiences and contributions are 'dismissed because their contribution to the economy is part-time, low paid, or unpaid' (Enloe 2013, p. 11) or they derive status through their family relations; e.g. daughter,

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<sup>16</sup> Agarwal argued that women's lack of property rights explain their economic, political and social subordination in society in South Asia. The book provided both in-depth empirical and theoretical knowledge, as well as policy recommendations for legal and social transformation. Gibson-Graham argued that the symbolic presentation of economic globalisation can be read as a 'rape script' where 'capitalist penetration' is seen as an inevitable assault on women's bodies and where women are only legitimate actors in the role of victims. Their book offers a new perspective built on alternative language, theory and praxis of non-capitalism. Several others could also have been mentioned such as the works of Naila Kabeer and Caroline Moser to induce changes to development policy planning.

wife or mother (Agarwal 1994). In addition, gender issues continue to be regarded as less important than other forms of economic and social insecurity (e.g. the Arab Spring discussed in Enloe 2013). As Enloe notes:

The unquestioned presumptions about what and who deserve to be rewarded with the accolade of “serious” is one of the pillars of modern patriarchy. That is, being taken seriously is a status that every day, in routine relationships, offers the chance for masculinity to be privileged and for anything associated with femininity to be ranked as lesser, as inconsequential... (Enloe 2013, p. 10).

Instead, a feminist political economy approach applies a ‘politics of seriousness’ (Enloe 2013), which as Waring did, take women’s lives and experiences into research and knowledge production.

Another central point of present feminist political economy (which Enloe does not really engage with), has been to incorporate the critique of feminism and the women’s movements as being centered on a Eurocentric definition of womanhood (white heterosexual women), and expand the field to account for intersections of class, race, and post-colonial women (e.g. Mohanty 2004). Historically, feminist scholarship has challenged the idea of women’s reproductive work as being ‘unproductive’, while at the same time it has taken a deterministic view of patriarchy in the global South (Feldman 2001, p. 1100). Some have viewed this as an extension of colonialism, influencing interpretations of social relations (Ahmed 1992; Chatterjee 1986) manifested through neo-liberalism’s division of the private and the market as being unproductive and productive spheres of activity (emphasising the individualised women in development and empowerment agendas discussed later) (Feldman 2001, p. 1102). Postmodern insights and the scholarly works of e.g. Donna Haraway, Chandra Mohanty and Nivedita Menon have been influential in highlighting the complex, contradictory aspects of women’s lived experiences and the need for situated and contextual knowledge within feminist scholarship. Contemporary feminist political economy scholarship thus aims to provide a holistic understanding of social differentiation and social reproduction, where men (as a gender and not individuals), especially those who are economically, ethnically and racially privileged, continue to dominate institutions of authority and power worldwide and where marginalised groups (e.g. women, indigigenous people, immigrants, ethnic minorities etc.) are feminised in society (Peterson 2005, p. 507). As Peterson (2005, p. 499) states, political economy research

needs to have gender as a governing analytical focus (what she terms analytical gender) to fully expose analytical assumptions and what we value in terms of gendered privileges. This thesis aims to provide such a holistic analysis of rural electrification that focuses on the lived experience of women, men and families, and their social relations as they relate to the economic system.

## **The Spatial Economy and the Politics of Women's Work**

Capitalism, however, acknowledges productive labour for the market as the sole form of legitimate “work”, while tremendous amount of familial as well as communitarian work that goes to sustain and reproduce the worker, or more specifically her labor power, is naturalized into nonexistence (Bhattacharya 2017, p.2).

This PhD study is concerned with women's lived experiences of gender relations and inequality in the encounter with the Village Electrification Project and efforts to enhance local access to electricity. Within this pursuit, the issue of women's work, access to income and decision-making are central to understanding how access to electricity through development interventions can influence women's lives and how women have acted or potentially could act to transform their subordinated position. Feminist political economy's focus on how to visualise all aspects of women's work and their exploitation under a social-economic order that is based on a spatial economic geography characterised by productive and unproductive spaces is central to understanding the complexities and inequality of women's work and energy development.

What theories explain how and why women's' work is devalued, and subsequently diminish their role in family and community decision-making? Frequently, theories of patriarchy and capitalism are brought forth as the main sources of women's oppression. According to Hartmann (1976) within both systems ‘the roots of women's social status lie in the sex-ordered division of labour’, where women's work and the attributed gender roles of women, is focused around social reproduction of labour within the closed setting of the private family (perceived as unproductive sphere in capitalist economy), while men's work is more often tied to financial remuneration (perceived as within the productive sphere of capitalism), network and social status within a larger community setting.

A central point of women's position and exploitation within the private sphere has been their struggles with capital. As will be discussed in this section, women lack, as voiced by Marx, access to economic capital as they live under conditions where men own the means of production and property, making women economically dependent on their male relatives or spouse. Later, the theory of capital has also included more immaterial perspectives of capital as an explanation for the social reproduction of inequality both in economic, political and social sense. Pierre Bourdieu's (1986) concept of capital as an expression of power relations within society or within bounded social fields is a useful framework to understand the processes of social differentiation, such as women's subordinated position, and how they can be transformed. Individuals or institutions' possession of capital influences their ability to exert power and agency and points to how the 'games of society' influence people's opportunities in life. Unlike the ideas of human capital (as abilities and skills and knowledge acquired by individuals), Bourdieu's notion of capital is meant to explain also underlying structures that explain how individuals of different class might receive the same resources (such as education), but will not have the same outcome as they embody different capital in terms of e.g. social networks and social status (Bourdieu 1986, p. 46). The concept of capital as framed by Bourdieu must not be mistaken to present mere class divisions (Moore 2012, p. 99), but rather theorising processes of transubstantiation where material types of capital can present themselves in immaterial form such as cultural, social or symbolic capital (Bourdieu 1986, p. 46). As noted by Moore (1988) and others, women's work within the family sphere means that women are not able to obtain social and cultural capital such as networks, loyalty and mutual commitments, in the same way as men. Moore's (1986, p. 70) early, but still relevant ethnographic accounts of the Marakwet in Kenya illustrates how the gendered division of labour frame women's work, network and status in community:

The disposal of what a woman produces and what she acquires during her lifetime takes place almost entirely within the domestic unit... The animals, the land and the produce he acquires are used to widen his network of social interaction and obligation.

Such gendered divisions of space (public/private, productive/unproductive) and labour mean that men gain and use their resources in a wider social and political sphere, while women's status and network are tied to providing for the personal and more invisible needs of the family. As a result, a masculine hegemony has led to the devaluation of women's work within the

family and later capitalism. This, as will be discussed next, has ramifications for women's access to resources and income, but it also influences women and men's ability for cultural capital by reproducing perceptions on gendered authoritative knowledge, capabilities and identities. However, women do engage in what Papanek (1979) refers to as family status production, to increase their family's cultural capital. Papanek's ethnographic accounts from the 1970s describe women's work in relation to increasing their family's economic capital as a basis for other capital, but also 'training' children appropriate behaviour or skills required for their class level etc (as noted in Bhattacharya 2017 also), but not least the work women do in order to convey family honour and propriety, which is inferred to their men's social standing (cultural and social capital). As Papanek states, this family status production has been closely linked with class relations, as it is only possible to release family members to engage in the work to materialise aspirations of increasing cultural capital when certain needs are met. Though the type of activities women (of middle to higher classes) do in family status production have changed historically, this continues, as discussed in the next section, to be an important aspect of women's work in many families concerning practices of patrilineality and *pardah*.

According to Marxist perspectives, there was a presumed equality of gender relations in working-class family's as they would both be propertyless and in the labour force. Also in South Asia, the boundaries of the private/public have been more fluid among the poorer segments of women (Mohanty 2004, p. 142). The idea of gender relations to be tied firmly with class issues have, however, been heavily criticised. Though some high caste women enjoy better material conditions, education and job opportunities than low caste men, they might also be particularly restricted in their movements and freedom of choice as they uphold traditional cultural values of feminine appropriateness that poorer segments of society cannot afford to (Raju 2011, p. 13). Still, also in material terms, gender is both a cross-cutting feature of other social differentiation, as Guha states;

Landless labourers are paid meagre wages, the women among them the most of all... As an axis of discrimination, gender is even more pervasive than the others...(Guha 2007, p. xx)

Gender discrimination as a cross-cutting feature follows a particular ideological logic. A narrow focus on class also obscures differences of urban/rural divides as well as the shared experiences of gendered subordination between different segments of women, which have commonalities with other marginalised sections of society (Bhattacharya 2017, p. 5; Raju 2011, p. 14). The

gendered spatial economic geography also pertains to struggles with capital for other marginalised groups in society. The hegemonic masculinity that is highlighted by feminist political economy approach is a result of how particular groups of men inhabit certain positions of power, wealth and legitimacy and reproduce social relationships that provide them dominance. Susan Wadley's (1994, p. 66 and 92) accounts from rural UP shows how the historical cultural separation between public and private spheres of life, which enabled men's control over women's sexual behaviour and fertility to secure the male lineage historically also discriminated and 'controlled' men of 'subordinated' groups such as Dalits or lower castes. Phadke, Khan and Ranade's (2011) study of gendered spaces in Mumbai illustrate the same tendencies where women and lower caste men are still restricted in their use of public space (hastily moving from legitimate places such as work, schools, bus stops to their home).<sup>17</sup> Over time a discourses of women's safety and moral propriety rooted in conservative caste and class structures of sexual control, have been manifested to prevent undesirable sexual relations, regardless if they are consensual. Lower caste men in public space are thus seen to represent a sexual threat to the purity of upper caste lineage (Phadke, Khan and Ranade 2011, p 17). As a result, marginalised groups in society (e.g. Dalits, Adivasi and Muslims and women) have been excluded from the public sphere in terms of representation in areas such as government and education. Several studies have shown how male high caste hegemonies have marginalised women, Dalits, Adivasis and Muslims from participating in the neoliberal market integration to their advantage, and instead ended up as super exploited by capitalism (e.g. Sha et al. 2018; Pattenden 2010).

As shown above, the hegemonies of masculinity highlighted in feminist political economy theoretical approach, create hierarchies where different intersections of social oppression make some less valued and more marginalised than others. The origin of this domination of masculinity is, according to Bourdieu, derived through what he coined symbolic capital where power (or other forms of capital) is obscured in practices portrayed as 'natural', meaning that it is not seen as power, coercion or force (Bourdieu 2000, p. 9). Instead, power and immaterial capital are inscribed and internalised as inevitable destiny or *doxa*, entailing common traditions or beliefs that exist even beyond discourse or argumentation (Bourdieu

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<sup>17</sup> Several geographers have researched women's perception and use of public space, such as Gill Valentine's study 'the Geography of Women's Fear' (1989). Gill and Bell's *Mapping Desire: Geographies of Sexualities* (1994) similarly examines how the heterosexual body has been appropriated (and how this appropriation has been resisted) on the individual, community and city level.

1977). Gender relations and ideas of masculinity and femininity are examples of this. The spatial economic geography of gendered work divisions and attributed gender and other intersecting axes of oppression (e.g. caste, religion and race) are not perceived as relations of power, but as biologically, historically or religiously produced while the memory of how the 'masculine dominance' came into being (through physical force) has been supplanted long ago (Bourdieu 2000). As discussed next, women's work under patriarchal structures in the family and capitalism is a result of the symbolic power of masculine dominance that is central in perpetuating women's disadvantages in society, by denying them equal opportunities to acquire capital.

### ***The Gendered Division of Labour and Social Reproduction within the Household***

The concept of patriarchy and theorisation of family and kinship has commonly been applied to understand women's suppressed position in South Asia, and the area is referred to as 'the patriarchal belt' (Moghaddam 1992). In its simplest form, patriarchy denotes a hierarchical family setting based on gender and age where the male patriarch holds power over younger men and women, and where women are also subordinated to younger men (Standal 2016, p.16). However, patriarchy builds on both material and cultural basis of power. Hartmann (1979, p. 11) defines patriarchy as 'a set of social relations between men, which have a material base, and which, though hierarchical power, establish or create interdependence or solidarity among men that enable them to dominate women.' Similarly, Fox (2001), (in line with a Marxist perspective) describes patriarchy as a system that structures and is sustained by a sexual division of labour, where men have confiscated the modes of production in society, so women work in the home under economic dependence upon men for survival. Hence, patriarchy concerns men's control over women's labour power and; 'this control is maintained by denying women access to necessary economically productive resources and by restricting women's sexuality' (Hartmann 1979, p. 11). Patriarchy precedes capitalism and originates from agricultural-based contexts with households consisting of extended family, based on practices of patrilineality. Historically in South Asia, women married into their husband's family and lived with their mother-in-law, father-in-law, their husband, his brothers and their wives and children, throughout their adult life and took on the role of *bahu* (daughter-in-law) providing labour and children, carrying forward the patrilineal lineage in their new families (Wadley 2013; Lamb

2000; Karve 1999).<sup>18</sup> As a consequence, male control over women's sexual behaviour and fertility to secure the male lineage became central to ensure that family land is distributed within the patrilineal line (Karve 1999).

Patriarchy also has a cultural base. The predominant patriarchal family system in North India (with the notable exception of Adivasi and Muslim communities) derives its legitimacy from the religious ideals of the joint Hindu family where patrilineality and exogamy have been common. Exogamy, (previously not practised within Muslim and Adivasi communities) entails that women marry out of their kin and community (though usually within their caste and class group or above) and into their husband's family and community (Lamb 2000, Jefferey and Jefferey 1996). This means that women relocate physically and socially, often cutting them off from their paternal family by great distances. Further, men's control over women's sexuality in South Asia (and Middle East, North-Africa and among Uzbeks in Central Asia) has historically been practised through cultural norms for preserving family honour, such as *purdah*, meaning that women are secluded from public sphere (often through their clothing and restrictions on mobility) and specific bodily practices (Lamb 2000), which enforce women's 'silencing' in the family and public sphere (Gjøstein 2014, p. 139; Jewitt and Baker 2011, p. 217).<sup>19</sup> Gjøstein's (2014, p.139) description of the *bahu*'s submissive and obedient role in the family is illustrative (in relation to the consequences of *bahus* as local health workers in the National Rural Health Mission (NRHM)):

The proper and respectful behaviour of a *bahū*, veiled and modest, render her fairly mute and invisible in the public life of the village... One could question if the role of a female social activist is fundamentally incompatible with that of a *bahū*.

Gjøstein's comment also describes how the role of a *bahu* is institutionalised not only in the household, but also in village life, as the classification of *bahu* 'extends to all members of a women's conjugal village' (Gjøstein 2014, p. 144). A *bahu* occupy the lowest place in the adult hierarchy of rural families, also below that of daughters.

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<sup>18</sup> There is a great diversity of cultural practices concerning marriage and family in South Asia. However, the practices of patrilocality where husband and wife resides with his family, and patrilineality where inheritance and land is transferred from father to son is the most prevalent form of family arrangements.

<sup>19</sup> Noted in women's difficulties in participating in development projects. See also Bina Agarwal (2010) and David Mosse (1994).



The cultural norms of women's propriety in the joint Hindu family limit women's mobility physically, but also inform their everyday practices of gestures, habits, bodies, desires and self-surveillance. As Lamb, invoking Foucault (2000, p. 191) asserts, the attributes of femininity and seclusion from public space require an element of bodily training involving a dispersed form of power:

Because of the perceived potential dangers of a woman's openness and sexuality, women and girls in Mangaldihi region were taught by their senior kin to discipline their bodies – to attempt selectively (in certain contexts, especially in public and around men) to close themselves; they relied on spatial seclusion, cloth coverings, binding the hair, special diets, and the like. These disciplining techniques seemed to aim primarily at controlling and channelling a woman's powers towards desired ends within a patrilineage.

Practices of *purdah*, silencing and women's bodily discipline are all part of constructing a virtuous public image of women in line with the cultural categories of women (and men) through space and time (Moore 1988). These practices become socialised norms that inform behaviour and thinking and becomes internalised as *habitus* and *doxa* (Bourdieu 1977). The religious interpretation of women's moral boundaries (often referred to as Lakshman rekha), which prescribe that women confine their movements within the home or near vicinity and uphold cultural religious ideals of propriety is a way for the organisation of gendered space to have meaning and be maintained (see Oldenberg 2007).<sup>20</sup>

The gendered division of labour and patrilineal family system in South Asia produces different property status for women and men. As men's work relates to providing material welfare for the family, ownership of land, house and farm equipment is typically held by men (Kelkar 2014, p. 51), whereas women's work is associated with domestic labour, and care for

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<sup>20</sup> The cultural construction of appropriate female behaviour and the boundaries of Lakshman rekha refers to Hindu mythology (Ramayana). Gender relations in India is continuously changing and ideas of Lakshman Rekha and the curtailment and control of women's sexuality and mobility is not regarded as legitimate in formal state discourse and public life. However, simultaneous counter discourses are invoking religious and nationalist ideals to assert 'traditional' Hindu ways of life, particularly concerning gender relations. These views have been put forward during several of India's transformations, such as the post-independence period, but also notably voiced by several public figures in the aftermath of the rape of Jyoti Singh Pandey and related protests in 2012. Western influence and women's transgressions of the moral boundaries Lakshman rekha were seen as main culprits of sexualised violence against women as a form of punishment for dissolving the protection of women within the sanctity of the family (see also Brown, C.M and Agarwal, N.D. 2014. 'The Rape that Woke up India: Hindu Imagination and the Rape of Jyoti Singh Pandey.' *Journal of Religion and Violence*, Vol. 2, No.2, pp. 234-280).

livestock, children and elderly. Women have claims to family resources through the practices of dowry and often the exchange of food, jewels and clothing from their natal family to their in-laws family during visits or birth of children (Lamb 2000, Jeffery and Jeffrey 1996).<sup>21</sup> However, an understanding of dowry as a form of an advance on (pre-mortem) inheritance, is misplaced in the context of India (Standal and Winther 2016, p. 39; Stone and James 1995, p. 126). Dowry is not an asset a woman can freely control or dispose of in India, but is movable property passing from the bride's family to that of the groom, and women become 'vehicles of property transmissions'. The patriarchal structures (in terms of gendered ownership of property as well as patrilocality) of the joint Hindu family, result in a prevalence of son preference to retain land and wealth and care for elderly within the patrilineal line. Son preference is actively exercised in India using reproductive technologies such as ultra-sound foetal screening and sex-selection abortions resulting in skewed sex ratios (John 2011, p. 10). However, not all sons are wanted or share equal treatment. A family needs a son to pass on the patrilineal line and wealth (and a *bahu* to achieve this), but a 'surplus' of sons will however lead to division of land into units that are not able to sustain families. According to Ravinder Kaur (2008, p. 113) less-favoured sons risk remaining bachelors or being disinherited.

The theories of patriarchy have as mentioned, received critique for being a western and deterministic concept, but socialist feminists have also argued that patriarchy does not explain social change and hide that women's oppression is based on their struggle with capital. The descriptions of *purdah* and silencing give witness to the context-specific and diverse forms of patriarchal of power that exist within North India. It is also important to note that the Hindu joint family is not just a system of inequality but is also a system of reciprocity where all members fulfil different mutually dependent roles. Lamb uses the model of centre-periphery to explain the hierarchy of gender and age, regarding the social position in the family in West Bengal: The principal married couple of a house whose sons were not yet married was felt to be at the warm reproductive "center"... they gave food, knowledge and services and made decisions for all the others around them, including retirees and the young children who were

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<sup>21</sup> The Dowry Prohibition Act of 1961 comprise of demand for cash or property by the groom's family and not gifts that are voluntarily given. Also after marriage there is a tradition for the bride's family to offer food, gifts or cash during daughter's visit or important events (i.e. births, marriages of festivals) in her affinal family. Dowry has spread geographically and into SC and Muslim families, as well as in terms of expenses, which puts brides' families in economic binds (Krishna 2010), and women at risk of domestic violence (Jeffery 2014, p. 173-174). The reasons for why dowry has become so manifested in Indian has many facets, such as finding a suitable groom in the context of men's diminishing employment prospects, status competition and consumerism, as well as cultural traditions.

located on the households peripheries” (Lamb 2000, p. 58). For the senior generation, the shift towards the periphery of the household meant more freedom and fewer work responsibilities, but it also meant a gradual loss of power in the household. Hence, women’s role in rural family and community does not entail a fixed position. Rather most women’s social identities undergo significant changes during lifecycle events such as progressing from daughter, to sister, to wife, to mother and to a mother-in-law (Lamb 2000). Women’s age and position in the family, therefore, matter greatly for their power and agency. However, the concept of patriarchy has been retained by several feminist scholars as it denotes both historical and social dimensions of women’s exploitation and oppression, which still incorporate cultural constructions of gender (Feldman 2001, p. 1105, invoking Mies 1986). As discussed next, the gendered divisions of labour and consequent gendered property status (as means of production) has also become a feature enabling women’s exploitation in capitalism.

### ***The Uneasy Marriage between Patriarchal Structures and Capitalist Development***

The organising principle of and theorisation of patriarchy forms important framework to understand the gendered nature of economic processes in the study of the Village Electrification Project, but integration of the capitalist system through neoliberalisation has profoundly changed patriarchy as a basis of women’s oppression. According to Denise Comanne,<sup>22</sup> the capitalist system feeds on preexisting patriarchal structures of power to reorganise the economy to accumulate growth and profit, and it compounds many of its defining characteristics, such as the spatial binaries of public/private and productive/reproductive. This enables capitalism to thrive in two distinct ways. Firstly, women’s invisible work within the home subsidises patriarchy as it works as a safety valve by providing essential services for no remuneration (Elson 2005, p. 11). Secondly, capitalism’s emphasis on economic growth (through production and consumption) has worked as leverage for combining discourses of gender equality and women’s entry into the labour force, which predominantly has provided cheap, unskilled and unorganised female labour.

Women’s care work has been described as subsidising patriarchy as the unequal division of paid and unpaid work between the sexes leads to women’s specialising in unpaid work under financial dependence and sometimes also under coercion (Elson 2005, p.11). Women and men’s

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<sup>22</sup> <http://www.cadtm.org/How-Patriarchy-and-Capitalism>. Downloaded 15.05.18

care work in the family is termed unproductive (as it is outside the market), but capitalist societies neglect of social services means that unpaid care work is required for social reproduction, meaning the work done to produce new labour such as raising children, educating them and providing healthcare (Bhattacharya 2017; Fraser 2017). Women's position within the patriarchal family setting leads to their specialisation of this type of work (in addition to their biological reproductive role). Hence, women do not have the same options to enter the labour force as men, but continue to do the lion's share of unpaid work in social reproduction of the labour force (this does not mean that men do not engage in care work, but the responsibilities are attributed to women, both in the sense of actual tasks and the gender roles associated with them). Several theoretical contributions focus on what role social relations and practices play in the reproduction of economic systems. Anthropological theory has been preoccupied with the issue of kinship in theories of reproduction and practices such as patrilocality, exogamy, endogamy and patrilineality, which render women dependent on men, and young men dependent on their fathers (Moore 1988, p. 49). Within feminist political economy the emphasis on kinship has been seen in conjunction with capitalism and often informed by Marxist scholarship and more material aspects of control of property and means of production. Marxist scholarship saw women's struggle for equality as part of the class struggle against capital. The need for women to enter the (waged) labour force, together with the abolition of property rights and socialisation of childcare and domestic work was seen as a precondition to ensure women's equal rights (Engels, quoted in Agarwal 1994, p. 12). However, men are also bounded as labourers in order to perform the role as bread-winners of the family in capitalist systems.

A new theoretical contribution has come from a revival of social reproduction theory, combining Marxist perspectives and feminist political economy (e.g. Bhattacharya 2017; Vogel 2013; Benzanson and Luxton 2006). Social reproduction theory builds from Marx and theorises social practices and relations that reproduce labour power, and how those relations form a unitary totality with production within the capitalist system (Bhattacharya 2017, p. 2):

Comprising both affective and material labour and often performed without pay, [social reproduction] is indispensable to society. Without it there could be no culture, no economy, no political organisation (Fraser 2017, p. 21).

Social reproduction theory treats questions of oppression such as gender, race and sexuality as relational to and shaped by capitalist production. The insights of social reproduction theory is

also how other factors, than the reproductive labour in the family, exert influence; e.g. education, healthcare, public transport and other infrastructure services. Within the capitalist system certain people and their labour power are reproduced in ways that make them more exposed to capitalist exploitation than others. Shah et al. (2018) provides an illustrative example and theoretical contribution to how neoliberal policies for economic growth reproduces identity-based social oppression of caste, tribe, gender and region. Their analysis highlight how reproduction of social differentiation is mainly driven by inherited inequalities of power (e.g. caste, religion and gender); super-exploitation based on migrant labour; and conjugated oppression. Behind this gloomy picture of how neoliberalisation in India has failed to incorporate the poor and marginalised into the new economy in a way that does not have adverse effects on them, there is a history of how well positioned high caste men have informed the reproduction of social relationships that deny women, lower caste, Muslim and Adivasi groups, economic, social and cultural capital such as proper education, basic services and political representation.

Another influential theorisation of the masculine hegemony within the capitalist system has come from what England (2005) coins the ‘devaluation perspective’. This framework explores and explains systematic gender gap in economic remuneration as an extension of women’s cultural subordinated position in society. Therefore occupations with a majority of women employment (such as the care sector) have lower wages (even when controlled for educational level), and state benefits are designed to cater for the male bread-winners loss of economic capital, making them ill-suited for women with no prior employment or small children (England 2005, p. 382-383). This has provided employers opportunities to offer outsourcing of care work at low costs. Further, when capitalist market economy fails, services that support women’s position, such as public healthcare and education or social benefits such as maternity leave etc. are cut first, leading to a ‘crisis of care’ where the capitalist system in the end fails to reproduce itself as it decimates social reproductive functions (Fraser 2017). The devaluation of women also extends itself to other marginalised groups in society as well; when the majority of employment is held by women of color, immigrants or Adivasis, the work by these women is paid the lowest and if they are disproportionately recipients of welfare this may erode further public support (England 2005, p. 384).

This devaluation of women and ‘feminised’ groups is an observable fact in surveys of wages and time use data, but it is difficult to establish direct evidence for mechanisms of cultural devaluation of jobs and work activities as an extension of devaluation of the feminine (England

2005, p. 383). However, the focus on women's entry into capitalist labour force has been accompanied by processes that reinforce women's marginalisation from economic domination. In the global economy, there is a general tendency for informalisation, feminisation and flexibilisation of the workforce prompted by neoliberal market economy integration (Peterson 2005, p. 508). This has resulted in decreasing secure employment, with stable pay and working hours (were workers often were unionised) to part-time jobs, relocation of production to low-wage areas and sub-contracted production processes, as well as an increase in the proportion of women (in more un-attractive low-paid jobs) and reconfiguration of worker identities as feminised in terms of being valued less. These issues are interrelated with increasing flows of people and structural adjustment programs of the past (downsizing welfare budgets and reforms to liberalise the economy).<sup>23</sup> This has also resulted in a growth of the informal economy (often as a survival strategy) of work in the home, shadow economy and criminal economic activity (ibid.).

India provides a demonstrative case in point of these mega-trends; since the post-liberalisation in the 1990s there has been a rise in women's participation in the workforce, especially in the agricultural sector, where 84% of rural women were engaged in agricultural activity in 2010 (Kelkar 2014), and 54 % of women used their homes as workplace, compared to 16% of men (Raju 2010). The absorption of women has mainly been within the informal sector, and partially by replacing men and formal arrangements of employment, especially within some sectors (Raju 2014, p 207). The informalisation of women's work highlights how patriarchal structures enable capitalist exploitation. As shown in Maria Mies (1982) study of women lacemakers in Narsapur capitalist production relations and the logic of increasing profit intertwines with women's domesticity and *purdah*. The women lacemakers' work was located in and construed around the perception of women's natural place within the home (enforced through *purdah*), so women were not seen paid employees, but housewives who used their 'free' time to make laces. As a consequence, the women lacemakers were isolated, not just from the public sphere, but also from organising collectively and demanding decent income from their work.

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<sup>23</sup> The most prominent feature of this has been the structural adjustment programs implemented in the global South, but also in the global North the integration into capitalist economy has limited the possibilities for women to claim social services or remuneration for their care work responsibilities in many countries. For a more elaborated discussion see Enloe (2013) and Waring (1988).

This housewifisation based on older forms of sexual segregation... is the necessary precondition for the extraction of super profits from the lace workers. The domestication of women and the propagation of the ideology that women are basically housewives is not merely a means to keep wages below subsistence level but also to keep women totally atomised and disorganised as workers (Mies 1982, p. 176).

Despite women's entry into the labour force under the conditions where 'the nature of waged female employment is often an extension of our role in the home' (Cox and Federici (1975, p. 8), women's access to and control over income has been positioned by both socialist feminist movements and neoliberalists, as paramount to gender equality as women's economic dependence on men has significant impact on their ability to claim an equal stake in decision-making and bargaining power (Kabeer 2016). There are also studies that show how some women have been able to manoeuvre and change their subordinated position within trends of feminisation and flexibilisation of the labour force (Kim et al. 2018; Waldrop 2018).

The idea of women's entry into the productive sphere has been echoed in development policy discourse since the Women in Development (WiD) agenda in the 1970s. The WiD agenda stemmed from a critique of how women were rendered passive in economic growth and the consequences on gender equality and development (e.g. Boserup 1970; Buvinic ).<sup>24</sup> The agenda was articulated during a period of protest sentiments over the economic order in the global South in the 1960s and 70s (including also the Black Power and Civil Rights movements in the West), which made development institutions more receptive towards these arguments. The theoretical underpinnings of WiD emphasised neoliberal practices of economic growth (emphasising private property and free markets) and perceptions of development in line with modernisation theory (as an evolutionary process of change from backwardness to full transformation) (Kabeer 1994, pp. 13-19).<sup>25</sup> WiD's approach, however, challenged male privilege in politics, economy and everyday life relations, and through scholars such as Boserup and Mayra Buvinic helped visualise the conceptual links between women's issues and

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<sup>24</sup> This is perhaps most famously articulated in Esther Boserup's book *Woman's Role in Economic Development* (1970), which investigated effects on women in the process of economic and social growth in the 'Third World'.

<sup>25</sup> The WiD approach actually incorporated several approaches as it developed within the political economic climate of the 70s and 80s. The ideas of Boserup and Buvinic called for a more radical approach based on equity, but this gradually was transformed towards less 'political' ambitions in favour of more instrumental goals concerning eradication of poverty, efficiency and empowerment (Moser 1989, p. 1808). Please see Kabeer (1994) for a detailed and comprehensive history of gender and development in the global South.

development (Kabeer 1994, p.3). WiD brought to the table an understanding of women in the ‘Third World’ as the new rational (wo)man – the true rational actor providing altruistic welfare for the household and family entity as opposed to men. Hence women’s full potential should be tapped for growth as this would be a sound economic strategy (Sharma 2008, p. 5). As noted by critics such as Caroline Moser (1989, p. 1801), WiD approaches failed to see the complexity of women’s roles in society and thus also failed to see the different needs of women and men:

... by virtue of its exchange value only productive work is recognised as work. Reproductive work and community managing work, because they are both seen as “natural” and nonproductive, are not valued. This has serious consequences for women. It means that the majority, if not all the work that they do, is made invisible and fails to be recognized as work either by men in the community or by those planners whose job it is to assess different needs within low-income communities. In contrast, the majority of men’s work is valued, either directly through paid remuneration, or indirectly through status and political power. While the tendency is to see women’s and men’s needs as similar, the reality of their lives shows a very different situation.

Out of the post-structural critiques of feminist and development theory, the intellectual traditions of WiD became greatly influenced by ideas of how gender relations inform women's role in society (e.g. the works of Buvinic and Moser). This drew attention to the need for a holistic approach to understanding difference and power in development, referred to as Gender and Development (GAD) agenda. The influx of feminism into development discourse and aid programs has by many been viewed as a success. The Millennium Development Goals (MDG) were seen as an important continuation and influence of GAD, as gender equality was incorporated as a separate goal (MDG#3) as well as integrated into the other formulated goals (Kabeer 2015, p.). However, this was in many ways a pragmatic satisfaction, as in practice it meant a return to the instrumental understanding of women’s contribution to development and gender equality in general (Kabeer 2015). The deconstruction of power relations and questioning of underlying social, economic and political structures articulated within GAD’s development thinking and strategies made its recommendations challenging to implement in development interventions. In general, GAD has been transformed to decontextualised, ahistorical and de-politicised issue with a ‘technical fix’ (Mukhopadhyay 2004 p.95). Therefore, the remains of WiD prosper within contemporary development discourse and practice, which continue to speak for an instrumental way of understanding gender equality



(and development), which is not aligned with understanding gender equality as an intrinsic value (such as feminism). The optimism and economic language of the ‘girl effect’ within contemporary development discourse is a good example of this.<sup>26</sup> This approach follows the recent trend of ‘smart economics’ (Chant and Sweetman 2012), where gender equality is reduced to efficient and ‘value for money’ development. Here girls (and women) are promoted, often in conjunction with micro-credit, as ‘smart and deserving’ recipients of aid as ‘she will reap the benefits of income and respect ... boost the national economy, thus make a better world’ (Standal 2015, p. 23).

The theoretical underpinnings of WiD (market economy and modernisation theory) have also been influential in the optimism for micro-credit and livelihood (micro-enterprises) schemes as means for women’s economic integration and social change (Kumar 2013a; Pattenden 2010; Sharma 2008). As mentioned earlier, such schemes are presented as ‘game-changer’ thinking in the same way as Cornwall, Harris and Whitehead (2007, p. 6) illustrated how particular images of women’s relationship to the environment turn into potent fairy tales of ‘women as conservers of resources and guardians of nature’, so has the scenario of women as game-changers in development ‘an assumption of win-win game, in which general development goals and women’s increased involvement in the energy chain are achieved at the same time’ (Standal, Winther and Danielsen in press; Listo 2018). This approach assigns the responsibility to individual women and their capacity to produce change, ignoring social structures restraining women’s scope of agency. The responsibility is also (as will be discussed in the next section) placed within the private realm, but without addressing important social services (e.g. health services, education, rights to maternity leave etc.) that are essential for women’s equal participation in the economy. As discussed next, ‘gender’ has also been co-opted by the Indian state’s development policy, to signify a development that transforms marginalised (and hence ‘unproductive’) women into empowered and productive citizens (Sharma 2008).

As will be discussed in Ch. 10, the de-politicisation of gender relations within development is also reflected in the depoliticisation of development in general. In contemporary development discourse, there is an emerging focus on private sector-led development and public-private partnerships, which is accompanied with a shift of ideology towards a re-centering economic growth and market economy integration of development institutions (as

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<sup>26</sup> [https://www.youtube.com/watch?v=WIVmE4\\_KMNw&noredirect=1](https://www.youtube.com/watch?v=WIVmE4_KMNw&noredirect=1). Downloaded 15.01.14

well as nations in global South) (Mawdsley 2015, p 342). Development as embedded in neoliberal values and the growth agenda is not new, but has instead taken a different form towards public-private partnerships and commercial investments. Private sector-led development does not engage naturally with WiD or GAD frameworks for development, but is characterised by what Peterson (2005) terms ‘masculinist thinking’, and top-down, decontextualized and over-reliant on growth, and where gender is not understood as relevant or even desirable factor to reckon with (McEwan et al. 2017). Instead, private-sector led development falls within the technocratic elitism of neoliberalism where technical experts are seen as best equipped to control society or industry. This has led to a gradual depoliticisation where political decision-making is increasingly delegated to different institutions and bodies with technical expertise. This entrenches the problems of the binaries of spatial economic geography where women, especially in the global South, are marginalised from the public domains of expertise through fewer options for education and skilled employment, and less freedom of mobility and decision-making. The faith in technocratic expertise has also led to a resurfacing of other binaries of development thinking such as global North/West (First world/third world), which in development imaginaries is often equivalent to masculine/feminine. Here the global North is portrayed as dynamic and innovative, while the global South is perceived as stagnation or backward (see Springer 2016). Within the hierarchies of such dichotomies, women are perceived as ‘double’ marginalised rendering them as passive oppressed subjects, but this lack of agency has also made women interesting as platforms for makings of empowerment or what I call the (woman) game-changer agenda (see Standal, Winther and Danielsen, in press). Within such discourses, women are as seen as untapped vehicles for the economic growth agenda. As discussed next, this has also framed the idea and attractiveness of empowerment within development thinking – transforming empowerment as means for decision-making and women’s strategic interests into empowerment as means to make women into productive citizens within the capitalist system (Sharma 2008). As with the WiD approach, the focus is still isolated on women, rather than drawing upon the need to focus on gender relations.

## The Neoliberal logics of the Women's Empowerment Agenda

I like the term empowerment because no one has defined it clearly yet; so it gives us a breathing space to work it out in action terms before we have to pin ourselves down to what it means (Batliwala 1993, in Kabeer 2001, p.18).

This study is interested in aspects of social change and the 'makings of empowerment' from the Village Electrification Project and how women have acted or potentially could act to transform their subordinated position from electricity access delivered through PPP. This section discussed how the concept of empowerment has come to have meaning within development discourse and practice, and what the makings of empowerment entail for women's work under development. In development discourse and thinking, efforts to induce change in asymmetrical power relations that inhibit gender equality have frequently come to be understood through the concept of women's empowerment. The concept has come to be loved and hated as it provides both an intuitive perception of dealing with increasing subjugated or discriminated women's power, but also a challenging ambiguity, due to its diversity of interpretations and henceforth difficulty in operationalising. Cecilia Sardenberg (2016) argues that the considerable variation of the use and understanding of empowerment lends itself to two strands of ideology and theoretical underpinnings, which she identifies as 'liberal vs liberating empowerment'.<sup>27</sup> The latter builds on feminist assertions and refers to a process of change where women attain autonomy and self-determination. This process also has the intrinsic goal of challenging and eradicating the patriarchal system (within the family and other structures such as state or development institutions) that inhibits women's autonomy and self-determination in the first place. Feminist economist Naila Kabeer's (1999, p. 437) theorisation of empowerment as 'the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them' is a well-used example of 'liberating empowerment.' Through her scholarly work and position within development discourse, Kabeer has had a strong influence on developing the concept of empowerment academically

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<sup>27</sup> Several scholars such as Naila Kabeer and Aradhana Sharma have made similar distinctions between hegemonic neoliberal discourse and counter-hegemonic feminist and leftist discourses of empowerment.

and methodologically.<sup>28</sup> According to Kabeer expansion of people's ability to make strategic life choices (e.g. life-partner, reproductive health, education or employment) requires resources, agency and achievements. Such a conceptualisation put forward the importance of social and power relations, which frame women's subordinated position in societies.

Similar to Kabeer, Jonathan Friedmann theorises empowerment as an increased power in social, political and psychological domains. Friedmann's perspective of empowerment can be compared to increase of capital (as conceptualised by Bourdieu), which when acquired gradually changes the 'rules of the game' for individuals and households. There is a reciprocal relationship between the three dimensions of power, as self-confident behaviour has positive effects on households' and individuals' struggle to gain social and political power, while success in social and political domains gives psychological empowerment. Friedmann conceptualises empowerment within an alternative development discourse, stating that in order to obtain development (and poverty reduction) it is necessary to work for social change that not only satisfies material needs but provides communities, households and individuals' access to social power in all three types of empowerment. This entails a focus on relations between people, which cannot be guided from governing elites without losing its alternative character. Friedmann also claims that empowerment has the best chance of success through collective organisations, because networks strengthen the process of social, political and psychological empowerment. What differs between Friedmann's and Kabeer's model, is that Friedmann's conceptualisation of empowerment is broader than Kabeer's strategic life choices, and encompasses empowerment without a radical transformation of structures such as patriarchy.<sup>29</sup>

As a contrast to 'liberating empowerment', ideas of liberal empowerment have to a large extent co-opted the empowerment discourse and projected women's rights to equality and power to be instrumentally validated within the hegemonic neoliberal development discourse and not as an intrinsic goal in itself:

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<sup>28</sup> Naila Kabeer has had training and advisory functions with various governments and international organizations, such as the World Bank, UNDP, UNIFEM, SIDA, Oxfam and BRAC and made numerous publications on developing frameworks and methodologies for integrating gender concerns into development policy and planning.

<sup>29</sup> For more thorough discussions on women's empowerment in relation to energy development interventions and access to electricity please see Winther, Tanja; Ulsrud, Kirsten & Saini, Anjali (2018). Solar powered electricity access: Implications for women's empowerment in rural Kenya. Energy Research & Social Science; Winther et al. 2017 and Winther and Standal 2016.

... the 'liberal empowerment' approach, regards women's empowerment as an instrument for development priorities, be they eradicating poverty or building democracy. Consistent with liberal ideals, the focus is on individual growth, but in an atomistic perspective, that is, on the notion of the rational action of social actors based on individual interests (Romano 2002). It is an approach that de-politicises the process of empowerment by taking power out of the equation. Instead, the focus is on technical and instrumental aspects that can supposedly be 'taught' in special training courses, for example (Sardenberg 2008, p. 19).

Several scholars have pointed to the de-politicising effect of the 'liberal empowerment' perspective, which puts women's autonomy and self-determination in a rational economic perspective (Listo 2018; Kabeer 2015; Chant and Sweetman 2012; Sharma 2008). By addressing the political side of empowerment, Aradhana Sharma (invoking Cruikshank 1999), points to empowerment as governmental (in the Foucauldian sense) with the aim of producing active citizens who participate in the project of governance and to mould citizens' behaviour towards certain ends such as the productive sphere in a market economy context (2008, p. 3). The concept of empowerment has developed in the neoliberal era as a replacement for welfare and has thus become a key strategy for policies in states attempting to downsize their welfare bureaucracies in line with a neoliberal political economy (Sharma 2008, p. xv). This tendency is illustrated in Kim et al.'s (2018, pp. 240-243) study of a women's livelihood project in rural Kyrgyzstan where the makings of empowerment were designed at producing women into industrious 'entrepreneurs' who increased profit through micro-credit and will to take risks to expand their production. Some of the women in this study paid a very high price in terms of health and life quality as the project in Kyrgyzstan did not consider women's care work responsibilities and the gendered norms framing their everyday life and social relations. For the women who fell out, there was, however, no social security to help them back on their feet, but rather a community label as unfit and disappointing.

Development discourse has gone hand in hand with neoliberal mechanisms promoting 'self-governance', reducing state responsibilities and reforming state-society relations. This line of discourse has also been pursued within India's development planning. Though the focus on women and gender inequality has been given a greater salience in India's National Five Year

Plans<sup>30</sup> there has been little attempt to address structures of inequality, rather gender inequalities (in obtaining resources etc.) have been identified as ‘women’s issues’ putting the burden of responsibility on women (Raju 2006, p. 291-292). In fact, targeted development interventions made to expand women’s capabilities intensifies their workload and puts them in the forefront in tackling shocks of economic adjustments (Sharma 2008; Moser 1989; Waring 1988).

The concept of empowerment and gender has been used strategically by the Indian state for development purposes as a response to intersecting local, national and transnational processes, such as rise of different rights-movements (Dalit, women’s and leftist) and the failure of state-initiated poverty reduction strategies and regional feminist groups and frameworks (Sharma 2008, p. 1). Empowerment discourse has therefore grown into the Indian state apparatus and been used in various agendas for women’s education and development schemes such the establishment of women self-help groups (livelihood and credit schemes) and the Mahila Sangha program (ibid.). Similarly, as discussed in Ch. 9, Norwegian development policies and agendas have also been heavily influenced by the concept of empowerment as means to promote good governance and economic growth in the Global South: ‘In order to make development cooperation more sustainable and more cost-effective it is necessary to pay more significant attention to the female half of the populations’.<sup>31</sup> This aligns neatly with the game-changer (Standal, Winther and Danielsen, in press) and ‘girl effect’ agendas of contemporary GAD discourses. Women’s work is channelled towards activities labelled under the ‘productive sphere’ within the economy, in order to enable economic growth and family well-being. As a side-effect of such policies, welfare becomes the main responsibility of women and not state provision. Simultaneously, women to a large extent (though sometimes reallocated to other women within the family) continue to have the main responsibility for the social reproduction of labour and other care work within family and capitalism (Kabeer 2016), thus subsidising patriarchal structures. As discussed next, the different perceptions of empowerment can be put in the context of Molyneux (1985) and Moser’s (1989) framework for meeting practical and strategic gender needs.

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<sup>30</sup> The National Planning Commission, initiated in 1938, has been instrumental in post-independence India development, by formulating Five Year Plans for the best utilisation of the country's resources to achieve development and progress. President Narendra Modi declared in 2015 that the National Planning Commission would be replaced by the new National Institution for Transforming India (NITI).

<sup>31</sup> <https://www.norad.no/om-bistand/publikasjon/2009/handbook-in-gender-and-empowerment-assessment/>. Downloaded 15.01.2015.

## ***The Empowerment Agenda: Meeting Practical and Strategic Gender Needs***

As discussed above, the theoretical underpinnings of WiD are still salient within the contemporary paradigm of GAD discourses on women's empowerment. As shown by Kim et al. 2018, these theoretical underpinnings also produce some of the same consequences as warned by Moser (1989) and others earlier; the focus on women purely as untapped productive potential and not the unequal gender relations that inform their position in deplete the meaning of empowerment as a political, social and cultural project, as well as leave women overburdened and in continued marginalisation. Moser (1989) brought to attention how development planners needed new methodological tools to better understand the different needs of women and men in development, and how meeting these needs could be done towards practical and strategic ends. Moser (1989, p. 1801) developed the triple-roles of women framework, which highlighted the necessity to understand women's role in reproductive, productive and community managing work to comprehend the contextual needs of women and men in poor households and communities. According to Moser, women as an extension of their gender-ascribed roles within traditional gendered divisions of labour (providing care work), are also engaged in community management work (as also noted by Bhattacharya 2017). This work is in the context of state's lack of ability to provide resources and management. Women's community management work is characterised by being unpaid voluntary, in contrast to men's position within community management in formal positions providing authority or payment. As the work of women's triple roles is perceived as natural, it is also not recognised as work, making women 'severely constrained by the burden of simultaneously balancing these roles' (Moser 1989, p. 1801). However, it is necessary in the planning process to not only look at women's work in terms of the resources they generate, but also how they are produced from social relations (including other sources of oppression than gender) and how the work is done (Kabeer 1994, p. 276).

Building on Molyneux's (1985) conceptualisation of practical and strategic gender interests, Moser's framework also highlights the need to identify and distinguish how specific needs fulfil criteria of being practical or strategic for women's struggles in planning interventions.<sup>32</sup> Moser (1989, p. 1803) sees strategic gender needs as;

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<sup>32</sup> Molyneux and Moser both state that though their framework relates to women's struggles, it is not meant to generalise the interests of women as a homogenous group. Rather, the framework is intended to 'specify how the various categories of women might be affected differently, and act differently on account of the particularities of their social positioning and their chosen identities' (Molyneux 1985, p. 232).

... those needs which are formulated from the analysis of women's subordination to men, and deriving out of this the strategic gender interests identified for an alternative, more equal and satisfactory organization of society than that which exists at present, in terms of both structure and nature of relationship between men and women.

The abolition of gendered divisions of labour, or control over one's fertility are examples of strategic gender needs that would impact on gender equality. Measures taken by intervention to accommodate women's full decision-making power over their strategic life choices (as spelled out by Kabeer earlier) would be in line with strategic gender needs. According to Moser (1989, p. 1803) practical gender needs contrasts with strategic as they are; 'formulated from the concrete conditions women experience, in their engendered position within the sexual division of labour, and deriving out of this their practical gender interests for human survival.' Practical needs therefore often are closely tied to class struggles, rather than women's subordinated position from patriarchal structures per se. Such needs do not usually challenge dominant forms of subordination though they are a result of them (Molyneux 1985, p. 233). Providing women with livelihood options and credit can meet the basic needs of women by providing some control over income and consumption (which might be curtailed by distribution within the family that privilege men or seniors), but it does not necessarily translate into changes in the gendered division of labour as women's livelihood options often are an extension of the work women do in the family and which is compatible with attributed gender roles of femininity (such as sewing, cleaning, tending livestock etc).

The understanding and knowledge produced from applying Moser's (1989) framework resemble the distinction Peterson (2005, p.507) makes between using gender as a governing analytical code, versus only looking at differences in gendered outcomes, which obscures the structures and power relations that devalue the feminine in the first place. Moser and Molyneux (1985) framework is contemporary relevant to the analysis of development interventions' impact on women's lives, but also on a more abstract level to understand the makings of empowerment as an ideological construct displayed in policy discourse and development practice, and the consequences it produces on gender relations in concrete interventions.



## **Applying Feminist Political Economy as Theoretical Framework Approach**

To explore the research questions addressed in this PhD study requires a theoretical lens that enables broad, but also a detailed understanding of the qualitative processes at work. As stated in the introduction, the case of the village electrification project concerns several issues; the implementation of a socio-technical system that provide electrification changing everyday life and history in communities; a specific commercial and development investment in the form of a PPP; the abandonment and failure of a development project (especially in Ashapura); and finally understanding the effects on women's lives and gender relations in relation to empowerment as a stated focus of the Village Electrification Project. Feminist political economy as a theoretical approach is preoccupied with issues and theories that are central to understanding the nexus of women-energy-development. The dimensions of women's work under the family, capitalism and development conceptualises the interlinkages between women's work, access to modern energy and women's position in family and community and how the spatial economic geography of masculine/public and feminine/private materialises in women's legitimate claim to resources, decision-making and freedom. Firstly, feminist political economy has made visible the importance of women's work and the contribution women's work has for family well-being and local and national prosperity. Energy and energy poverty plays an important role in women's work. As women in the Global South have the primary responsibility for cooking and procuring firewood etc., energy access has potential to ease women's work burden, as well as provide input for new or more efficient (read profitable) livelihood activities. A feminist political economy framework approach, offer explanations further than gendered outcomes and question the makings of empowerment and the attributed women's work under development. Secondly, women's work and energy access have the focus of development discourse where women have become one of the most visible representations as victims of energy poverty in development discourse, as well as game-changers that are untapped potential for increased economic capital (with energy access) (Standal, Winther and Danielsen in press). As described in this chapter, a multitude of theories is needed to address the research questions. Therefore the analytical framework of women's work, social reproduction and women's decision-making is supported from theories on capital, family and kinship relations, and development/empowerment to give well-founded answers to the research questions posed in this study. Using theories on gendered spatial economic geography, capital (as understood by Bourdieu), empowerment as concept to increase women's agency for

practical or strategic needs (e.g. instrumental gains or power (in line with Kabeer or Friedmann)) the feminist political economy theoretical approach used in this study exposes both positive and negative makings of empowerment in the Village Electrification Project.

### 3. Exploring the Gendered Fields of the Village Electrification Project

This study investigates in what ways the implementation of Village Electrification Project, and the projects' use of empowerment as a stated focus, has made a difference for women's lives in the local communities. The objective is to understand how distribution of solar energy in a PPP initiative for solar electrification in India can promote opportunities for women and how the production and reproduction of 'gender' within such a project influences this. This chapter provides a detailed description of the methodology used to produce such understandings, while Ch. 4 and 5 provides the reader an account of the social geography of the different domains of fieldwork.

Capturing processes of social change in the context of electrification as a social process warrants a qualitative methodological approach *in situ* that provides a deep and 'thick' (as formulated by Geertz 1973) description and attention to details. The data collected and analysed in this study is derived from a broad set of qualitative methods such as fieldwork observation, interviews and document analysis. Qualitative methodology's openness to nuances and suitability for drawing on linkages from a broad set of data allows contextual understanding and explanations through closeness to informants<sup>33</sup> to study people's action and accounts in relation to their relationship to energy in everyday contexts, which is crucial to understand the intersecting layers of the Village Electrification Project. As within a qualitative approach the analysis is based on the author's interpretation of the empirical data (Thagaard 2003, p. 170).

The study undertaken lends its focus to the case of the Village Electrification Project and a few research sites, allowing in depth knowledge and interpretation of meanings to how this relates to local and wider contexts (Hammersley 2007, p.3). The research sites of Jyotipur, Ashapura and Reshamgaon are unique in their context, but also illustrate the larger phenomenon of the Village Electrification Project (in 28 villages) and to some extent the challenges and characteristics of public-private projects for decentralised solar electrification in India in general. According to Noel Castree (2005, p. 543), case study research serves an important

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<sup>33</sup> How we refer to the people that are subject to our research is always difficult because it attaches labels and connotations as well as speak of the relationship between researcher and the researched. I use the term informant because it is associated with fieldwork methodology (through anthropology) and because it denotes that the researcher is 'naïve and must be instructed about what is going on in a setting, about cultural rules and so forth' (Morse 1991).

function by revealing diversities and how this diversity ‘arises out of multiscale relations’, which has constitutive effects on process. The cases are meant to be understood as multi-scalar contexts where policy discourse and the decisions and norms of the public-private partnership have constitutive effects on the processes in Jyotipur, Ashapura and Reshamgaon. To apprehend the interwoven and interrelated ‘stories’ of the Village Electrification Project and how a socio-technical system and intervention influences on women’s lives and gender relations and women’s empowerment this study draws inspiration from a ‘multi-sited approach’ (Marcus 1995) where the data material is gathered across diverse domains, through following the Village Electrification Project and CSPP, and its circulation from conception in corporate and development institutions to the implementation in local communities.

By focusing attention on structures of gender inequality the aims of this research is to contribute to understandings of how rural electrification developments and its use of empowerment affect women’s lives and gender relations,. This kind of knowledge is useful, not only in answering the question of whether electrification empowers women or not, but how such processes of empowerment or disempowerment come about in the advent of intervention and electrification and how positive developments can be reinforced (and negative diminished). As discussed in the introduction, access to modern energy has great effect on the transformation of rural communities and families in a globalising world, but these developments are not equally distributed or happening in a predetermined fashion, therefore site- and context-specific knowledge is needed to understand the effects of this transformation. In this context a gender focus needs particular attention, as this is often neglected because concepts such as households, families and communities are taken as unified uncomplicated entities, disregarding the power relations within them.

### **Gendered Fields: Studying Women in Geography**

The philosophical foundation of this study is interdisciplinary, drawing on both social and technical aspects of energy within a broad range of feminist political economy perspectives, but it derives its fundament from understanding geographies of gender and energy. The purpose of applying a political economy of gender approach in this project is to understand social, cultural, and political and gendered dimensions of energy production and consumption are constituted by concepts of space and place. As discussed in the previous chapter the importance of the

spatial imagination is useful when investigating the social construction of the ‘category of woman’ (Moore 1988, p.12) in the Village Electrification Project and how it relates to the position of women through space and time.

As described in the previous chapter, this study applies feminist political economy as a theoretical perspective as it brings out knowledge that differs from conventional studies that either has an andro-centric focus that obscures or deem gender irrelevant or empirical studies that are focused only on gendered outcomes. ‘Conventional’ political economy has primarily been driven by positivist or rationalist epistemological approaches to knowledge and though women or gender has been given an increasing focus in the field, this has had a ‘surprisingly limited’ impact on the knowledge production of the field viewed from a feminist perspective (Peterson 2005, p. 499-500). According to Peterson (2005, p. 499), political economy research needs to have gender as a governing analytical focus (what she terms analytical gender) to be relevant. Peterson (2005, p. 502) argues that the field of political economy research does not sufficiently grasp the complexities of political economy in a number of ways, even though there has been an emerging focus on women or gendered outcomes:

...women/femininity cannot simply be “added” to constructions that are constituted as masculine: reason, economic man, breadwinner, the public sphere. Either woman as feminine cannot be added (that is women must become like men) or the constructions themselves are transformed (namely, adding women as feminine alters their masculine premise and changes their meaning).

This research study follows the principles of a constructivist framework to understand women’s economic position in society and the complex socio-cultural processes that frame this position, as well as an attention to the interconnectedness of women’s position at different scales. Some scholars have raised the question if there is (or should be) some distinct research method that is better suited to studies on gender (McDowell 1992). Feminist research, as presented by Dorothy Smith, Sandra Harding and others, initiated precisely as a critique of male-produced and male-oriented methodologies. Contemporary feminist thought has been profoundly affected by postmodernism and post-structuralism critique of feminist solidarity based on Eurocentric values that seemed exclusive and dividing and reflecting a ‘particular set of ideas about power and knowledge, about truth and humanity’ (McDowell & Sharp 1997, p.5). The breakdown of the unitary subject (and hence unitary woman) in postmodernism has

led to new understandings of identity, power and knowledge (Standal 2008, p. 29). Not surprisingly, no consensus has emerged on best practice for feminist research methods, though some have advocated for small and qualitative case studies being best suited, because it draws on women's abilities to listen, empathies and validate personal experiences as part of the research process (McDowell 1992, p. 406). Others might view this as unhelpful in our globalised world where research should aim towards following people and connections across space. As it is the goal of this study to understand how gender is perceived and framed in energy and development discourse, and how distribution of solar energy through development cooperation can promote opportunities for women, it is necessary to view this process at different sites and levels.

This philosophical foundation also affects the choice of standpoint from which the research should take. Though the idea of feminist standpoint theory has justifiably received a lot of critique for projecting 'oppressed' women experiences as a concrete objective reality (vs. the oppressors ideological discourse), it has nevertheless been the goal of this research to explore energy development from the standpoint of the women in the local communities of the villages Jyotipur, Ashapura and Reshamgaon. Trying to elicit the narratives of women does not constitute a concrete objective reality, but the standpoint of the women is both crucial for the deep understanding of how such projects work on the ground and provide an opportunity for an often neglected group to feedback information to the system from bottom-up. Soliciting the standpoint of women does not exclude the standpoint of men and this study has, as best as possible, to interview both women and men concerning the implementation process and electrification in their communities.

This project is inspired by the ideas of Dorothy Smith's (2005) concept of institutional ethnography, which she labels a distinct *method of inquiry* pertaining to *sociology for people* and not sociology about people. This entails that the subject of the inquiry is to be seen as situated (and authoritative on) in his or her actualities of own living (Wideberg 2008, p. 318). From the standpoint of the subject, institutional ethnography proposes to explore the institutional order and 'relations of ruling', a method for mapping the translocal relations that coordinate people's activities within institutions. This differs greatly from much of mainstream social science, where inquiry is commenced by an apparently objective standpoint based on previous textual understandings. Rather institutional ethnography has the goal to not explicitly explain informants' behaviour or make them research objects, but to learn from their knowledge about their everyday practices, which becomes the position for an investigation of social

organisation. Though this study is not an institutional ethnography, though it builds on methods apt for understanding the relation between the lived social realities of the women in the local context in Jyotipur, Ashapura and Reshamgaon, and social institutions and discourses that shape the category of woman, to which these women are expected to conform to.

When doing research about (rural) women in India it is important to resist the colonising potential of research. Smith (2005) rejects ‘the dominance of theory’, stating that findings should not be prejudged by a conceptual framework that shapes how data is interpreted. As this study pertains to ‘subaltern’ voices it is necessary to be reflexive concerning western feminist scholarship’s history of reducing women in the global South to passive monolithic subjects and producing research in highly abstract language that alienates the persons researched (Chattopadhyay 2013; Mohanty 2003) and the role one as a western researcher plays in this when producing knowledge.

Chandra Mohanty’s (2003) point about the project of deconstructing and constructing new inclusive feminisms entails a ‘de-colonization’ of feminism, simultaneously to formulation of geographically, historically and culturally grounded feminisms. She defines colonisation as a discursive phenomenon where the production of ‘third world woman’ is created within scholarship and knowledge, through use of particular analytical categories in specific writings. This colonization also applies to scholars from the South who projects the women of their analytical focus as ‘the other’<sup>34</sup> (Mohanty 2003, p.18). The use of women as category of analysis will always refer to assumptions about a certain group of women, if not about all women. Academic work often has turned this into divisions of societies into women as powerless and men as perpetrators of power and violence (Mohanty 2003, p.24). Although violence against women in for instance conflict is systematic, the freezing of women as ‘archetypes of victims’ leads to freezing of our understanding of such discrimination and further trap our ability to effectively change it, which is the core of feminist projects. The solution according to Mohanty is to theorise and interpret such phenomena with contextual sensitivity, and to always be self-reflective about one’s position in production of knowledge (as a partial reflection of the world). The best way to integrate these inter-disciplinary aspects in this project lies in the choice of methodology. By choosing methods that enhance mutual understanding

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<sup>34</sup> This term is in reference to the work of Edward Said. Said argued in his famous book *Orientalism* (1978) that Western academia constructs the Middle East as the “other” This representation of “the other” is according to Said means of acquiring power over non-Western societies politically and economically.

and creates common ground of shared concepts, one opens up possibilities for a knowledge on gendered social impact of such energy projects that preserves complexity.

Women's experience... is a fiction and a fact of the most crucial political kind. Liberation rests on the construction of consciousness, the imaginative apprehension, of oppression and so of possibility (Haraway 1997, p. 358).

Haraway's (1997) concept of situated knowledge and engaged, accountable positioning remains potent. I have attempted to avoid colonising research methods by choosing to see the nexus of women-energy from the standpoint of the local women (who are often excluded from the implementation process as well as marginalised in local decision-making) and from there study upwards (from the standpoint of the women) to explore the ruling relations that produce discourses that influence these women's experiences of electricity. Further, I have been informed by India's strong feminist tradition and scholars situated in the Indian context such as Chattopadhyah and Chandra Mohanty, but also ethnographers such as Susan Wadley and Patricia Jeffrey. This is important because the policy and development discourse relating to gender, development and energy presents 'universal' categories of rural women, men and communities in a language and way that does not reflect the intersectionality and capability of these identities. It is therefore of utmost importance that research does not reproduce these categories, but instead sees the informants of the research as experts in their own experiences. Further, approaching texts as coordinated translocal<sup>35</sup> activities, showing that texts produced in one place are influential in coordinating activities and knowledge in a different place (Smith 2005, p. 66).

In pursuing a methodology of studying women and women's role in relation to the Village Electrification Project in rural villages in North India, the question of women's seclusion from public life becomes imminent. As Hanna Papanek (1973, p. 290) eloquently put it: 'In general – for such is the nature of segregation – the role of women has been given relatively little emphasis in most of the work done by anthropologists and sociologists in South Asia, except within the context of kinship studies'. Though the role of women and gender

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<sup>35</sup> The term 'translocal' is here understood as a close interrelations between different places and people. The term also encompass a qualitatively different way of seeing the world as translocal relations connect and influence different localities and people at the same time, which means that conditions or events in one sphere have immediate impact on other connected places.



relations are increasingly acknowledged in research the existence of high degree of segregation still raises problems of gathering and interpreting data. Women are less accessible to researchers, their daily activities less visible (and often rendered unimportant by both researchers and women themselves). To quote Papanek (1973, p. 291) again: ‘secluded women remain apart from the mainstream ideas in their society insofar as this mainstream consists of publically exchanged ideas’.

It is important to note that this does not mean women are excluded from development of attitudes and values, and certainly a study of folk songs or oral tales would reveal publically exchanged ideas. But relevant to this case study is how *purdah* in its practice both provided me as a woman researcher access to interview women in their homes, but also that women in many ways had a more difficult time talking about and relating their perceptions about their life to outsiders as part of their bodily training of muteness as described in Ch. 2. A repeating phrase to questions about their opinions and struggles of women was ‘what do I know? I am just a woman’. In addition it is difficult to see the discriminating power relations they are immersed in everyday life. As Wadley writes about the life narrative Santoshi, of one of her informants; ‘Santoshi’s rendering of her story in this brief fashion probably reflects her gender and poverty. There isn’t for her much to tell. She has always been poor. Further, no matter how hard she works, she remains poor. This brief story is packed with meaning’ (Wadley 1994, p. 24).

It poses challenges when interviewing women concerning discriminative power relations they are submerged in in such a way that they not necessarily see these structures themselves. My positionality as a white, foreign researcher means fine-tuned power structures such as caste discrimination and intra-household gender dynamics is hidden. Such challenges in gathering informants perspectives of mundane everyday life and the power relations producing their inequality also leads us to understand how this also played a significant role in how women related to the Village Electrification Project and how the project related to the women ‘beneficiaries’.

In order to capture the effects of the Village Electrification Project from the standpoint of the women I have chosen to include the narratives of particular individuals, Daarun, Sunita, Anita, Leelah, and certain events. These individuals’ experiences and actions in relation to the Village Electrification Project and electricity as a life resource are described this way to bring forth an analytical understanding of social change. As these individuals struggle to shape their

lives in a context of daily worries about well-being for themselves and their next generation, the social processes of development intervention and electrification emerge:

To tell their stories is to tell about others around and with them; the land they live on; their ability to create solutions to daily problems... (Peshkova 2014, p. 6).

## **Fieldwork and Data Material**

The data gathered for this study is generated through combination of a range of methods. The core element has been *in situ* fieldwork in the village communities of Jyotipur, Ashapura and Reshangaon. To understand processes of social change requires that you interact with and observe the communities and the people involved in it. As the villages were small and with very little infrastructure it was not possible to live there, but I stayed in the nearest towns. Both the visits to the actual communities and the travels to and from them were important to understand the context of the Village Electrification Project and the people involved. In addition the data is based on several interviews done both in NGO offices in UP and Jharkhand, as well as interviews with relevant institutions in Delhi and Oslo. Lastly, the study has involved exploring the different documents produced in the Village Electrification Project to map translocal relations that coordinate people's activities within the involved institutions. In order to follow the 'thing' Marcus (1995) refers to, the data has been gathered at three levels: 1) Local level, fieldwork in villages in different phases of implementation and use of solar energy in UP and Jharkhand 2) Meso level, actors and documents related to the Village Electrification Project, and 3). Macro level, the development policy discourse within development assistance for rural solar electrification. Now such a division of the different layers of gathering data should not be mistaken for a neat a linear process carried out based on a structured progression. Fieldwork is a meeting place for knowledge production, which follows a complicated and muddled path. As Guro Aandahl (2010, p. 109) points out:

A straightforward listing of data material and its sources is deceptive. It may give the impression that data was collected easily and systematically according to a pre-decided plan, in which research questions and strategies for finding answers to them were clearly set out before I ventured out into the field.

My own experience coincides with Aandahl's (2010) description of fieldwork as a complicated process. Many times individual interviews turn into group meetings, random encounters provide important information, while thoroughly planned excursions can be fruitless. During the course of time from when the Village Electrification Project started and the commencement of gathering data for this research study, some documents and traces of communication have been lost. Not all files were archived and minutes from meetings are not always comprehensive, The Mid-term Review (2011) also had a narrow focus on technical and economic effects, and the review's presentation of beneficiaries' statements of outcomes and benefits were quoted verbatim, diminishing the credibility. In addition, some documents are also not in the 'public eye' as the project involves the private sector. As will be described in limitations later, the question of access when working in new and foreign surroundings also plays an important role. The objective of the fieldwork has however been to gather information from the local context in the form of observation and interviews to gain a deeper understanding of the cases. Doing fieldwork in North Indian villages, and in 'elite' offices of commercial companies and development institutions require a flexibility and sensitive approach, which include constantly revisiting research questions and methodological approaches. You go where your data takes you.

As shown in the table below, the main body of data for this study has been collected through four periods of fieldwork in India, approximately four and a half months, carried out from February 2011 to February 2015, and through periods of interviews carried out in Norway:

***Table 2: Overview of fieldwork***

Time	February 2011	March 2011	January-April 2012	January 2015	February – March 2015
Place	Delhi	Assam	Jharkhand and UP	UP	Oslo
Purpose	Interviews relevant institutions	Baseline survey with TERI	Fieldwork in Jyotipur, Ashapura and Reshamgaon	Fieldwork in Jyotipur and Ashapura	Interviews Norad and Scatec Solar

During the first field trip in February 2011, I interviewed staff from different institutions involved in rural energy projects or who have an impact on energy development discourse in India (see table 3). The second field trip the following month was in cooperation with the Energy and Resource Institute (TERI), to do a baseline survey for implementing solar multi-utility centres in villages in the North eastern state Assam. This gave valuable observation into how one of the most important institutions on decentralized energy in India carries out their projects and research.<sup>36</sup> From January to April 2012, I spent three months visiting villages that were part of the Village Electrification Project in Jharkhand and UP and Madhya Pradesh (MP), though focusing mainly on the villages Jyotipur, Ashapura and Reshamgaon.

The data in this study consists of observation and interviews in six of the project villages in the Bundelkhand region of UP and MP; and five of the project villages in Dumka and Godda district of Jharkhand, see map below. The focus of fieldwork was put on the villages Jyotipur, Ashapura (UP) and Reshamgaon (Jharkhand), while observation and interviews from the other villages have been used as background information. The selection of Jyotipur, Ashapura and Reshamgaon as cases was determined by suggestions from Scatec Solar in India. As I stated my interest in studying the impact of access of energy on women's lives, they recommended their field sites in Jharkhand and UP on the grounds that these sites were more relevant for my study. The solar silk-reeling centres in Jharkhand are livelihood schemes for women, and the provision of water and light in UP affect women's every day work responsibilities. In addition women were elected into the VECs that oversee the project and hence play an active part in the projects maintenance. In Jharkhand, PRADAN was eager to draw my attention to several of their village projects and I was taken on board as an observant to both their self-help group activities around Reshamgaon and their projects of pond digging, dam constructions, and vegetable nurseries driven by women. Reshamgaon became a natural main focus as the self-help groups were active there and the project was running fairly well and it was reachable with a 2hrs drive from Deoghar.

In UP, the NGO Haritika took me first on an extensive tour of several of the villages in the Village Electrification Project, as well as using the opportunity to show me the range of activities they were carrying out in the area, such as horticulture, well construction for irrigation. The choice of Ashapura as focus village was made because here the Village Electrification Project was also working fairly well. The village was larger than the average

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<sup>36</sup> For more information please see: [http://www.teriin.org/projects/nfa/pdf/Working\\_paper6.pdf](http://www.teriin.org/projects/nfa/pdf/Working_paper6.pdf)

project village and the VEC was run satisfactory and they had deposited a significant amount in the VEC bank account that would ensure economic viability when repairs and change of parts would occur in the future.

Here I also observed the involved NGOs, PRADAN and Haritika's work in the villages, as well as carry out interviews with women's groups (Jharkhand) and with women and men in their households and members and presidents of VEC and Village Operators (VO). I also carried out interviews with NGO staff and the Indian representative of Scatec Solar. These interviews provided a very good background into the projects shortly after implementation and the positive sentiments related to receiving energy. In January-February 2015, I revisited Jyotipur and Ashapura (and surrounding villages) for a short follow up to investigate the long-term effects of the implementation. This provided valuable data on the challenges facing such projects over time and after the withdrawal from the public private partnership actors. I intended to do a small scale survey as well in 2015, but the interviews in the rural setting are never private and time constraints made this very challenging. Instead, I carried out interviews with selected households that shed light on the current situation of the CSPP and supported earlier findings in relation to consumption and women's participation in the project. I also re-interviewed staff from Haritika to hear their perspective of the situation.

Fieldwork for four and a half months has allowed time for interacting with informants and experiencing the places they live their daily lives. This is necessary to fully appreciate and understand the nuances of development interventions and electrification as social processes. Similarly, visits and interviewing NGO staff and 'elite offices' of relevant development institutions and Scatec Solar constitute relevant data as this is where the decisions and guidelines of the Village Electrification Project took place.

### ***Interviews and Observation***

Though the strength of fieldwork is the opportunity to gather information from a great variety of sources (including informal conversations, gossiping and random encounters), most of my material in the field derives from interviews and observation. The overview of interviews can be seen in the table below:

**Table 3: Overview of interviews**

Macro	Name/Title	Time	Total
<b>Swiss Development Cooperation</b>	Senior Advisor	16.02.2011	1 Interview
<b>World Bank South Asia</b>	Energy analyst	17.02.2011	1 Interview
<b>TERI</b>	Associate director, associate fellows	2011/2012	5 representatives
<b>UN Women</b>	Senior Advisor	17.01.2012	1 Interview
<b>UNDP</b>	Programme officer and programme associate energy and environment	16.02.2011	2 representatives
<b>ENERGIA</b>	Regional network coordinator	2012	1 Interview
<b>Norad*</b>	Senior Advisors ‘Tonni’ and ‘Jo’	05.03.2015 29.04.2015	3 representatives
Meso			
<b>Scatec Solar Oslo</b>	Business developer ‘Jone’	18.03.2015	1 Interview
<b>Scatec Solar India</b>	Senior Manager/director	17.01.12	2 Interviews
<b>PRADAN (Jharkhand)</b>	Sanjay (CEO), Geeta (team leader), Parwati, Manjushree (staff)	2012 (4)	4 representatives
<b>Haritika (UP)</b>	Sujay (CEO), Supata, Shilpa (staff)	2012/2015 (5)	3 representatives
<b>Development Alternatives (UP)</b>	Programme manager energy	17.03.2012	1 Interview
Local level Jharkhand			

<b>Village Operators</b>	Reshangaon, Fitkoria village	2012	2 Interviews
<b>MASUTA</b>	Staff member	2012	1 Interview
<b>Self-help groups</b>	Reshangaon, Barha, Khuloria, Khurda village	2012	4 Interviews
<b>Individual interviews</b>	Reshangaon, Khurda village	2012	7 Interviews
Local level UP			
<b>VEC</b>	Jyotipur, Ashapura, Yaara village	2012/2015	3 women members, 3 VEC presidents
<b>Village Operators</b>	Jyotipur, Ashapura, Yaara, Viaara village	2012	4 Interviews
<b>Bergen Group</b>	Staff	22.01.2015	1 Interview
<b>Group interviews</b>	Saithwara, Yaara (2), Dudariya village	2012/2015	4 Interviews
<b>Household interviews</b>	Jyotipur, Ashapura village	2012, 2015	11 Interviews

During the fieldwork period I spent considerable time on observation. Again this was not a methodological tool in some premeditated fashion, but something that came about naturally. Interviews are not ‘windows on the informants’ inner experience’, rather the interviewer is meant to learn from the informants’ practical knowledge (DeVault & McCoy 2006, p.18-19). Especially in Jharkhand it was important to observe the working process of the silk-reeling and self-help group meeting to understand the women’s benefits and challenges in using solar energy for their livelihood such as young mothers facing challenges of childcare, with sleeping babies lying on the concrete floor etc., This also led to insights about how the PRADAN worked to empower women through network meetings etc. Similarly in UP I observed Haritika as they interacted with the villagers and the energy project. Though the field of rural electrification was not new to me, the context in India was. All my interviews were therefore semi-structured in order to allow informants to bring up topics that otherwise might be missed.

This was an important path to getting a sense of the field when interviewing international institutions and organisations working in India.

### ***Elite Interviews in Delhi and Oslo***

The data material gathered from interviews with Norad (former and present) staff and representatives of Scatec Solar and international or national development institutions also constitute an important source of data and deserve additional comment. Such interviews also provide time for observation, albeit less systematic and time-consuming than fieldwork allows for. Firstly, the interviews in Delhi were with international and national development institutions that work with rural electrification or energy access (not always solar) in India, and have first-hand experience of how to implement rural electrification projects and the benefits or challenges that come out of such interventions. Especially, the fieldwork in collaboration with TERI in Assam provided insights into how organisations perceive needs assessments of the ‘beneficiaries’ and what role gender plays into this. It was evident throughout the interviews and the baseline survey in Assam that gender is seldom on the agenda other than as; legitimisation of projects, as women assumingly benefit as their households or communities got access to modern energy services of some kind; or as focus of not doing harm. Issues of intra-household power relations, reflections on the concept of access were not addressed other than if the objectives of growth and productivity would also lead to women’s empowerment. Still, such issues might have importance in other sectors of the same institutions, such as health, education or livelihood.

Interviewing representatives of Scatec Solar and development institutions in Delhi and Oslo, are in many ways what can be viewed as ‘elite interviewing’ where a researcher ‘studies up’.<sup>37</sup> Researching ‘up’ is useful to generate knowledge about attitudes, ideologies and discourses of influential groups and or how such groups influence processes of policy decision-making (Richards 1996, p. 199). However, interviewing what DeVault and McCoy refer to as frontline workers, introduce challenges in moving beyond their institutional language (DeVault & McCoy 2006, p. 28). These informants are used to interview situations and can easily avoid

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<sup>37</sup> For a more detailed discussion of elite interviewing and different techniques please see Kezar, Adrianna. 2003. Transformational Elite Interviews: Principles and Problems. *Qualitative Inquiry*, 9, pp. 395-415. and Richard, David O. 1996. Elite Interviewing: Approaches and Pitfalls. *Politics*, 16 (3), pp. 199-204.



revealing failures (or even successes) that have come about due to ignorance or coincidences. Needless to say, such interviews require a different preparation to establish credibility, some level of trust and ability to challenge their perspectives and reflexivity, and allow the informants to challenge the researcher's perspective (Kezar 2003, p. 396).

Though the aim of this study is to elicit the voices that are often unheard within development policy and rural electrification this study starts at the standpoint of the local women, and my research also commenced with their perspectives. However, the interviews with development institutions in Delhi, Norad and Scatec Solar India gave important background of rural electrification from their perspective and insight into understanding more of their organisational values, cultures and strategies. For practical reasons I conducted interviews with Indian development institutions before embarking on rural fieldwork in 2011, and 2012. During my fieldwork on village level I did interviews with NGO staff when convenient for them. I chose to conduct interviews with Norad and Scatec Solar (in Norway) after I had done my last round of trips to India in 2015. This way I had a chance to follow up and ask questions on the latest development without exhausting their time with multiple interviews. I had also tried to interview staff from Scatec Solar previously without any luck, but this changed in 2015, as both Norad and Scatec Solar was eager to hear from the local ground on India since they had withdrawn their operations.

A large part of the fieldwork in Norway was to gather and study the documents produced in relation to the Village Electrification Project translocal relations that coordinate people's activities within the PPP. Since Norad represents the Norwegian public sector, the project documentation originating from them is normally archived digitally and the public can ask to see them.<sup>38</sup> Some of the documents were exempt from public, though most are available. In the end I was allowed to come to Norad and go through the files myself. This provided new insights both into how the Village Electrification Project had been on to new personnel over the years, but also how gender and important questions of local ownership had been discussed between Scatec Solar and Norad, which was communicated through notes on documents and emails. As will be discussed in Ch. 10, the ideas and principles of issues like gender changed considerably when going from the planning board to execution of the project. Due to issues of confidentiality statements from notes and emails cannot be quoted or referenced in the same way as official

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<sup>38</sup> There are 86 entries of archived documents concerning the Village Electrification Project. For a list of the official documents of this study please see [www.oep.no](http://www.oep.no).

documents, nevertheless they play a significant role in understanding how public private partnership projects works. Several of documents concerning the Village Electrification Project are also not public domain such as contracts and terms between Scatec Solar and the NGOs etc. As Scatec Solar is a private company the same rules of transparency and openness does not apply to them even when engaged in a public private partnership. This is of course also understandable as disclosure of all information will be visible also for their competitors in the rural decentralised solar market. Sub-contracts with suppliers and NGOs are therefore not public as they reveal tariffs and prices. However, Scatec Solar have never tried to obstruct my work, and on the contrary have assisted me in the attempt to study the Village Electrification Project and it is the purpose of this study to engage with understanding implementation of CSPP as a socio-technical process and bring knowledge that can positively influence goals of universal access to energy for all.

### *Translation in the Field*

Generally, in the ideal of conducting qualitative fieldwork, the researcher is supposed to learn and master the language of his informants as a fieldwork tool for deep immersion into the life of ones informants (Borchgrevink 2003, p. 96). Consequently, there are few practical tools or advice in methodological literature concerning the use of a translator. The use of translator is however, quite common, and in some cases provide additional information as the researcher has the opportunity to see how the informants interact with the translator in relation to caste, class and gender relations. Though followed the first year Bachelor degree course in Hindi taught at the University of Oslo my skills were not adequate for doing interviews without the use of a translator in the villages.

The interviews I conducted in Delhi and with NGO employees were carried out in English as this is the working language of the development sector in India. The villages Jyotipur and Ashapura in UP, and Reshamgaon in Jharkhand, all had Hindi as their main language (though Jharkhand is actually one of India's most diverse state linguistically), so I relied on translators in the villages. According to Borchgrevink translators should be selected with great care and one should train the translator, taking time to explaining the priorities and interest of the researcher and enlist the translator as participant in the research (2003, p. 11). However, finding suitable translators in the field was a difficult task. In the areas I stayed in Orchha, Nowgong and Deoghar there were few people who sufficiently mastered English and those who

did had full time jobs in hotel receptions or working for the NGOs Development Alternatives, Haritika or PRADAN.

After futile attempts to find an independent translator in 2012, I accepted the generous offer from PRADAN and Haritika to use their personnel. In Jharkhand two young women; Parwati and Manjushree (names are pseudonyms) accompanied me and translated for me in interviews. In addition to translating, they were able to give me additional information since they knew the villages well and had worked with projects there over several years. They also had the trust of the villagers, which also positively affected my own acceptance for doing research in the communities. Specially, Parwati, a Brahmin from an educated rich family from a neighbouring state, with a very fair complexion was teased, loved and admired by the village women. Her very different *persona* than my informants, often led to a lot of humour among the women and eased up conversations considerably. Unfortunately, younger and shy women were sometimes also intimidated by her, and though the self-help groups had formed strong solidary bond between the women, it was obvious from my observation that some were excluded from this powerful network and also difficult for me to interview when associated with Parwati and her connections in the village. Manjushree was perceived more of an equal within the women's groups, providing different social context.

In UP, Sutapa, a young newly married employee at Haritika, did most of the translations for my interviews. Whereas Parwati was determined to make the self-help groups independent and empowered, Sutapa had more focus on problems and values that hindered 'development', and her style gave the interviews a more formal atmosphere than with Parwati. However, Sutapa was also well respected in the villages and all were eager to invite us in to their home and be interviewed. As Sutapa was young and just married, she often bonded with young women, and especially daughters-in-law, and knowing I was interested in gender relations in the community and within the family she would help with bringing up issues of power relations in the household that resulted in much information about discrimination against young married women. Parwati, Manjushree and Sutapa all provided many insights and invaluable help during the fieldwork process and such 'helpers' as I call them made an impossible situation doable.

In 2015, I had the same challenges of finding translators and at first I engaged the help of the drivers that worked for the car rental company I used, as they spoke some English. The drivers were two young brothers, Pratap and Prakash, in their late 20s. They preferred to speak to men of their own age and seemingly social class (rural middle class), and any attempt to

interview women ended up in awkward embarrassment. However, the mutual understanding of young men's life and their perspectives between Pratap, Prakash and young men informants provided valuable insight that I did not get when using women translators. Later, I had the opportunity to accompany Sutapa again to the village. As she had been on maternity leave and now worked in a different village, our visit back to Ashapura was a sort of reunion for her and the villagers. The conversations therefore had a positive atmosphere despite the fact that many of the villagers were frustrated and angry over the broken services of the CSPP.

Using a translator influences the data you acquire, because they, like all of us, interact with some better than others, and because they occasionally influence informants statements. Much of my data also relies on observation, which to some extent helps correct the impressions and reinterpretations that come from translations. Further, many interviews were tape-recorded and I had most of this material transcribed by someone proficient Hindi to find what was 'lost in translation'. Surprisingly little was lost however.

Another important factor for this research and for anyone doing fieldwork is how such helpers in the field ascribes you roles and interests that help you reach out to some informants while blocking the way for others (Borchgrevink 2003, p. 109, Standal 2008, p. 50).<sup>39</sup> Translators, research assistants or 'helpers' will be subjected to scrutiny by the people by one's informants who can result in informants' unwillingness or the translator may serve as a 'gate-opener for the researcher by serving as warrant of good intentions' (Borchgrevink p. 106). Having only women translators with me and quickly labelled as someone probing into questions of women's every-day life, I was directed mostly towards women informants and dismissed by senior men in the same household. Using men informants women would be extremely hesitant to be interviewed. Using several translators and trying to broaden the set of data was a useful approach to acquire data and also served as an opportunity to search for reorienting or disconfirming observations (Stewart 1998, p. 21).

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<sup>39</sup> Borchgrevink describes the dilemmas of Berreman's use of a high-caste interpreter, which effectively blocked him from access to the low-caste villagers and limited the information he got from the highcaste informants. During my research in Afghanistan I encountered the dilemmas and benefits that come from the gendered and ethnic identities of one's translator.

## The ‘Personal’ and the Field: Reflections on the Researcher

In the aim of doing qualitative fieldwork, researchers put forth themselves as research tools in order to acquire and produce knowledge. This process entails manoeuvring in a social landscape where ‘researcher-researched relationships are subjected to multiple intersectional layers of interpretations’ (Chattopadhyay 2013:137). In the space between the researcher’s body, the field and the informants, different narratives, identities and conceptions are being formed and negotiated throughout the research process. In this process the researcher and informants exert agency in taking on and ascribing roles for themselves and others. As a Norwegian researcher doing research in rural India one is as much an ‘outsider’ as one possibly can be. This affects the type of information one can elicit and behaviour of your informants. Most of the time I did not enter the field alone, but brought with me my husband and son and during fieldwork in (January – April) 2012, I was also pregnant in my second trimester, which again altered my *persona* and researcher-informant relationship.

Entering into the field as a family entity, in contrast to earlier experiences of fieldwork done alone, altered in many ways my relationship with my informants.<sup>40</sup> Being married with soon two children, of whom at least one was a son, meant I had assumed some status. Being a wife and mother also meant that I was a respectable woman with seemingly safe and good intentions. To some extent it also demystified my presence as foreign researcher. My son was the centre of much attention and opened up several ‘doors’, which led us as a family to encounter India in general, in a different way. Further, my pregnancy was a usual start-up of most conversations with women and their curiosity meant that we had reciprocity of questions which provided more of a conversation than a formal interview (Shields and Dervin 1993, p. 67). At times these conversations would bring up sensitive topics as my informants confided about breastfeeding or issues of fertility such as sex-selection abortions. Conversely, during previous research in Afghanistan in 2007, I was met with the problems of creating common ground for understanding, especially when interviewing women. As a childless, educated Western woman there were little commonalities between us.

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<sup>40</sup> Little has been written in human geography about researchers bringing their families with them to fieldwork. This theme has however been taken up in some social anthropology literature such as; Cassel 1987. *Children in the Field. Anthropological Experiences* and Bell et al 1993. *Gendered Fields. Women. Men and Ethnography*.

Life situations, such as being pregnant and mother of small children, does not just influence the role you take or are ascribed in fieldwork, but provide insights and experience both as a person and as a researcher. Caplan (1993) describes her journey of *learning gender* during her fieldwork in three different periods. Her process went from ‘ungendered field and ungendered self’ in the 60s to ‘gender problematized’ when she had established her own family and was perceived as a ‘grown up’ woman. These changes in personal identities and ascribed roles by informants provided her a different access and trust in relation to women revealing nuanced layers of gender discrimination (Caplan 1993, p.168). Life situations: ‘can also illuminate aspects of our situation within the world, in our own social structure, and among those we study, that we might otherwise overlook or ignore’ (Cassel 1987, p. 270). Caplan’s reflections over her fieldwork speaks both of her journey as an academic and in her personal life, where she between the second and third visit, finds herself juggling the responsibilities of a growing family and academic career. For me as well, the aspects of motherhood made me realise the importance of the discourses of nursing and comfort, and its relation to energy brought up by my informants. Having electricity simply made it easier to take care of children in the night and gave many mothers a sense of accomplishment as motherhood is seen one of their most important role in life.

The constellation of family and researcher also makes visible what Cassel (1987, p. 267) refers to as *dualities in the field context*, which otherwise might not appear to the researcher. She describes the daughter of one researcher as ‘the white princess’ who with her presence revealed hegemonic discourse of whiteness and superiority. My informants’ care for my own ‘white prince’ reflected the general perceptions that our skin-color and outsider status made us superior and more interesting. This revealed how fairer skin-color was an important marker of status among my informants, translators and NGO employees, used strategically to retain admiration and respect.

My pregnancy also exposed battles of values concerning a woman’s body and maternity that otherwise might be missed. For most Indians pregnancy is a common affair and pregnant women are seen in working situations everywhere, but at times men approached my husband and politely advised him to keep me safe in the confinements of home when pregnant. These seemingly very conflicting views upon women seemed to reflect values of class and such advice was always given by middle class men who saw us as equal in economy and status.

Getting personal with the field entails a scrutiny of researcher-field relationships. This means being reflexive of the power relations that characterise the interactions during the research process. As an educated white western researcher carrying out research in the global South there is an imbalance power. The general view of the researcher as powerful and the informant as passive and powerless is not nuanced and often wrong. It is more productive to see the researcher/informant relationship as a process of fluctuating power, where researchers can be insecure and the informant in control, and vice versa. Carrying out research in Afghanistan, my status as western and educated, made my informants ascribe me the role of a 'quasi-male' that enabled me to do observation and interviews in settings normally closed off for women (Standal 2008, p 50). Simultaneously, I was not viewed as powerful in encounters with women's groups as I was childless and hence lacked what is needed to obtain social power in their view. Also labels of sameness or difference is never totally achieved as identities of race, class, gender and place are not fixed entities (Chattopadhyay 2013, p.148). This warrants a methodology that 'maximise that we see things we are not expecting to see' (Chanson, in Chattopadhyay 2013:149).

## **Limitations and Ethical Dilemmas**

An important aspect of critically reviewing the role of the researcher is also to aid the reader to be reflexive of the researcher's biases and research ethics (Peshkova 2014, p.11). The research process of this study has not been without its challenges and limitations. The issue of language and 'helpers' in the field have been discussed above, but matters of access, informed consent and anonymisation have also been a challenge in order to obtain valuable insight into the social processes this study wishes to explore.

The question of access is one of qualitative fieldwork's main challenges as the provision of data is contingent on personal relations (Hammersley 2007, p. 41). Negotiating field access, especially in surroundings that are unfamiliar, is at times an overwhelming task. The distinct social and cultural hierarchy in Indian communities also put restraints on the research, relating to whom one is seen as attached to when conducting research. I gained support and 'permission' from Scatec AS director in Oslo and subsequently aid from their Indian daughter-company Scatec Solar India. They informed their partner NGOs who then facilitated my visits to the villages. Scatec Solar and their partner organisations functioned as gatekeepers to my research

as without them it would have been extremely difficult to obtain the villagers trust when approaching the field. According to Hammersley (2007, p. 58), relationships in the field can be both obstructive and facilitative. Moving into an Indian village in the event of studying an energy project without a formal introduction and ‘blessing’ from the institutions delivering the energy service would most likely be unproductive and lead to suspicion.

The attachment with the Scatec Solar, and Haritika and PRADAN was not only valuable in terms of support and legitimacy towards the informant, they were also important informants concerning the implementation of the Village Electrification Project and the communities based on their long experience working in them. Such information provides background information of the communities and an Indian ‘outsider’ perspective of the cultural settings in communities.

Despite their necessary and invaluable help, the NGO staff could at times be intimidating towards the informants and inhibit openhearted criticism being raised in their presence. However, complaints and request to the NGOs was always fronted during my visits in the villages and the temperature of discussions could get quite high. In one village arguments between the villagers themselves and the NGO, ended in violent mass brawls (despite the presence of children, including my son) during my visits in 2012 and 2015. In summary, having help from staff already involved in the Village Electrification Project had its pros and cons, but none of the NGO staff refrained from speaking their mind about the shortcomings of the project and neither did villagers.

In order to ensure good research ethics and conduct this study follows the NESH guidelines for social science research. To ensure informed consent, I always started every interview with explaining my purpose of the inquiry, and ended all conversations with asking for their consent in using their knowledge and answers for my research. This was, with one exception, always met with a positive yes. According to the NESH guidelines, the researcher should always strive to obtain informants consent based on their informed decision, and the informants should have the right to withdraw their participation and contribution at all times during the research. During elite interviews this is a rather straightforward procedure. For anyone who has done qualitative research based on fieldwork in rural villages in the global South, this is however, anything but straightforward. My requests for consent were only verbal and not written. Many of my informants are not literate and asking them to sign a document they cannot read seemed potentially embarrassing for them. Further, the right to withdraw the consent and material gathered poses similar challenges. Once you have exited the field, what



are your responsibilities? Equally important is how the interview setting is conducted. I never pressed my informants on sensitive issues, but instead focused on their perceptions and everyday use of energy. If my ‘helpers’ in the field seemed intimidating I immediately cancelled the interview or tried to rephrase questions to ensure the informants felt the interview provided them safety and confidentiality.

Regardless of diligence towards ethical guidelines of consent, the strength of fieldwork lies in its possibility to gather a holistic perspective as it provides information from multiple sources. This poses difficulties to procedures of consent. A lot of data gathered are based on loose conversations in passing, observation and anecdotes, maybe even gossip. Are they to be viewed as automatically included in the consent obtained at the start of the research? These questions pose a great challenge to anyone who wishes that their fieldwork should comprise of more than formal interviews. Consent is something that has to be negotiated throughout the research process. I have chosen to be informed by the holistic perspectives that derive from fieldwork and not exclude such information. That said it has been evermore important to stay true to the perspectives of my informants and to be as accurate as possible, always re-examining the data material during the analysis and writing process.

This study explores power dynamics of gender relations and the nature of this research is related to gender equality and discrimination. Social punishment for breaking with traditional values and confronting power relations can be grave and research into this field requires specific focus on ethical considerations (Standal 2008, 54). It is therefore of great importance that my research does not provide information that might cause reprisal against informants, while at the same time the information they conveyed should be precise and detailed. To ensure informant’s safety and confidentiality data has been stored with password security and all individual informants are anonymised using pseudonyms. I did not obtain personal information beyond given names and characteristics of household. The research sites have also been given pseudonyms to avoid revealing personal identities. A few times name of places is omitted and composite characters have been created for the same purpose (as creative nonfiction; Peshkova 2014; Narayan 2007). The NGO staff who are mentioned in this study, as well as VOs, VEC members and my translators can be identified by others who are working in the field (despite my attempts of anonymization). This is always a dilemma, the only thing a researcher can promise is their anonymity and as best as possible not give information that can be cross-checked and explain the research in a truthful manner when asking for consent.

To allow accuracy and enable valuable knowledge for other researchers who might wish to do research in the same areas or with the same institutions I have kept the original names of districts, states, institutions and Scatec Solar. If places, institutions and companies are anonymised it dismisses the opportunities to build on or check reliability of previous studies. Researchers also have the responsibility to be transparent in the same way as Norad and institutions have. Further, anonymising the names of districts, states and institutions would give wrongful picture of total anonymity as villages in the Village Electrification Project are listed in publicly available reports and press releases and one can find their original identity through the Internet or ‘word of mouth’. As such the anonymisation of the village research sites is only to avoid individual informants to be revealed. As for Scatec Solar and Norad, they have also made no secret of the challenges and difficulties of the Village Electrification Project. I have been asked by Norad to present my findings publicly in energy related seminars and they have recently published the results report of the Clean Energy Initiative 2007-2015<sup>41</sup>, where they describe the ‘hard-learned lessons’ of the Village Electrification Project. Scatec Solar has also supported this study and provided contact and support from their partnering NGOs PRADAN and Haritika. Throughout this study, from the gathering of data, till dissemination, I have tried to ensure the rights and respect of the informants as much as realistically possible, while being transparent and committed towards the research goals of the project.

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<sup>41</sup> <https://www.norad.no/globalassets/publikasjoner/publikasjoner-2017/the-clean-energy-initiative.pdf>

## 4. The Village Electrification Project: Introducing the Provision Side

We pride ourselves of being in the forefront of discovering new technological opportunities as well as markets, and we are convinced that the market for off-grid solutions for rural electrification will grow tremendously over the coming years. It just makes sense! (Katja Norgaard, Senior Business Developer Scatec Solar, preface Feasibility Report 2008, p. 4)

This chapter presents the start process and formation of Scatec Solar's Village Electrification Project.<sup>42</sup> The Village Electrification Project commenced officially as a public-private-people partnership<sup>43</sup> (PPP) pilot project in 2011, between Scatec Solar, the Norwegian Agency for Development Cooperation (Norad), the Indian Ministry of New and Renewable Energy (MNRE) and the Indian Renewable Energy Development Agency (IREDA) for the electrification of 30 villages in four states in India; UP, Madhya Pradesh, Jharkhand and Ladakh. However, the Village Electrification Project was based on Scatec Solar's two preliminary projects in the villages Jyotipur and Gopalpura in UP in early 2009.<sup>44</sup> As will be discussed next, these preliminary projects played a crucial part in cementing financial and governmental support in scaling out Scatec Solar's activities in India.

The Village Electrification Project is part of two emerging trends in development cooperation; ensuring universal access of modern energy for development in the global South; and private sector-led development initiatives as part of official development cooperation in the global South. Scatec Solar fits the bill perfectly in terms of integrating private sector in development, as they incorporate both technical expertise and the will to invest long-term in

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<sup>42</sup> The Village Electrification Project bears the official name Scatec Solar– Solar based village electrification pilot PPPP (Public-private-people partnership) in the Appropriation document and Contract of Agreement, but is also frequently referred to as the '30 village project'. In this dissertation I employ the term the Village Electrification Project.

<sup>43</sup> Scatec Solar uses the term PPPP to denote an integration of 'people' in their partnership. As discussed in this chapter and Ch. 9, the 'people' are not drawn into the partnership in terms of official contractual responsibilities and privileges. When referring to the public-private partnership I employ the conventional term PPP in order to avoid confusion.

<sup>44</sup> As mentioned in the introductory chapter the preliminary projects are considered as part of the Village Electrification Project in this study as they were conceived as a learning cases and followed the same model of rural electrification.

‘unsafe’ markets in the global South. Scatec Solar ASA is a commercial global turnkey supplier of solar photovoltaic (PV) solutions, and it is a portfolio company within the Scatec AS group founded by Alf Bjørseth<sup>45</sup> in 1989 (also founder of Renewable Energy Corporation REC). Scatec Solar’s main office is located in Oslo, Norway, but Scatec Solar has also established subsidiaries in several countries such as India. Their core business activities include project development, design, project financing, construction, operation and maintenance of PV power plants.<sup>46</sup> Scatec Solar does not produce hardware, but subcontracts supply of technological infrastructure and maintenance to local suppliers. Providing technological infrastructure for energy access is intrinsically a social issue where two heterogenous groups contribute to shaping the system; namely the providers and end-users (Winther 2012, p. 191). This chapter presents the provision side of the Village Electrification Project, including policy-makers, the developer Scatec Solar AS, and other stakeholders. Though their perspectives of gender are dealt with more thoroughly in Ch. 10, this chapter deals with the fundament of how the Village Electrification Project is organised. As shown, the provision of solar based rural electrification in the Village Electrification Project is based on ideas of development and gender that are rooted in economic growth and public management.

### **Piloting the Pilot: Scatec Solar’s Initial Projects in Jyotipur and Gopalpura**

The PPP organisation of the Village Electrification Project was initiated after Scatec Solar had already carried out two preliminary projects with CSPP in the villages Jyotipur and Gopalpura in Jhansi district in UP. These projects were independently financed by Scatec Solar to prove their commitment and capability for decentralised off-grid systems in the challenging market terrain of rural India, as well as leveraging their position with important institutions of support:

Our intention with the two pilot projects was to demonstrate that decentralized solar PV is a viable solution for rural electrification. The support from the Norwegian and Indian governments is confirmation that given the right approach and the right partnerships, solar PV

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<sup>45</sup> Alf Bjørseth’s role in Scatec AS and Scatec Solar has several facets. He acts as owner, Chairman of the board and Director of Technology in Scatec AS. Scatec AS is the largest shareholder of Scatec Solar (about 19% in 26<sup>th</sup> of June 2017) and he also holds a seat in the Board of Directors in Scatec Solar ASA.

<sup>46</sup> <http://www.scatecsolar.com/>. Downloaded 28.05.2017.

provides significant benefits for rural development (Alf Bjørseth, Scatec Solar press release 05.02.2010).

Scatec Solar engaged the local NGO Development Alternatives (DA) for the implementation of Community Solar Power Plants in Jyotipur and Gopalpura in 2009. The technical components were delivered by the sub-supplier the Bergen Group DDSolar23.<sup>47</sup> The CSPP's in Jyotipur and Gopalpura distributed household electricity and street lights in the villages. In Jyotipur the CSPP also provided electricity for the local school and some agricultural machinery, while in Gopalpura the electricity was used for two solar driven water pumps for water supply in the village.

The implementation of CSPPs in Jyotipur gained Scatec Solar considerable political support. Both the Norwegian Prime Minister Jens Stoltenberg (2005-2013) and Norwegian Minister of International Development and Environment, Erik Solheim (2005-2012), visited Jyotipur in relation to the Delhi Sustainable Development Summit in 2009 and 2010.<sup>48</sup> In the official visit by P.M. Stoltenberg, he was accompanied by Dr. Santram, Director of the Remote Village Electrification Program of the Government of India (GoI), and the Norwegian Ambassador to India; Ann Ollestad and Alf Bjørseth, founder of Scatec Solar.

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<sup>47</sup> The Bergen Group refers to a cluster of Indian based companies dealing within the renewable energy sector and must not be confused with the Bergen Group in Norway (offshore and maritime industry).

<sup>48</sup> P.M. Stoltenberg visited Jyotipur 4.2.2010 and Minister Solheim made his visit 6.2.2009. Their visits were made in conjunction with attending the Delhi Sustainable Development Summit in 2009 and 2010.

*Illustration 1: Digital facsimile, Norwegian P.M. Stoltenberg visits Jyotipur*



From left; Alf Bjørseth from Scatec Solar, Norwegian P.M. Jens Stoltenberg, the Village Energy Committee President of Jyotipur and Norwegian Ambassador to India Ann Ollestad. Photo: Digital facsimile, Scatec Solar public press release 5.2.2010

The visits worked as a political platform to consolidate political support from Indian officials and the MNRE, as well as from the Norwegian Ministry of Foreign Affairs (MFA), for a further scale-up of the project into a larger pilot project, which could eventually lead to a roll-out across India and other countries in the global South. In an official video, Minister Solheim<sup>49</sup> expressed how he was ‘extremely impressed’ by how the project had ‘in record time’ transformed the community of Jyotipur through providing avenues for development by electrifying Jyotipur in an environmentally friendly way. According to Minister Solheim this approach should be replicated in many countries. During Minister Solheim’s visit the Norwegian Ambassador to India; Ann Ollestad stated that the project was of great interest:

The strength of this project is that it is driven by the private sector together with strong NGOs and with the government coming in with seed money to make it possible that experimental

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<sup>49</sup> [https://www.youtube.com/watch?v=CVswMs\\_t0-Q](https://www.youtube.com/watch?v=CVswMs_t0-Q). Downloaded 19.06.2017

technology really takes off and becomes commercially viable. I think that is the concept we are working upon and we are really looking into the possibility of scaling up.<sup>50</sup>

According to the Midterm Review (2011), MNRE took an interest in Scatec Solar during the preparation phase of the two pre-pilot projects, whereby an informal meeting was organised between MNRE and Scatec Solar in Delhi in October 2008. MNRE supported Scatec Solar's particular focus on developing models that could ensure a large-scale roll-out of CSPPs, the focus on income generating activities and payment for electricity (Midterm Review 2011, p. 2). It was suggested to execute a demonstration project involving a larger number of villages that could be co-financed by India, Norway and Scatec Solar. This proposal was further developed, and then discussed during the Indo-Norwegian Joint Working Group on Environment in Delhi on 2<sup>nd</sup> of February 2009. During the visit of Minister Solheim to Jyotipur the following day, he announced that Norway and India wanted to cooperate within the area of solar energy and more specifically, on a demonstration project of approximately 30 villages to find new, scalable models for de-centralised rural electrification. MNRE described the project as 'high priority and profile', and expressed that they wished to work towards scaling up the project to electrification of a 1000 villages in the next phase (Norad statement brief 19.10.2009, p.2).

In Norad's Preliminary Inquiry (2008, p. 2-3, my translation), Scatec Solar was praised as an applicant with will and ability to 'leave the secure markets ... for countries that constitute more risk and where income potential is lower', in order to early secure a good position in a market 'they expect to grow expansively on medium term'. The potential in the Indian solar market for de-centralised solution in 2009 was huge. Despite rapid increase in electrified villages in India, about 18, 000<sup>51</sup> Indian villages are still without electricity in 2017, and GoI have put large sums on the table to secure electricity to all Indian villages, including about 540 crore Rupees for decentralised distribution generation for villages that are not suitable for central grid connection.<sup>52</sup>

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<sup>50</sup> (Ibid).

<sup>51</sup> The Ministry of Power reports that of the of the 17 654 villages under the Deendayal Uphadyaya Gram Jyoti Yojana Scheme, 5400 villages remain unelectrified as per 23.02.2017, however, the number has been questioned by the media; <http://indianexpress.com/article/india/india-news-india/electricity-in-india-villages-problems-still-no-light-poverty-3030107/>

<sup>52</sup> The Indian Ministry of Power's decentralised distribution generation DDG scheme: <http://powermin.nic.in/en/content/decentralized-distributed-generation-ddg>. Downloaded 28.05.2017

The two preliminary projects strategically leveraged Scatec Solar's positions in a market that was new to them, thus providing experience and legitimacy. Norad's description of Scatec Solar in the Appropriation Document (2008) presents a serious company with sound financial, technological and human resources. Since the 1990s Norad has actively supported private sector development in renewable energy projects with loans and grant support for feasibility studies, training and infrastructure and this trend has continued to expand over time. Since 1997 Norfund has also played a major role in promoting private sectors engagement in renewable energy development projects (taking over Norad's loan portfolio) alongside Norad. From 2007-2015 Norad and Norfund has spent respectively 236 million and 6,5 billion NOK towards: 'support to key commercial investments' (Norad's Clean Energy Initiative Results report 2017, p. 49). Of this sum 45 million NOK was spent on renewable energy initiatives in India.

Norad also noted that Scatec Solar shows an active stance in relation to CSR through its will to take on considerable cost and risk to contribute to the goal of energy for the poorest markets (Preliminary Inquiry 2008, p. 3, my translation), meaning engaging in their two independent preliminary projects. However, the 'courtship' between Norad and Scatec Solar in relation to the Village Electrification Project leaves a paper trail that shows that this process was time-consuming and not without challenges. The final Contract Agreement of the Village Electrification Project came after a long period of engagement between Scatec Solar and Norad as well as the MFA. In Norad's preliminary inquiry (Preliminary Inquiry 2008, p. 1, my translation) it was stated that the applicant (Scatec Solar) and Norad had contact several times since 2007 'in relation to the company's potential focus to develop the market for solar energy in developing countries'. In 2007 Scatec had placed an application for support for a pilot project in India and South-Africa, but this was declined because the application was deemed incomplete. The contact with Norad continued however, eventually leading up to their successful application for the Village Electrification Project. According to the Norad's Senior Advisor Tonni, interviewed in this study, this process also included communication with MFA who conveyed strong encouragement for the scale-up to 30 villages to take place sooner rather than later.

Scatec Solar and Norad also commissioned a Feasibility Report from the Norwegian Business School BI, which was instrumental to the process of establishing the Village Electrification Project. The Feasibility Report (2008), titled; 'Economic Models for Financial Feasibility; Off-Grid Solar Community Plants in Rural India' was authored by BI students within the Executive Master in Energy Management Program and comprised a detailed analysis



of the technical, political and economic feasibility of implementing CSPPs in rural UP. The Report paved way for the CSPP as a business model in North India.

Jyotipur and Gopalpura were Scatec Solar's show-case villages in rural North India. In addition to providing legitimacy and support they were also meant as a source of learning. In Jyotipur the implementation went well and the project caught a great deal of attention and 'development tourism' from journalists, students, researchers and practitioners. During my visit in 2015, Scatec Solar, and DA had withdrawn from the village leaving the responsibility for CSPP with the appointed Village Energy Committee (which will be described later). However, Jyotipur continued to be a model village for the Bergen Group, who still engaged extensively with the village. The sub-supplier Bergen Group was also an important player in the implementation process in Jyotipur. This was their first cooperation with Scatec Solar and they carried out capacity building of the locally selected VOs and supply of equipment, further they funded and provided important support for the local elementary government school.

Whereas in Gopalpura the second village of the preliminary projects, the lights had literally gone and they had seen a dismantling of the CSPP. The project in Gopalpura had become a very difficult project to manage for Scatec Solar and DA due to social tensions in the village. According to a group from the Norwegian University of Science and Technology (NTNU) visiting Gopalpura to study the solar project in 2010, the solar driven water supply system installed had caused severe conflicts. Villagers standing in line for village pumps posed problems for visions of caste purity leading to violence, especially against women who had the responsibility for collecting water.<sup>53</sup> This was also related to older caste struggles in the village. DA had built strong relations with the high caste group Rajputs in the village during the project, whereas the lower caste group Hanjun had for many years forged bonds with the state after political mobilisation (Ibid.). According to the Senior Manager of Scatec Solar India, the CSPP was sabotaged by the villagers and was eventually removed. DA who had organised the implementation process in the village, attributed the failed project to social problems and alcoholism, which they stated were frequent problems in mining villages such as Gopalpura. Without the critical news publicity from NTNU on the research news media forskning.no there is no public documentation of this project apart from Scatec's own statements. Gopalpura did provide hard-learned lessons and when the solar driven water supply was duplicated in Ashapura

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<sup>53</sup> <http://forskning.no/bistand-sosialantropologi-sosiologi/2011/03/solceller-splittet-landsby>, downloaded 02.09.2015.

in the scale-up of the Village Electrification Project it was distributed to taps in the connected households and not in public water pumps.

### **Scaling up to the Village Electrification Project**

The above described preliminary cases leveraged Scatec Solar's entry into the decentralised rural electrification market and development cooperation in India. After a period of 'courtship' with Norad starting in 2007 (Appropriation Document 2008, p.1) Scatec Solar successfully received Norad's support for the Village Electrification Project in rural India, under the organisation of the PPP. On October, 5 2009, more than a year after Scatec Solar approached Norad, Scatec Solar India<sup>54</sup> and Norad entered the Contract Agreement where the responsible partners were identified as Norad, MNRE, Scatec Solar and IREDA.

While Scatec Solar initially focused on rural UP in their two preliminary projects, the PPP, proposed activities in 30 villages stretching geographically over UP, Madhya Pradesh, Jharkhand and Ladakh<sup>55</sup>. The geographical locations are highlighted in the map below:

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<sup>54</sup> Scatec Solar India is a subsidiary company of Scatec Solar set up for the purpose of entering the Indian solar off-grid market.

<sup>55</sup> Formally part of Jammu and Kashmir, but governed by Ladakh Autonomous Hill Development Council.

*Illustration 2: Map of project states*



Source license: Wikimedia Commons, URL: [https://commons.wikimedia.org/wiki/File:India\\_map\\_blank.svg](https://commons.wikimedia.org/wiki/File:India_map_blank.svg)

According to Norad’s Senior Advisor Tonni, the choices of locations for the Village Electrification Project were pragmatic, based on finding good partner NGOs. In this process, the NGOs were selected based upon recommendation of the MNRE, the Norwegian Embassy in Delhi and Norad (Inception Report undated, p. 7). It was also natural to pursue the networks and locations provided in commissioned Feasibility Report. The NGOs were given the responsibility for selecting the villages based on predefined selection criteria encompassing ‘social cohesion, potential for income generating activities, willingness and ability to pay and suitability for CSPP (geography, available land etc.)’ (Inception Report, undated, p. 7). The villages also had to confirm the allocation of available land for the CSPP for a minimum of 20

years. Another important prerequisite was that the villages should be un-electrified and ideally not seen as relevant for future central grid extension. Systems such as CSPP may be very useful as a back-up system in electrified villages where the grid supplies only a few hours of electricity per day or have several black-outs and load shedding, but according to Scatec Solar this was seen as a 'risk factor, since consumption is difficult to predict' (Inception Report, undated, p. 9). After the NGOs had prepared suitable suggestions, Scatec Solar visited the villages and a final shortlist was made through dialogue between the NGOs and Scatec Solar. This list was distributed to the MNRE and State Nodal Agencies to avoid overlapping with other electrification programmes.

According to the Senior Advisors interviewed from Norad the decision of geographical locations was despite its pragmatism, not without some level of controversy. Norad staff was sceptical towards the more isolated areas in Ladakh as they saw this as very difficult to achieve in a pilot project. However, Ladakh was not dismissed in order to comply with MNRE's suggestions.<sup>56</sup> The projects in Ladakh did prove to be very challenging and caused several delays, as the villages were located in remote locations, sealed off by snow in the winter seasons and prone to avalanches. As a result of the delays, the Village Electrification Project eventually reduced the number of villages from 30 to 28 in order to prioritise efforts in the villages where implementation was already taking place (Completion Report 2012, p. 4).

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<sup>56</sup> According to several informants the location of Ladakh was allegedly a request made from persons of influence in the MNRE.

The table below presents the main aspects of the Village Electrification Project:

**Table 4: Overview of the Village Electrification Project**

State	NGO	Size	Use	Features	Year
Uttar Pradesh	Haritika	7 villages	HH electricity, commercial agriculture activities	Micro-grid PV (1 HD)	2011
Jharkhand	PRADAN	10 villages	Commercial livelihood activities	Charging Hub PV	2010/2011
Madhya Pradesh	Srijan	7 villages	HH electricity, Commercial agricultural activities	Micro-grid PV (1 HD)	2011
Ladakh	LEDeG	4 villages	HH electricity	Micro-grid PV	2011

Source: Completion Report

As illustrated above, the solar based village electrification project came to encompass a wide span of activities ranging from household electricity and agricultural machinery in UP, Madhya Pradesh and Ladakh, to solar based silk-reeling centres in Jharkhand, as well as different technological systems and managerial set-ups in different social and geographical settings.

The official contract agreement for the PPP signed October 2009, between Norad and Scatec Solar set the obligations and budget allocations of the main stakeholders Scatec Solar, Norad, MNRE and IREDA. The provisions from the partners Norad made a provision of EUR 1.755, 463<sup>57</sup> constituting 63.8 %; MNRE 798,437 constituting 30 %; and Scatec Solar pledged to contribute 172,500 constituting 6.3 % through private financing. The money was channelled through IREDA who managed the account. The final agreement states that Norad's responsibility was to function as both donor and Norwegian monitoring agency, while IREDA acted as financial monitoring agency.

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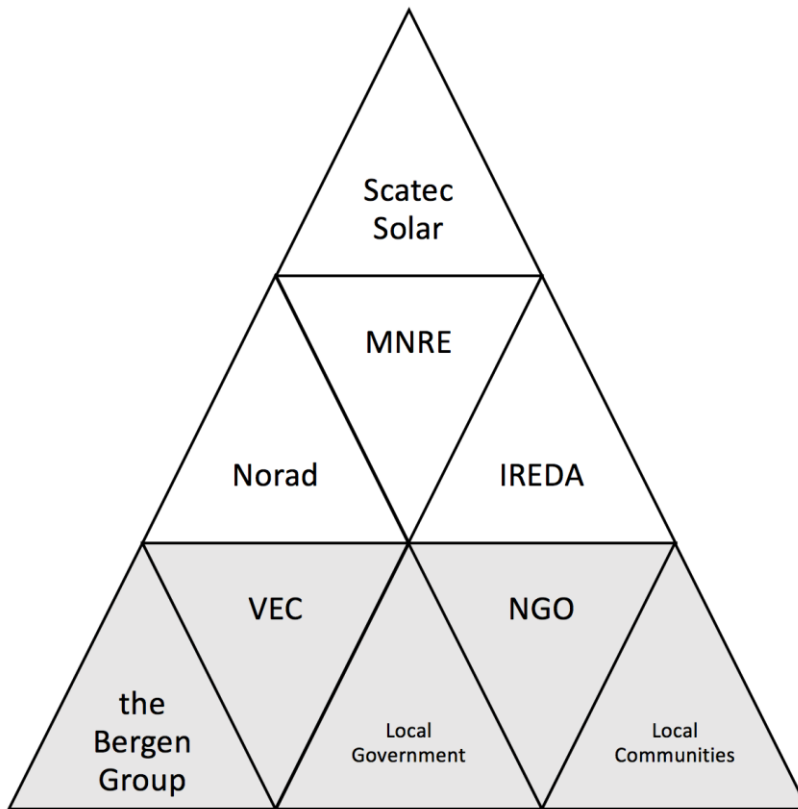
<sup>57</sup> The sum in the contract is also communicated as 16 million NOK..

Scatec Solar, upon signing the final agreement took on a number of roles, both in their capacity as a commercial company, but also in terms of being responsible for all facets of implementation and completion of the project. Scatec Solar therefore made independent contract agreements with the collaborating partners: Norad, MNRE, IREDA, the Bergen Group and the respective NGOs. The project organisation name Public-Private-*People* Partnership signals the importance laid on the end-users, both as consumers and responsible owners in the energy production cycle. As will be discussed later, however, the denotation of people does not include them as official partners with contractual ownership or responsibilities in the final agreement and there are different interpretations of their legitimate role as managers and owners of the CSPP based on verbal understanding at the start-up of the project (Midterm Review 2011, p.25).

### ***The Village Electrification Project Stakeholders***

There was a great diversity among the stakeholders in the Village Electrification Project ranging from high level bureaucrats in the Norwegian and Indian government sector to rural villagers project communities. The figure below illustrates the key stakeholders with vested interest and engagement in the project:

*Figure 1 Stakeholders in the Village Electrification Project*



The top end of the pyramid constitutes the formal PPP presented as donors and responsible institutions in the final Contract Agreement, while the bottom of the pyramid illustrates the ‘silent partners’ or important institutions in the Village Electrification Project who are also essential stakeholders in the PPP. Though some, such as the NGOs, have contractual agreements with Scatec Solar, others form important institutions of support such as MFA and the Norwegian Embassy in Delhi or representatives of the end-users such as the Village Energy Committees (VEC), none of which were included in the formal division of responsibility and ownership of the project. As the embassy is mandated by the Norwegian government to promote cooperation with India in areas such as environment, climate and business they constitute a natural support network for Norwegian companies trying to establish business in India. Cooperating with agencies like Innovation Norway the embassy also use considerable efforts and resources in doing so. In addition the MFA have played an important role in providing support and forging political ties.

Norad functioned both as a strategic partner and stakeholder. Norad has the expertise and financial resources to aid the birth of the PPP under their section for private sector development, which works towards grants to early-phase activities related to investments in

new businesses in developing countries, with a particular focus on energy. Thereby, Norad not only helps Norway forge alliances with Indian governmental institutions, but also legitimises the Norwegian private sector's entry into India. In addition, and perhaps most importantly, Norad delivers an expertise on 'what is required to achieve results and contributes to the debate on the effects of development assistance' (Completion Report 2012 , p. 9).

MNRE and IREDA were also key stakeholders. The MNRE is a nodal ministry of the GoI for promotion, and coordination in renewable energy sources such as wind power, small hydro, biogas, and solar power. This includes coordination research, relevant institutions and policy programmes. MNRE's commitment not only added a financial donor contribution, but reflects the project's legitimacy. By forging bonds with Indian institutions the Village Electrification Project also gained possibilities of drawing on knowledge and experience from Indian perspective. IREDA is a Public Limited Government Company established as a non-banking financial institution in 1987 under the administrative control of MNRE, to promote, develop and extend financial assistance for renewable energy, energy efficiency and conservation projects. Another strategic Indian partner for Scatec Solar is the Bergen Group (company DDSolar23) who provided design, supply, installation, commissioning and maintenance of the CSPPs. The Bergen Group subcontracted suppliers and local building contractors (Midterm Review 2011, p.).

The local NGOs that Scatec Solar partnered with also played a decisive role in the rolling out of the Village Electrification Project. Contact with the NGOs was established in 2009 and the contracts between Scatec Solar and the NGOs PRADAN and Haritika were signed October 26, 2009. The NGOs were instrumental in selecting appropriate villages and mobilisation of communities. In addition they had experience of local social settings. DA was responsible for the community mobilisation in Jyotipur, while the NGO Haritika was responsible for the mobilisation of Ashapura and the six other villages in UP and Madhya Pradesh. The NGO PRADAN was responsible for the mobilisation process in Reshamgaon and the other nine villages in Jharkhand. It was the intention to cooperate with DA on two more villages than Jyotipur and Gopalpura, but after the reduction of villages to 28 this was cancelled. A visit of the NGOS to the pilot village in Jyotipur was organised to explain the model of the CSPP.

A one day common workshop was also organised in Delhi on March 25, 2009, as an introduction to the program and to discuss roles and responsibilities (Inception Report



undated,p.8). The Norwegian Ambassador to India, Ann Ollestad, and the Joint Secretary of the MNRE, Gauri Singh attended this workshop. Later, a follow-up workshop was organised on September 11, 2009 in Noida. A technical training workshop on PV technology and operation of the CSPP was held February 12, 2010 in Noida.

## **The Community Solar Power Plant Model**

One of Scatec Solar's aims with the preliminary projects and the scale-up to the Village Electrification Project was 'to demonstrate technological, organisational and financial models for decentralised solar based village electrification; and to develop a public financial incentive mechanism providing adequate motivation for private sector engagement' (Inception Report undated, p.3). Before venturing into India, Scatec Solar had kept their activities to large-scale power plant projects in 'safe markets'. In that respect the Indian projects constituted a major shift in business model as it both entailed small-scale projects and interacting with individual customers and end-users, as well as in a terrain where people are not expected to have a steady and robust purchasing power. As mentioned in the opening quote of this chapter, Scatec saw the entry into India as a win-win where Scatec's motivation for contributing to provide poorer regions of the world with energy, as well as potentially develop business models for interesting emerging market:

The Goal of the Project is to increase electrification in rural areas in the developing world by use of renewable energy (solar PV) leading to poverty alleviation and mitigation of climate change. The project aims at preparing the ground for scalable commercial village electrification by renewable energy, and thus contributing to bridge the current investment gap between, on the one hand, needed investments in village electrification, and on the other, insufficient private sector involvement (Inception Report undated, p.3).

In their proposal they set the main goals of the project to; 1) Build experience regarding the technical and organisational as well as economic aspects related to CSPPs and 2) Designing a proposal for a cost-effective incentive mechanism required for large-scale roll-out of CSPP through PPPs based on data and know how developed in the project (Proposal undated, p.5). The Village Electrification Project thus sought innovative ways to make off-grid decentralised

solar energy systems viable in the global South. The Feasibility Report (2008, p. 25) suggested the concept of the solar micro-grid as a community plant:

Community systems are small PV power plants that serve a village or a cluster of villages. Typically, such systems range from 6-20kW. Power might be extended to the beneficiaries through a mini-grid or the power plant may serve as a charging hub where customers can come to charge their appliances. Such community systems typically also provide power to community services such as school lighting, hospitals, street lights, water pumping, small tourist facilities etc.

The CSPP became the core of Scatec Solar's vision of community-driven solar energy project in the preliminary projects in Jyotipur and Gopalpura and the 28 villages in the Village Electrification Project.

The CSPP model included designing managerial systems to ensure the CSPPs full potential and economic viability. The local managerial aspects were imagined to be addressed through the establishment of the community institution VEC that could deal with everything from collecting money for the electricity bills, appointing Village Operators (VOs) responsible for maintenance of the CSPP and act as *de facto* owners of the CSPP, as well as a governing body with legitimacy to defuse conflicts or mistrust towards the project in the local communities. The VOs were recruited in the local communities and trained by the Bergen Group. This model was implemented in all the project villages, though in Jharkhand the VECs were not elected members, but the women self-help groups engaged in the silk-reeling at the CSPP, as will be described in detail in Ch. 9.

In the Completion Report (2012, p. 1), Scatec Solar emphasises their project methodology as a bottom up approach where the villagers' needs are the foundation for the design and community participation an essential part of the implementation. The 'people' hence is incorporated through the establishment of VECs to administer the CSPP and local people were trained as VOs. The business model of the CSPP also assumed that local ownership and responsibility would 'provide some incentives towards economic performance, raises awareness and interest in the plant and the business network around it' (Feasibility Report 2008, p.30). A major challenge when implementing the CSPP is not just that electricity and water is perceived as a need by the intended consumers, but also that they are willing and able to pay for it to make the project economically viable for a company venturing for profit in new

markets, and for the villagers to maintain interest and responsibility for the infrastructure in the long run. The prices were calculated concerning previous costs of energy and benefits of the energy from the perspective of the provision side;

...willingness to pay should be calculated according to the previous cost of Kerosene plus a premium represented by the tangible benefits – savings in time and labour – and the intangible ones such as avoided pollution (especially indoor) or the possibility to accede to services otherwise unavailable (communication devices for instance) (Feasibility Report 2008, p. 33).

As discussed in the following chapters, motivations from tangible and intangible benefits of savings in time and labour and exposure to pollutants were not necessarily shared by the intended consumers.

According to the Norad statement brief (19.10.2009, p. 2) the Village Electrification Project did not have a focus on demonstration of technology, but rather understanding local contextuality of ability and willingness to pay and social structures.

...the time is ripe for testing out new models and new partnerships in order to provide energy, especially clean energy and reliable energy for rural areas... Still, high upfront capital investments coupled with complexities of working in rural markets is proving to be the main impediments for a commercial roll-out. The question therefore, is how to make rural electrification an interesting market opportunity for the private sector” (Proposal undated, p 4).

As a request from MFA and Norad the project also comprised of developing new financial incentive schemes for village electrification. For this purpose a Financial Advisory Group was established.

In the interview with the Senior Manager of Scatec Solar India in 2012 he stated that they had not fully understood the Indian market and he attributed this to villagers ‘willingness to pay’. The Indian market is notoriously hard as other Norwegian companies such as Telenor has already experienced. First rate quality is expected at low prices. Many services such as Mobile phone use or the railways are available at extremely low prices. The benefit is of course the vast numbers of consumers that India can offer. Electricity consumption from solar off-grid systems, including the CSPP in the Village Electrification Project, is more costly than electricity

distributed through the main grid due to the high upfront costs of the technology. Communities generally anticipate being connected to the main grid some time in the future and often do not see the point of expensive solar energy, when cheaper electricity presumably would come their way later. Provisions of services such as electricity and water is often entangled in politics in India where promises are made in return for people's political support through popular vote. Such complexities are difficult to calculate when designing systems that are meant to not only ensure electricity access, but also generate a business opportunity for commercial corporations.

The CSPP actually denotes several different technological solutions with different electrical output and uses. Despite Norad's claim that the project was not focused on technology demonstration, it was, according to Scatec Solar's Business Developer Jone a strategy for Scatec Solar to test out physical infrastructure in different elements geographically, in terms of climate, and in different community settings, which would generate valuable insight into scaling up the project in the future. In this study the CSPP in Jyotipur and Ashapura where solar PV micro-grids of about 10kWp used for household electricity, water provision, agricultural machines and street lights in the villages. The CSPP in Ashapura was a hybrid solution with solar/diesel generator. Hybrid systems can reduce the battery cost (Inception Report undated, p. 12). In addition Ashapura had installed a solar driven water supply. In Reshamgaon and the other Jharkhand villages in the project the CSPP was designed as charging hub stations intended both for silk-reeling for women's livelihood activities and charging of Mobile phones and solar lanterns.

Through the implementation of the CSPP in 28 villages, the Village Electrification Project wanted to provide a stable supply of clean energy and thereby contributing to a better life and more economic activities in the community, as well as turning this into a viable business model for themselves. A list of the Village Electrification Project's intended outcomes and outputs are described in the table below:

**Table 5: Intended outcomes and outputs in the Village Electrification Project**

<b>Outcomes</b>	<b>Outputs</b>
Stable supply of solar based power utilised by 80 % of households in 30 villages/300 kWp capacity. Villagers making regularly payments for electricity consumption to cover operations and maintenance (O&M) of the CSPPs	Clean, reliable and affordable solar based power made accessible to all households in 30 villages
Organisational models on local level as well as revenue models to cover O&M.	Operational Village Energy Committees (VECs) in 30 villages. Elected, trained and operational Village Operators and standard training material is developed and adapted for villagers.
Improved living standard and new or improved economic activity established by availability of clean, reliable power.	
Operational Financial Advisory Group (FAG) is utilising data collected from the project to develop business models and a new financial incentive scheme for village electrification.	Relevant data on technical, organisational, financial and other relevant aspects made available and used by the FAG and funding partners.

Source: Inception report undated.

The articulation of the goals, outcomes and outputs was put in technical and measurable terms, while the motivations encompassed visions of large roll out and promises of development. In its proposal Scatec puts attention to the need for rural development to curb migration and alleviate poverty and in this regard the importance to reconcile energy needs with reducing global emissions. Scatec envisioned itself as an important partner with the technological know-how to address these issues.

## Tailoring Scatec Solar into an Agent of Development Project

Scatec Solar is busy engaging in solar projects in Europe and the US, but we also have an ambition to engage in providing solutions for off-grid solar power plants in developing countries. We do this because introducing solar to the poorer regions of the world is part of our employee motivation and company values, but also because we see this as a very interesting emerging market (Katja Norgaard, Senior Business Developer, preface Feasability Report 2008, p. 4).

Scatec Solar's ambition to engage in providing systems for rural electrification made them eligible for the market of Official Development Assistance (ODA), which they wanted to use to enter the off-grid rural market in India. The Village Electrification Project fitted well into the ambitions for the Norwegian Government's India strategy (August 2009) as well as the Action plan for Clean Energy and Development (2009-2012) (Norad Statement brief 19.10.2009, p. 2). Further, the project was in line with India's ambitions within the National Solar Mission of 20 GW solar power within 2020 and their efforts towards rapid rural electrification.

The Norwegian financial contribution was financed with subsidies for industry development, which are contingent on 'cooperation projects with private sector, with focus on strategic focus areas and that can contribute to 'trigger investments from private sector', 'develop new concepts for private sector engagement' and 'contribute to larger societal synergies' (Norad Statement brief 19.10.2009, p.2). Also in the Norwegian Governments White Paper on 'private sector development in Norwegian development cooperation' there is a pledge to increase efforts to promote private sector development with a special focus and priority on sectors (in Norway) with a particular expertise in energy, ICT, agriculture, fish/marine resources and maritime sectors.<sup>58</sup>

Like UK's Department for International Development (DfiD) (see Mawdsley 2015) Norad has taken a turn towards more private sector-led economic growth agenda, validating private corporations through subsidies and consultancies. This is a strategic turn, where economic growth is perceived as a decisive factor for development countries to accumulate

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<sup>58</sup> <https://www.regjeringen.no/en/dokumenter/meld.-st.-35-20142015/id2423253/>. Downloaded 15.08.15

income needed for prioritising health and education independently.<sup>59</sup> Hence Norad is open to distributing subsidies to Norwegian corporations when their involvement is expected to produce the best results in Norad's partnering countries. Norad sees this as a holistic approach, but also an efficient one, where the Norwegian business sector is an important partner in ODA. As Emma Mawdsley (2015, p. 341) states in relation to DfiD; this enables 'more assertive strategies of capital accumulation and profit making that, in the name of "development", overwhelmingly benefit wealthier actors in the UK and abroad'. This trend, serving also commercial interests in ODA is of course not in any way new, however, the aid effectiveness regime and MDG coincided with re-emerging focus on economic growth in the mid 2000 (Ibid.). This can also be seen in relation to the new public management regime as a more efficient means of attaining the same product or service. The official perspective of Norwegian government's collaboration with private sector to deliver on development goals in the global South is collaboration with companies that have the ability to contribute efficiently in the fight against poverty, with the right attitude, ideas and traditions for creating growth.<sup>60</sup> Naturally, this entails working with partners that embody particular areas of expertise such as within energy. A large part of the portfolio on private sector and official development assistance is precisely within energy projects channelled through Norfund.

Scatec Solar is also an attractive development partner from the GoI's point of view. The Indian population's demand for energy has grown steadily and will continue to grow due to population growth. In addition India's aspirations for increasing production and manifesting itself as an emerging economy require an increase in energy resources. This is one of India's main challenges as there is already a gap between supply and demand. Many large cities experience blackouts and load shedding happens systematically. Further, India's main energy source comes from coal, which is large polluter. Today, Indian cities rank among the highest from air pollution in the world. India's quest for clean and renewable energy and especially solar energy has been on the agenda more than 20 years, resulting in ambitious plans manifested in the National Solar Mission to establish India as a global leader in solar energy (mostly by providing incentives to boost national solar technology production). Recently, India's

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<sup>59</sup> Speech by former Norad director Tove Strand 16.01.2001  
<https://www.norad.no/en/aktuelt/nyheter/2002/norad-og-naringslivet/>. Downloaded 28.05.17

<sup>60</sup> Speech by former Norad director Tove Strand 16.01.2001  
<https://www.norad.no/en/aktuelt/nyheter/2002/norad-og-naringslivet/>. Downloaded 28.05.17

government cancelled plans for 14 gigawatts of coal-fired power stations to invest in solar technology instead.<sup>61</sup> As mentioned in Ch.1 there have also been very ambitious plans for expanding the national grid and off-grid solar. When Scatec contemplated entering into the Indian market solar was still only 0.1% of the country's energy production (Feasibility Report 2008).

Traditionally, unelectrified villages have been without interest for the private sector. National states have had large electrification programmes, slowly connecting the country together in a national grid. Solar power, however, is ideally suited for bottom-up approach where villages can be electrified without the need of an often very costly, central grid connection (Feasibility Report 15.09.2008, p. 1).

Despite Scatec Solar's technical and financial expertise they are still a commercial company, which prior to the entry in India only had experience with providing large-scale solar plants in the global South (often through cooperation with Norad and Norfund). The courtship with Norad from 2007-2009 mentioned previously, entailed in many ways a 'tailoring' of Scatec Solar into a development agent with the capability to tackle the complicated rural Indian market. Through this process elements of development concerns such as inequalities in the intended local consumer communities were brought up and gender issues in the local communities and inclusion of women in the project were listed as one of the major risk factors (Contract Agreement 2009). Norad also pointed out that they there should be a more substantial effort to include women in the institutional structures for the operation of CSPPs (Appropriation Document 2008, p.5).

The element of democracy was also taken up in the Feasibility Report (2008, p.19) under the assumption that solar was particularly 'well suited' for rural areas as 'the energy would be widely and equitably distributed, as well as freely available,' in contrast to fuel where prices are fluctuating. This holds true for villages that are deemed too small for extension of the main grid, but the prices for consumption are higher than grid electricity. Further, these entails a vision of homogenous rural villages that manage their energy resource in an equitable way,

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<sup>61</sup> <http://www.indiatimes.com/news/india/india-cancels-mega-plans-to-build-coal-power-stations-due-to-falling-solar-energy-prices-322553.html>. Downloaded 27.05.17.



and where new opportunities for income extends to all villagers, which in turn makes them able to pay for their consumption.

Based on lessons learned in India, the most successful projects involve the villagers directly through private enterprises that accelerate the local economic development. This link between the between the community power plant and the village activities ensures that both parties must consider the best interests from a common perspective, thus enforcing a social as well as an economic sustainability (BI report 15.09.2008, p. 2).

As will be discussed in the analysis chapters the ideas of fostering common perspective on best interest was not simply a matter of accelerating local economic development. As will be presented in the next chapter introducing the ‘end-users’ of the energy production cycle in the Village Electrification Project, local development and best interest has many interpretations and the diversity of identities within the ‘end-user’ groups made some perspectives more salient than others marginalising certain groups, such as women and lower castes from full participation in the project.



## **5. The Village Electrification Project on the Ground: Introducing the End-users**

A technology is not merely a system of machines with certain functions; it is part of a social world. Electrification is not an implacable force moving through history, but a social process that varies from one time period to another and from one culture to another... each technology is an extension of human lives: someone makes it, someone owns it, some oppose it, many use it, and all interpret it (Nye 1991, p ix).

This chapter presents the village context of the end-users of the Village Electrification Project and the preliminary project in Jyotipur. As presented in the preceding chapter, the energy production cycle of the Village electrification Project had a vision of the ‘people’ as an important contributor to shaping the system based on their needs and as rightful and responsible owners of the CSPPs through the institution of VECs. The implementation of CSPP in the villages partaking in the Village Electrification Project is set in a context vastly different than where the plan of the CSPP and the Village Electrification Project was conceived. Decentralised energy distribution in rural North India takes place in the least populated and often very isolated villages in the country. The villages in the Village Electrification Project are all relatively small villages in the North of India struggling with different levels of poverty and lack of infrastructure.

According to Doreen Massey (1994), places needs to be understood as processes that are shaped and changed over time. This dynamic understanding of place involves seeing places as more than independent entities of social action that is influenced by external structures of capitalism, the state or development intervention. Places are characterised by influence from culture, and power relations, as well as physical features of geography such as climate, livelihoods etc. The data in this study consists of observation and interviews in six of the project villages in the Bundelkhand region of UP and Madhya Pradesh; and five of the project villages in Dumka and Godda district of Jharkhand. The focus of fieldwork was on the villages Jyotipur, Ashapura (UP) and Reshamgaon (Jharkhand), which will be presented in detail below, while observation and interviews from the other villages have been used as background information.

Jyotipur, Ashapura and Reshamgaon have their own distinct geographical difference, but they share some commonalities. All three villages were exclusively Hindu villages and

adhering to the ideal norms of the joint Hindu family. They were also quite small villages with only 36-100 households, located in isolated areas inaccessible to transport and grid electricity. The majority of the villagers based their main income and survival on agriculture and livestock. Consequently, the villages were involved in several development projects, such as enhancing agricultural output, irrigation schemes, NREGA and the Village Electrification Project.

Jyotipur, Ashapura and Reshamgaon were chosen as research sites as the projects there had a gender focus. The solar silk-reeling centres in Jharkhand were provided for livelihood schemes for women, and the provision of electricity in Jyotipur and drinking water and electricity in Ashapura affected women's every day work responsibilities. In addition women were elected into the VECs that oversee the CSPPs and hence were given an active part in the infrastructure management and ownership. In Jharkhand, PRADAN was eager to draw my attention to several of their village projects and I was taken on board as an observant to their self-help group activities around Reshamgaon and their projects of pond digging, dam constructions, and vegetable nurseries driven by women. Reshamgaon became a natural main focus as the self-help groups were active there and the project was running fairly well.

Ashapura was larger than the average project villages, and in 2012 the VEC was run satisfactory and they had deposited a significant amount of revenues in the VEC bank account that would ensure economic viability when repairs and change of parts would occur in the future. Jyotipur became an interesting comparative case to Ashapura, because they were the first of Scatec Solar's project villages and therefore constituted the primary idea of the Village Electrification Project, but it was also a learning case as they were using this as a pilot to scale up for the future. In addition Jyotipur was also a 'model village' both for Scatec Solar and the supplier the Bergen Group.

### ***The Social Economy of Jyotipur, Ashapura and Reshamgaon***

The project villages Jyotipur and Ashapura are located in the Bundelkhand region,. In total, the Village Electrification Project has implemented CSPPs in 14 villages in the Bundelkhand region of UP and Madhya Pradesh. The Bundelkhand region fit the mark of regional disparities in India where the most intense forms of poverty and deprivation are becoming increasingly concentrated 'within enclaves of backwardness' (see Bakshi et al. 2015). Several of Bundelkhand' s sub-districts score lower than UP average in terms of rate of electrified

households, female literacy, and high Scheduled Caste (SC) and/or Scheduled Tribe (ST) (Adivasi) population (Bakshi et al. 2015, p. 47).<sup>62</sup> While Bundelkhand is semi-arid, most of the rest of UP has a sub-tropical climate with more precipitation. Seasonal rainfall has been steadily declining, increasing severity of water scarcity during the principal rainy months July, August, and September (Thomas, Nayak and Gosh 2015). As a result agriculture, which is the main source of rural income and survival, is challenging in Bundelkhand. Bundelkhand has also suffered from severe droughts in recent years, and hunger is reported in the media on several occasions.<sup>63</sup> Bundelkhand is also a contested area geographically and from time to time demands for independent statehood is raised (separating it from UP and Madhya Pradesh) as the parties in power in national and state assemblies are thought to ignore Bundelkhand. Such claims have emerged also during the drought of the summer 2016. Some have also advocated for the separation of Bundelkhand as a practical way of balancing UP's political dominance.

Scatec Solar's focus in Bundelkhand has primarily been to provide household electrification through CSPP for lighting purposes and for electrical appliances such as television, fans and for charging mobile phones. The electricity was also used for public street lights in the villages, agricultural machines and light in the village schools. In Ashapura the project supplied deep groundwater with solar electricity-driven pumped drinking water delivered directly to taps in households. According to Census of India 2011, the electrification rates in UP are seemingly high with 88.9 % of villages officially electrified on paper.<sup>64</sup> In Jhansi district where Jyotipur is located, 100% of the villages were officially electrified and the same was stated for Mahoba district where Ashapura is located.<sup>65</sup> In terms of total number of electrified households, the picture was less impressive; only 31 % of households in Jhansi district were electrified and 19 % in Mahoba district. The number of households that use solar

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<sup>62</sup> The state of Uttar Pradesh is showing a rapid improvement in Human Development Indicators, but intra state inequality is high and several of Bundelkhand sub-districts have lower scores than state average.

<sup>63</sup> The media reports have been especially prominent in May 2016, but also in previous years have hunger and drought been reported from Bundelkhand. <http://www.hindustantimes.com/india/hunger-cattle-deaths-haunt-bundelkhand-swaraj-abhiyaan-survey/story-83Tv4h3Q3YtIDifYhV99wN.html>, <http://www.ndtv.com/india-news/in-drought-hit-uttar-pradesh-the-poor-are-eating-rotis-made-of-grass-1252317>, <http://www.scribd.com/doc/73664372/Overcoming-Poverty-and-Hunger-in-Bundelkhand#scribd>

<sup>64</sup> In March 2016, The Hindu reported that only about half of the 7000 villages officially stated to be electrified in 2015, were found to actually have electricity access during a survey. According to sources interviewed discrepancies in reporting and definitions of 'electrified' have led to unreliable results.

<sup>65</sup> Census of India 2011, compiled by Vasudha Foundation.

power for lighting was only about 0.5 % for Jhansi district and 0.8 % in Mahoba district, while the dominant source of lighting in the districts continued to be Kerosene. The table below illustrates the main trends:

**Table 6: Sources of lighting in households, Jhansi and Mahoba district, UP**

District	Total households	Kerosene	Electricity	Solar energy	Other	No lighting	Total Electrified
Jhansi	214, 711	147, 459 (68%)	64, 582 (30%)	1, 164 (0.5%)	1, 050	456	65, 746 (31%)
Mahoba	129, 475	104, 821 (81%)	23, 020 (17%)	1, 151 (0.8%)	410	73	24, 171 (19%)

Source: Census of India 2011 compiled by Vasudha Foundation<sup>66</sup>

The project village Reshamgaon lies in Dumka district in the eastern part of Jharkhand, and the other nine project villages are placed in Dumka and the adjoining Godda district. Jharkhand in general, and Dumka and Godda district, score low on the index of ‘backwardness’ presented by Bakshi et al. (2015, p. 47), in terms of electrified households, female literacy, and high SC and/or ST population. Jharkhand’s history as a state is short, as it gained independence from Bihar in 2000. About a quarter of the population is Adivasi (ST)<sup>67</sup> and there are recurring events of social unrest and Maoist insurgency.<sup>68</sup> During our stay in 2012, there were reports of car bombs targeting Indian military in the forest areas of Dumka, and during that year 162 were killed as a result of Naxal uprising in Jharkhand, the highest death toll recorded in any Naxalite state in India.<sup>69</sup>

<sup>66</sup> [http://www.vasudha-foundation.org/wp-content/uploads/8%20Reader%20Friendly%20Paper%20for%20USO\\_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf](http://www.vasudha-foundation.org/wp-content/uploads/8%20Reader%20Friendly%20Paper%20for%20USO_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf). Downloaded 15.01.15.

<sup>67</sup> 26.2 % according to Census 2011.

<sup>68</sup> For a detailed ethnography of the Naxalite movement in Jharkhand please see Alpa Shah 2010. *In the Shadows of the State: Indigenous Politics, Environmentalism, and Insurgency in Jharkhand, India*. Duke University Press; Durham.

<sup>69</sup> <http://indiatoday.intoday.in/story/life-of-a-bomb-diffuser-most-difficult-in-jharkhand/1/269056.html>. Downloaded 15.01.15.

Jharkhand score high on other insecurities as well, in the 2004-5 Census, the population Below Poverty Line (BLP) was a staggering 40.3 %, only surpassed by Bihar and Chhattisgarh. Despite that Adivasis have mobilised politically for their rights (including under the Maoist insurgency and the creation of Jharkhand as separate state in 2000), Adivasis remain one of the poorest populations both in Jharkhand and India in general. The villages with high Adivasi population in the Village Electrification Project in Bundelkhand and Jharkhand were notably poorer than the other project villages. Maternal mortality is considerably higher than national average, and as described in Table 8, female literacy is lower than national average. Though the sex ratio fares better than national average, daughters are still valued less to sons in terms of skewed sex ratios.

According to Census of India 2011, 97.5 % of the villages in Dumka were electrified, but again, the picture is bleaker when turning to household level, as 81% of the households were unelectrified in 2011. As discussed in the introduction, India has a very rapid process of rural electrification, but this does not ensure equal access and villages can be deemed electrified even if most of the inhabitants are not connected (Chaurey et al. 2012). This is despite that BLP houses are exempt from paying the connection fee on their first connection. Despite 97.5 % of villages termed electrified (already in 2011), the dominant source of lighting in Dumka was kerosene (as in Jyotipur and Ashapura). The main sources of lighting are illustrated in the table below:

**Table 7: Sources of lighting in households, Dumka district, Jharkhand**

District	Total households	Kerosene	Electricity	Solar energy	Other	No lighting	Total Electrified
Dumka	255, 926	205, 543	48, 227	1, 022	965	149	49, 249 (19%)

Source: Census of India 2011 compiled by Vasudha Foundation<sup>70</sup>

Dumka was therefore the chosen district for Prime Minister Narendra Modi's inauguration of the distribution of free LPG connections to BPL families in 2015, a benefit that in his words

<sup>70</sup>[http://www.vasudha-foundation.org/wp-content/uploads/3\)%20Reader%20Friendly%20Paper%20for%20USO\\_Status%20of%20Rural%20electrification%20status%20in%20Jharkhand.pdf](http://www.vasudha-foundation.org/wp-content/uploads/3)%20Reader%20Friendly%20Paper%20for%20USO_Status%20of%20Rural%20electrification%20status%20in%20Jharkhand.pdf)

would 'help women and the environment'.<sup>71</sup> This initiative was related to redistribution of subsidies of LPG.

### ***The Social Geography of Jyotipur, Ashapura and Reshamgaon***

As mentioned in Ch. 2, India is, built on seemingly unbridgeable divisions, of axis of conflicts such as caste, religion, language, class, geography and not least gender (Guha 2007, p. xi). Though formally abolished, the caste system continues to influence people's access to power in India, but the caste system must not be interpreted as a static one. Instead, today's caste system has become interwoven in new class structures and more sectarian politics. As will be noted in the description of Jyotipur, Ashapura and Reshamgaon, they were relatively homogenous compared to many Indian villages, as there were few, if any, from the highest castes, and no Adivasi or Muslim population. That does not mean there were no caste or class differences. In contemporary India, several 'lower' caste groups such as Yadavs, who are listed as Other Backward Castes (OBC) and Dalits (SC) have mobilised politically, and to some extent raised their status.<sup>72</sup> In UP, the Yadav population have emerged as high class group, as many families have been granted land from high caste landowners during land reforms in the 1960s, contributing to the material and political wealth of the Yadavs in rural UP today:

In this area over the last fifty years, local Yadavs have benefitted appreciably from state land reforms: from being cow herders, petty cultivators or tenants, they have become major landowners of the region. This economic progress has been accompanied by growing political success (Michelutti 2004, p. 54).

From 1994 the UP government reserved seats at rural level councils for both OBCs and women, which have led to changes in the political power relations in the state from high caste

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<sup>71</sup> <http://www.tribuneindia.com/news/nation/pm-modi-launches-mudra-yojana-in-jharkhand/140705.html>.  
Downloaded 15.01.17.

<sup>72</sup> A full account of the caste reservation system in India is beyond the scope of this thesis. For clarification; SC refers to the Hindu caste group known as Dalits and ST refers to the tribal population known as Adivasi. These terms are used interchangeably. SC/ST and Muslims are seen as the most disadvantaged groups in India. Later the term OBC was taken into use to refer to other caste groups in the lower mid-range, in terms of historical status as disadvantaged.



dominance to the political rise of lower caste groups, with Yadavs, in particular (Kumar 2013b, p.119; see also Witsoe 2013 and Michelutti 2004). This provided lower-caste groups access to power, but the very diverse entity of the OBC group in terms of caste, size and wealth has perpetuated inequalities within this group as the hierarchy within the OBC category have ‘reasserted themselves through new political affiliations’(Ibid.). In both Jyotipur and Ashapura the prominence of the Yadavs were highly visible in the village scenery and the positions of VEC presidents were held by influential Yadav members of the communities. The only high castes groups in the research sites were a single Brahmin family in Ashapura, who were also among the more affluent in the community. The community of Kushwahas, who are also OBC, seemed financially on par with Ahirwar, who are SC in Ashapura. In Jyotipur, Yadavs were highest in caste and economic status affiliation, while 95% of the population were SC. However, caste or financial situation did not seem to exclude families from having obtained electricity connection. According to the villagers in Jyotipur and Ashapura, differences in their community were on economic terms rather than caste. Often the visible economic appearance of house and family, as well as their practices of dowry and private school education for children etc. reveal also caste/class affiliation. Seen below is an illustration of the diversity of socio-economic characteristics of homes in Ashapura.

*Illustration 3: Affluent Yadav house and SC house in Ashapura*



Photo: Karina Standal

Reshamgaon was very small and exclusively Hindu in population. The villagers derived their caste identity from the higher varnas so there was no SC or OBCs in the village. Still, there were subtle displays of class differences. The houses were small and uniform, but some households had motorbikes and tractors, vegetable gardens in the rear of the house and simple outdoor latrines. Size or possession of land and livestock also differed.

The social geography and social inequality in Jyotipur, Ashapura and Reshamgaon did not just apply to caste or class, but also gender relations. The main gender indicators of the research sites of this study are presented in the table below:

**Table 8: Gender indicators of Jyotipur, Ashapura and Reshamgaon\***

	Jyotipur	Ashapura	Rural UP	Reshamgaon	Rural Jharkhand
Population	337	904	155mill	288	25 mill
Sex ratio <sup>73</sup>	883	899	918	933	961
Child sex ratio	667	867	906	750	957
Literacy	72 %	70 %	76 %	73 %	73 %
Female literacy	38 %	50 %	49 %	62 %	47 %
Main worker men	84	243	5.86 mill	65	0.37 mill
Main worker women	48	164	1.38 mill	11	0.13 mill
Landowners co-owners	53	250	NDA	39	NDA
Agricultural labourers	11	60	NDA	37	NDA
Marginal worker men	10	5	3.06 mill	11	0.70 mill
Marginal worker women	31	22	2.14 mill	53	0.38 mill
SC population	95 %	19 %	21 %	0 %	12 %

Source: Data compiled from Census of India 2011, the indicators for the states of UP and Jharkhand are given for comparison.

As can be seen, the skewed sex ratio reveals preference of sons and suggests use of sex-selection abortions. The difference of adult and child sex ratio indicates that the number of what

<sup>73</sup> Sex ratios in India are conventionally presented as the number of females per 1000 males. The international convention present number of males in relation to females. In this thesis sex ratio is expressed according to the Indian standard of females per 1000 males.

Amartya Sen coined 'missing women' in 1992,<sup>74</sup> might be an increasing trend. Also the high rate of female illiteracy and high level of women as marginal workers, (reporting less than six months employment or earning during the year) show that gender discrimination is commonplace.

The predominant patriarchal family system in North India (with the notable exception of Adivasi and Muslim communities)<sup>75</sup> derives its legitimacy from the religious ideals of the joint Hindu family. The joint Hindu family is patrilineal and based on the concepts of patriarchy and exogamy. The male head of the family (patriarch) holds ultimate power over resources and decision-making. The joint Hindu family, as the name suggests, is (ideally) a household consisting of extended family. The joint Hindu family was seen as the ideal family system in Jyotipur, Ashapura and Reshamgaon. The joint Hindu family, as the name suggests, is (ideally) a household consisting of extended family. The male head of the family (patriarch) holds power over resources and decision-making. Women marry out of their own community and family, and into their husband's family. Upon marriage women's social role is primarily that of a *bahu* (daughter-in-law), who provides the joint family her labour and children, carrying forward the patrilineal lineage in their new families (Karve, 1999). This separation of women from their natal kin influence dominant features of gender roles in the Indian society. Of course both Jyotipur, Ashapura and Reshamgaon's gender roles and practices are not static in time and vary from family to family. However, the dominant feature of gender roles was presented and perceived as constructed on the basis of idealising a division of men and women's identities, responsibilities and benefits in society in line with patriarchal structures.

The preferred household composition in the Jyotipur, Ashapura a Reshamgaon is the patrilocal pattern of co-residence, where sons stay in the household when married, while daughters leave and move into their husband's home. In Jyotipur, and Ashapura young newly married women were held in tight control through the *pardah* system and were thus usually relieved of tasks outside the household. As a consequence, a *bahu* censor their voice and opinions, and confine their movements within the Lakshman rekha (in the home or near vicinity), other than necessary interludes such as defecating in the fields or attending weddings,

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<sup>74</sup> <http://www.sas.upenn.edu/~dludden/GenderInequalityMissingWomen.pdf>. Downloaded 15.01.17.

<sup>75</sup> Both Muslims and Adivasis also adhere to structures of the family where men's power is privileged over women, though some Adivasi communities have structures of matriarchy. The main difference is perhaps that several Adivasi and Muslim communities practice endogamy and not exogamy.

visiting their father's house etc. Women in Jyotipur and Ashapura were always prescribed to cover head and face when ever in the gaze of other adult men than their husband, and could not speak in the presence of their father-in-law. Older women did not veil in public to the same extent and dress codes were not subject to the same social sanctions. For instance, in Jharkhand old women could be seen without *sari* blouses. Generally, in Reshamgaon women were more visible in the village scene and would not veil their face, and many would not veil their head either. Women in Reshamgaon also frequently went to the markets and meetings in relation to the self-help group meetings. Though they had limitations on their mobility, especially the young *bahus*, they did not see themselves as practising *pardah* like women in UP.

As has been noted many places in India, the patriarchal family structure creates son preference as land resources are kept within the male lineage, while movable assets are distributed to daughters and her affinal family through the dowry system. When women in Jyotipur, Ashapura and Reshamgaon had borne children they enjoyed higher social status and become subject to fewer social restrictions than before. Women gain status when producing children, and sons provide more status than daughters (Standal and Winther 2016; Lamb 2000; Jeffrey and Jeffrey 1996). The ideal is, however as Kaur states (2008) to have only a few sons, and one or no daughters. This family composition ensures that family land is not divided into smaller units that cannot sustain the family, and the expenses and burden of dowry will not risk family survival. Though only dwelled upon in a few interviews with young mothers and newly married women, it was communicated as commonplace that women had to undergo sex-selection abortions in Jyotipur and Ashapura (as the sex ratio also indicates).<sup>76</sup> Like other issues of her fertility, this was a matter a young woman had no say in, according to my informants. Usually, a mother would have to go for ultrasound screening after the birth of one or two consecutive daughters. Haritika staff was aware of how this was an issue in the village. According to Parwati and Manjushree, women would not go for ultrasound screenings or abortions in Reshamgaon as the costs would be too high for families, but the sex ratio suggest otherwise. Women themselves said they tried to ensure spacing between children by

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<sup>76</sup> For more details and discussion on son preference and sex-selection abortions in India please see: Mary John. 2011. 'Census 2011: Governing Populations and the Girl Child.' *Economic & Political Weekly*, Vol. 46, No. 16 and Sen, Amartya. 1992. Missing Women. 'Social Inequality Outweighs Women's Survival Advantage in Asia and North Africa'. *British Medical Journal*. Vol. 304, No. 6827.

breastfeeding (as a contraceptive), and sons could be breastfeed for several years as the pressure for more children were lessened, unlike with daughters.<sup>77</sup>

In terms of health, fertility and women's control their body, it was deemed the prerogative of the father-in-law to decide on ultrasound, abortions and where a birth should take place. Through the NRHM scheme, women received 1400 Rupees when the child was born in the clinic. In Jyotipur and Ashapura women reported that women only gave births in state clinics, while in Reshamgaon they claimed that some still used traditional birth attendants. The care of mothers and newborn differed from UP to Jharkhand. In Jyotipur and Ashapura women stayed in the house of their husband and affinal family during pregnancy, birth and first postpartum period as it was perceived as the affinal family would provide the best care to ensure the next generation. While in Reshamgaon, and Jharkhand and West-Bengal in general, women went to their natal homes during this time to receive their love and support, as well as be relieved of work duties in their affinal home. This practice also encumbers any financial cost like emergency healthcare, food etc. on her natal family. It was still commonplace for women (and their children) in Jyotipur, Ashapura and Reshamgaon to travel to their natal home for 'pauses' now and then. When home with their parents they would be relieved of several household chores as they would be undertaken by their brother's wives. Such visits was organised between the father-in-law and a women's father, and the women would go 'when they were called for'.

As discussed in Ch. 2, one way of understanding the social geography in Jyotipur, Ashapura and Reshamgaon is through a spatial perspective. As Moore (1986, p 74) states; communities and families are divided into an organisation of space that relate to social structures. Divisions of caste, class and religious status are often visible in Indian as the different groups reside in different areas and some areas are also not allowed for lower sections of society (such as Dalits) to preserve ideas of religious purity. However, Jyotipur, Ashapura and Reshamgaon are very small villages and such divisions were less discernible in terms of caste, but more visible in terms of class structures.

The organisation of space in Jyotipur, Ashapura and Reshamgaon also extends to other social structures. In Jyotipur and Ashapura the practice of *purdah*, resulted in a sexual geography where women were less visible in the village scene. Women would only be seen either walking with men to the fields, or working in the near vicinity of their houses and always

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<sup>77</sup> Caplan (1993) found the same tendencies in rural Zanzibar.

covered by a veil over head and face. Houses in Jyotipur and Ashapura were also built for more privacy and if space and money allowed for it, they included a large open courtyard in the centre. Also households display social organisation of gendered spaces; the kitchen area would be termed the *bahus* area and in some houses a separate courtyard or outside veranda would be used for men and visitors to gather. When I interviewed older men, like the VEC presidents the interview would take place on the veranda, while interviews with women and young men would be inside the house. All families could not afford inner courtyards and separation of women and men's space in the household as many homes consisted of one or two rooms. Reshamgaon did not display the same prevalence of sexual geography as women were more visible in the public scene. Homes were perceived as the mainstay of women's lives in Reshamgaon also, but as people generally were poorer and houses were smaller without backyards in the centre of the houses, which eliminated clear separations.

All families in Jyotipur, Ashapura and Reshamgaon adhere to a system of gendered division of labour where men, and especially the 'patriarch', are seen as the provider of material welfare to women, elderly and children in the family. As discussed in Ch. 2 exchanges of resources and material welfare also take place in transactions between extended kin outside the joint family, such as dowry and providing of gifts in relation to births or visits of daughters in their natal home. The responsibility of material welfare for the family resides with men implies that men have access to the resources such as ownership of land, cattle, house and planning, cultivating and selling agricultural produce. Outward in community and society as large, as well as within the household, the patriarch is also seen as the legitimate head of household. This means that they are the natural target group for public meetings and information, such as organised in relation to the Village Electrification Project. This patriarchal order rests on systems where households base their livelihoods on agriculture. However, there have emerged new ways of finding income also in rural India, which as will be discussed in Ch. 8, changes household responsibilities between family members. Several men in Jyotipur, Ashapura and Reshamgaon have paid jobs outside of agriculture such as working in government sector or work migration in the cities. In Jharkhand women would to a greater extent take paid day labour outside of their household. In Jyotipur and Ashapura, women of more affluent households would not work on agriculture, but had responsibilities for domestic work and cattle. Though, the poorest sections would also take paid daily labour or depend on work migration for both men and women.

As described in Ch. 2, and will be discussed in later chapters, the *habitus* that is produced and reproduce gendered spaces, hinders women's access to power and capital. Men's work is used to widen his network of social interaction and obligation, while women's status and network are tied to providing for the personal needs of the family. Implicit to this gendered *habitus* is a limitation of women's social freedom, although this does not mean that everyone abides by such social control, these are the ideals that are conveyed. The nuclear households in the villages provided spaces where these norms were being renegotiated. Nuclear households were perceived by my women informants as providing women more freedom and control over their lives, as they did not need to serve their parents-in-law, and the husband and wife relationship was built on a closer cooperation of running the household together. But such homes were also described as constituting a harder life and more vulnerability as there were fewer resources, both material and human, to share around. Nuclear households were not uncommon, and the reason for their existence was varied. I was also told that sometimes the head of the household would decide that younger sons and their wives established a separate household. Some were located very close to the joint family and probably were *ad hoc* structures as the households expand. Some had also migrated, but later returned and established homes separate from the joint family.

This section has provided a general description of the social economy and social geography of Jyotipur, Ashapura and Reshamgaon. In the next sections a more detailed description of the chosen research site villages is introduced.

### ***Introducing Jyotipur***

The village I have chosen to call Jyotipur, meaning 'place of light', is the first Indian village where Scatec Solar implemented the CSPP model. The official opening of the CSPP was celebrated with festivity on India's national day 26. January 2009, and as mentioned in the previous chapter Jyotipur also received high profiled visits from the Norwegian P.M. Stoltenberg and other high ranking officials from the Norwegian and Indian government. Despite the overwhelming focus, Jyotipur is a small village with only about 69 households and 337 inhabitants.<sup>78</sup> The village lies in Jhansi district (UP), only 15 km away from the hustle and

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<sup>78</sup> Census of India 2011 reported Jyotipur's population in 2011 to be 337 people and 78 families/households. According to the VEC president the number of households were 69 in 2015.



bustle of Jhansi City with about half a million inhabitants. The main source of income in Jyotipur derives from agriculture. The main crops grown were wheat and rice, but several also kept livestock for dairy produces. As shown in Table 8, half the population were engaged in work, 76.30 % of them described their work as main work (more than six months employment or earning during the year), while 23.70 % were reported to be marginal workers providing livelihood for less than six months. Of the 173 workers engaged in main work, 53 were cultivators (owner or co-owners) while 11 were agricultural labourer.

Jyotipur is quite homogenous in comparison to many Indian villages as all the villagers are Hindu and about 95 % of the villagers are counted as SC, and the rest belonging to OBC. The village is not just small in population, but also in size and the hamlets one often finds in Indian villages where Muslims or different caste groups live in separate clusters is not easy to discern in Jyotipur. However, there were clear economic divisions in Jyotipur and Ashapura in terms of housing standards and size where the caste group Yadavs (OBC) seemed in general more affluent than others. Based on the VEC president's description about 20 % of the villagers were 'above lower category' with an income of about 15000-20000 rupees a month'. This high income group was visible in the village scene, as they live in *pucca* houses with cemented walls and roofs, often with elaborate decoration. This group also had access to agricultural machinery such as tractors and milling equipment. The women belonging to this socio-economic category used a combination of *chula* and gas for cooking. The remaining 80 % of the village was referred to as 'lower category', by the VEC president. Among them about 60% had an income of about 7000-8000 Rupees a month, while about 40% were dependent on day labour jobs, which when available pays about 250 Rupees a day. According to the VEC president, about 50 people of the village relied on labour migration. Despite differences in economic terms in the village, 44 households from both affluent and poorer groups had chosen to 'take connection' to the CSPP, paying the cost of 2000 Rupees in connection fee. In reality the number of families connected to the CSPP is higher than 44, as some joint families (with separate hearths) joined together, extending the lines to the adjoining household.

Jyotipur's inequalities extend also to gender relations within both community and family. As seen in Table 8, the sex ratio of the village showed a meagre 883 women (per 1000 men) and a child sex ratio of an alarming 667 (per 1000 boys). Though the village population is small, the sex ratio reveals that the son preference found many places in India, resulting in sex-selection abortions, also exists in areas like rural Jyotipur. The preferred household composition in Jyotipur is the patrilocal pattern of co-residence, where sons stay in the

household when married, while daughters leave and move into their husband's home. Some households are quite large and consist of several families while others are nuclear household located close to the joint family. Families in Jyotipur adhere to the practice of *pardah* limiting women's mobility and participation in the public space. As shown in Table 8, the female literacy rate in Jyotipur was a mere 38 % and the numbers of marginal workers were three times higher for women than men. Jyotipur score lower on gender indicators of sex ratio and female literacy than UP average.

The implementation of the CSPP in Jyotipur was carried out by the NGO Development Alternatives (DA) local branch in Bundelkhand and their affiliation partner TARA. DA is an NGO with a focus dedicated to sustainable development, and one of their key areas is technological innovation comprising renewable energy access and drinking water.<sup>79</sup> As mentioned in Ch.4, the selection of partnering NGOs was based on suggestions from the Norwegian Royal Embassy in Delhi and MNRE. DA had responsibility for village mobilisation in Jyotipur. The CSPP, with a capacity of 8.7 kWh, was completed January 26, 2009, after just 4 weeks of construction. The model for implementation was based on community 'ownership' and responsibility through the establishment of the VEC where village representatives managed independently the whole system of power generation and distribution. As discussed in the next chapter, there was a requirement from Norad and Scatec Solar that the VEC also had women representatives. In 2015 the number of village representatives in the VEC had increased to 16, with 4 women. By that time the number of VOs had been extended to 3 and they also employed a *chowkidar* (night guard) and a gardener. According to the VEC presidents the VO had a monthly salary of 3000 Rupees and the other CSPP employees a monthly salary of 1500 Rupees. The salaries of the staff related to the CSPP were in 2015 fully paid by the Bergen Group.

For Jyotipur the Village Electrification Project entailed a great deal of attention and administration of 'development tourism'. As Jyotipur continued to attract journalists, students, researchers and others, the VEC also took on the role as facilitators, providing visitors with guiding and information, and visitors were requested to pay a fee of 1000 Rupees (students received discount). Though Jyotipur's importance as a space for forging political bonds and

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<sup>79</sup> For more information on Development Alternatives please see: <http://www.devalt.org/>

ambitions has withered in Norway, Jyotipur still hold a special attention as model village in the eyes of the supplier company the Bergen Group.

### ***Introducing Ashapura***

The village I have called Ashapura, which means ‘place of hope’, was electrified through Scatec Solar’s Village Electrification Project as part of the PPP initiative between Scatec Solar, Norad, MNRE and IREDA on September 3, 2011. As Jyotipur, the CSPP plant was built for household electricity, as well as light in the school and streets. In Ashapura the project also included solar driven water pumps for water provisions to households as water is a scarce resource in the area. The water was delivered directly to each household with taps, eliminating the possibilities of tension and conflict in the village over caste issues such as Gopalpura discussed in Ch. 4.

Ashapura is slightly bigger than Jyotipur, with about 100 households and 904 villagers.<sup>80</sup> The village lies in Mahoba district, in UP, but is situated close to the border of Madhya Pradesh and the closest city is Nowgong<sup>81</sup>, which is only about 11 km away. Nowgong, which lies in Madhya Pradesh, is a considerably smaller (about 40000 inhabitants) and more provincial town than the industrial business city of Jhansi. As Ashapura is close to the border of Madhya Pradesh the villagers often face challenges in the fact that they formally are requested to relate to Mahoba city in UP in terms of government health services and education, which is about 70 km away. In their daily lives they turn their attention mostly toward Nowgong where they find doctors, schools, health clinics and shops. Mahoba district is also among the most drought prone regions of UP and the villagers could only grow one crop yearly limiting their income opportunities. The roads to Ashapura are *kutch*a and you have to pass another (electrified through central grid) village just before entering Ashapura where many households have enlarged their homes by encroaching the village roads blocking the passage for larger vehicles.

As with Jyotipur, Ashapura is also homogenous in comparison to many North Indian villages. All villagers are Hindu and belonging mainly to four different caste groups; There

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<sup>80</sup> The total population in Ashapura is reported by the Census of India 2011, but their number of 145 households is higher than the reported number of 100 household from Haritika in 2012 and 2015.

<sup>81</sup> Also translated as Nowgaon, meaning ‘new village’ in Hindi. Though more provincial than Jhansi, Nowgong was also the headquarters of the Bundelkhand Agency, an important military center during the British rule.

were Brahmin households, 45 Yadav (OBC) households, and the majority of the rest were approximately 65 Kushwaha (OBC) and 18 Ahirwar (SC). In Ashapura also, the Yadavs were the dominant socio-economic group. Several Yadavs and the Brahmin households were located in the centre of the village in large *pucca* houses, and elaborate designs on the doors as can be seen in illustration 3. The Brahmin household ran one of the two small shops in the village, selling small items such as candy, pulses etc., as can be seen in the below illustration.

*Illustration 4: Village shop in Ashapura*



Photo Karina Standal

The Kushwahas and Ahirwar lived in *kutch*a houses that appeared ‘simpler’ in terms of construction, size and building materials, using stone petals for roofs and unburnt bricks or adobe walls. Though it was an apparent trend in Ashapura that being affluent was almost synonymous with being among the highest ranking castes (in this case Brahmans and Yadavs), there were exceptions. Also appearance of houses does not necessarily relate well-being in terms of assets and nutrition within them.

Though Ashapura is larger in size with more winding alleys, it was not easy to discern separation of caste communities in hamlets. On the outskirts of Ashapura there were some provisional *kutch*a dwellings, as seen in illustration 3, which belonged to very poor households who seemed cut off from the rest of the village. One of these households was located facing the CSPP and had water and electricity connection. The reported income of interviewed households seemed to reflect the pattern of OBC/SC division where Yadavs also reported higher income. Still, many SC households would report only sustenance farming and no income whatever, though they clearly had acquired different assets such as television and mobile phones, which will be discussed more in Ch. 6 and 7.

As in Jyotipur, the inequalities in Ashapura were also evident in gender relations. As seen in Table 8, the village had a sex ratio of 899 women (per 1000 men), and a child sex ration of 867 girls (per 1000 boys). Female literacy was only about 50 % and the number of marginal workers was five times higher for women than men. Families of all caste groups reported to practice *purdah* and women and women of higher social and economic status families did not participate in agriculture of daily labour outside the household. On the gender indicators of sex ration and female literacy, Ashapura score lower than UP and Indian average. Though school enrolment rates of girls were improving in the village, families with sufficient financial means sent their sons for private schools or tutoring.

The main source of income in Ashapura came from wheat production and livestock. Some also had nurseries for chili and tomatoes, which according to Haritika provided good income. Most villagers had access to land, but due to water scarcity they were only able to have one crop a year. Many households had vegetable gardens or grew vegetables and pulses when the wheat crop was reaped. Also in Ashapura about half the population were engaged in work activities. As shown in Table 8, the vast majority described their work as main work (more than six month employment or earning through the year), and only 6 % reported to be marginal workers providing livelihood for less than six months. Of 434 workers engaged in main work, 250 were cultivators (owner or co-owners) while 60 were agricultural labourers. According to Shilpa working with Haritika in the village, the village was ‘medium level’ in terms of income as most had land, and few were denoted as BLP. However, some families were dependent on casual labour work and work migration outside the agricultural season for survival.

Households from all caste and income groups in Ashapura, apart from the very poorest, had chosen to be connected to the CSPP. In total 67 households had paid the 2000 Rupees to

be connected. Of those, 65 households were also connected to the solar driven water provision. As in Jyotipur, also 'poorer' households in Ashapura had obtained assets such as mobile phones, television and fans. In Ashapura the VEC had 10 village representatives, whereof 3 were women. Also here the VEC president was chosen from a Yadav family with high socio-economic status. Ashapura had two VOs, one for the CSPP and one for the water provision. The salary for the 'solar' VO was 3000 Rupees a month, and the 'water' VO was 1500 Rupees per month. In addition, the CSPP had a *chowkidar* who was paid 1000 Rupees per month. The fixed and variable tariffs of the electricity consumption followed the same price structure as Table 9, in Ch. 6.

### ***Introducing Reshamgaon***

The village I have called Reshamgaon, meaning 'Silk village' was also part of the Village Electrification Project, but differed from Jyotipur and Ashapura, as the CSPP installed on December 2009 was directed towards the village's silk-reeling centre for a women's livelihood project and not household electrification. Through cooperation with the NGO; Professional Assistance for Development Action (PRADAN), the Village Electrification Project improved the silk-reeling livelihood schemes that PRADAN had already established for women in Reshamgaon and in the area.<sup>82</sup>

Reshamgaon is also a small village with about 61 households and about 288 villagers. Reshamgaon lies in Dumka district in the Saraiyhat block area, where Haritika staff members Parwati and Manjushree lived in small flats. The block district is a mere roadside village with local markets and a few offices or telecom stalls etc. The nearest city is Deoghar about 3 hours' drive from Reshamgaon. Deoghar has about 1.5 million inhabitants and this 'home of the Gods'<sup>83</sup> is the famous site of the auspicious Baidyanath temple and Hindu pilgrimage. Each year millions of devotees come from various part of India to offer holy water from the Ganges at Sultangunj, about 108 km from Deoghar, to present it to Shiva in a holy dam in the city centre and temple. Deoghar is also famous for the *mela* of Shrawan. During our stay the city multiplied with pilgrims walking towards the city centre, most barefoot and exhausted, carrying the holy

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<sup>82</sup> The Village Electrification Project comprised of 10 villages in Jharkhand, while PRADAN has a wide range of projects with a great number of villages and communities in Jharkhand, and six other states in India.

<sup>83</sup> Deoghar literally means home of the Gods in Hindi.

water by the aid of yokes. Despite Deoghar's religious significance it is a city unknown to most *videshi* (foreigners) and the centre of the city is relatively untouched by the rapid changes of Indian society one sees most places. At the time of our stay it only had one 'supermarket' and most people would buy their food and clothes from market stalls in Tower Chowk or small local markets. Hotels are inconspicuous, and luxurious surroundings are found in the gated communities on the outskirts of the city. Deoghar is a bustling city none the less, and are grounds to the famous boarding school Ramakrishna Mission Vidyapith (est. 1922) and several government establishments including the criminal and civil court. For families in Reshamgaon and surrounding villages that have financial means the educational opportunities in Deoghar for young people are appealing, and some villagers find jobs in the building sector as Deoghar continues to expand.

Like rural Jharkhand in general, Reshamgaon is a poor village with small *kutchha* houses and the main livelihood is derived from agriculture. The most grown crops were wheat and rice, but some families also grew pulses and had vegetable gardens. PRADAN had several agricultural projects in the area aimed at horticulture or vegetable growing, which provide good income when sold. PRADAN also worked with both NREGA and village families for the construction of dams or large ponds to sustain rainwater for agriculture use and the breeding of fish. Several families also kept livestock. The population in Reshamgaon were not extremely poor as one sees quite often in Jharkhand villages, but there were landless and BPL families who were dependent on daily labour for survival. As seen in Table 8, about half the population were engaged in work activities. Of them, 54.29 % of describe their work as main work, while 45.71 % reported their work as marginal work providing livelihood for less than six months in the year. Of the 140 workers engaged in main work, 39 were cultivators (owner or co-owners) while 37 were agricultural labourers. Unlike Jyotipur and Ashapura the visible presence of people's class status was not easily apparent in Reshamgaon as houses were all relatively similar in structure. The families on the upper end of the economic ladder often had more land and owned their own tractor and motorcycles. Reshamgaon was connected to the national electricity grid short after the establishment of the CSPP, but the current was unreliable and not all households were connected.

As noted earlier, women in Reshamgaon, and Jharkhand in general, did not observe *purdah* in the same manner as Jyotipur and Ashapura. Women were not free to go anywhere they wanted and especially not younger women or newly married women. But they never veiled in public and were more visible in the village scene and nearby markets. It would still be

misinformed to think that women had easier access to decision-making or were not subject to discrimination. Also families in Reshamgaon held women in structures of patriarchy where men hold natural ownership of resources and decision-making power. PRADAN stated that the reason they had started to establish self-help groups in Hindu communities like Reshamgaon was precisely because such communities discriminated women in terms of access to income and livelihood opportunities. In their views women in Adivasi communities often led very hard lives, but had a different position in their communities as they often had decision-making power over family resources and often were their family's main bread-winners as they ran their family's main livelihood production on a daily basis. Therefore PRADAN projects in Adivasi communities in Jharkhand were more directed towards eliminating poverty, while in Hindu communities it was targeted towards eliminating causes of feminised poverty. As shown in Table 8, the sex ratio of Reshamgaon echoed that of Jyotipur and Ashapura, with 933 women (per 1000 men), and a child sex ratio of 750 girls (per 1000 boys) that is alarmingly lower than the rural Jharkhand average of 957. Despite income opportunities the number of women reported as marginal workers were five times higher than the number of men.

Also in Reshamgaon there was prevalence of son preference and the dowry costs of girls were seen as a heavy burden. Still, the practice of sex-screening ultrasound and sex-selection abortions were claimed to be rare according to Parwati, as families would not have money for such expenses (including transport and taking time to visit private health facilities), but the sex ratio does suggest that action is taken to prevent having daughters. Jharkhand's sex ratio is somewhat better than national average, and sex-selection abortions have also historically not been taken place in Jharkhand's Adivasi population (about 26 %).<sup>84</sup> Statistics from Census 2011, however, point to a decreasing amount of girls among children, which may point to expansion of sex-selection abortions also in Jharkhand. On other indicators of gender equality such as female literacy and maternal mortality, Jharkhand score lower than national average.

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<sup>84</sup> <http://timesofindia.indiatimes.com/city/ranchi/Marginal-fall-in-tribal-population-in-Jharkhand/articleshow/20374392.cms>. Downloaded 15.01.15.



## Ashapura Goes Dark?

The presentation of the villages would not complete if it did not also present the developments of the project between the fieldwork periods of 2012 and 2015. As mentioned, the visit to Jyotipur gave the impression of a successful continuation of the project due to the Bergen Group's assistance, though not economically viable. When visiting Jyotipur in January 2015, the CSPP was given a fresh coat of paint and the villagers were looking forward to celebrating the sixth anniversary of the CSPP. The CSPP still delivered a stable supply of electricity to the community and state-run local primary school. The hours of electricity a day was decreased markedly since 2012, and use of electricity for commercial activities had been abandoned long ago, but it still provided about 5-7 hrs of power a day in the wintertime and most villagers made regular payments.

In contrast, Ashapura and several other villages in the Village Electrification Project did not enjoy the status of being a 'model village' like Jyotipur. After spending some time in Jyotipur, I met with Haritika's CEO Sujay, who had offered to take me for a tour of the villages. During the first minutes driving out of Orchha, I was told that the situation of the Village Electrification Project was precarious. In Ashapura two of the inverters in the CSPP had stopped functioning and the capacity of several of the batteries was depleted. In addition many of the houses of the village were not receiving water and the pipes were in a bad condition. Also in 2 other villages, the CSPP were malfunctioning, while the rest of the villages only had minor problems. Haritika also claimed they had been working *pro bono* for a very long time as payments were withheld by IREDA.

Despite the initial welcoming distraction of a western researcher and Haritika staff member Supata when arriving in Ashapura in 2015, conversation with villagers ended in anger and frustration over the lacking services. In one heated meeting one of my women informants pulled me out of her home and towards the remains of the water lines near her house. Evidently, there was a long time since water had been running to her household.

*Illustration 5: Broken solar-driven drinking water pipe in Ashapura*



Generally people were frustrated and disappointed. According to several households they only had about two hrs of electricity supply daily. As a consequence the payments for the electricity had stopped and according to the VO they (he and the VEC) had stopped collecting money as they did not want 'trouble'. The VEC had also phased out their meetings as they did not see the point given the problems with the project. As the village is near the border between the states UP and Madhya Pradesh they were also experiencing several difficulties relating to a district centre miles away when they lived their lives in conjunction to Nowgong in the bordering state. The problems of the Village Electrification Project became yet another stone to the weight of their mistrust towards the government and its services.

The conversation with Sujay revealed that the frustration was not only felt by the villagers, but also Haritika. The problems concerning the Village Electrification Project also created tension between Haritika and the villages, which had become a burden on the local staff. According to Sujay, they had made many futile attempts to contact Scatec Solar, The Bergen Group, IREDA and MFA and the Norwegian Embassy in Delhi to have these problems fixed. Each institution would request them to contact another without any resolve to the issue. In 2012, Ashapura had been the most successful village of the Village Electrification Project as they had generated the most revenues through regular payments and a large enough share of households who had opted for connection to the CSPP. The problem of repairs and change of batteries was therefore not mainly a problem of finances, but since the Bergen Group did not respond to their

communication there was no one with the expertise to do the complicated repairs. Bringing in new independent engineers from Delhi would be very costly for the VEC and Haritika.

Already in spring 2012 Scatec Solar India was reduced to one employee who used a substantial part of his time preparing for projects in other countries in the realisation that the Village Electrification Project was not going to be an entry point to a new and exciting market in India, but rather a ‘hard-learned lesson’. By 2015 Scatec Solar India’s office in New Delhi was closed down permanently. As stated in Norad’s Results Report of the Clean Energy Initiative 2010-2015 (2017, p.106):

Sustainable continuation of the operations [in the Village Electrification Project] was, however, undermined by i) under-utilization of the power plants, ii) power tariffs below operation and maintenance costs, iii) lack of firm off-take agreements and iv) no extension or back-to-back agreements catered for with [operation and maintenance] providers. Therefore, several plants are currently faced with technical complications, with some even malfunctioning completely without any contractual party liable to address the issues. The project presents some hard-learned lessons on the need not to spread across a large geographical area, and to tailor each solar power plant according to village size, power demand and ability to pay for new generation capacity (Norad Results Report on Clean Energy Initiative 2017, p. 106).

As will be discussed more in detail in Ch. 10, Scatec Solar were not ready for the vast complexities of undertaking such a project. Firstly, they did not fully understand their customer and the market they operated in. The CSPP model is dependent on the customer to take ownership and responsibility for it to function, which differs greatly from Scatec’s experience with large scale solar plants. Secondly, India is not a country where things run ‘smoothly’ and Scatec Solar was dependent on flexibility and rapid release of funds to hold their schedule; instead they faced huge problems over Indian bureaucracy, which stalled movement of finances as well as goods. Thirdly, the Village Electrification Project is dependent on the sub-supplier, the Bergen Group, to keep interest in the project and keep to their commitments also after the intervention is over. As stated in the Completion Report (2012, p. 21) this was the initial intention:

Scatec Solar and the associated partners are in regular contact with NGOs to ensure operations are running smoothly at the power plants and to assist with minor technical challenges and when

possible also explain why they occur. In case of more serious problems, a technician will be called upon to attend to the problem and correct it on site.

As will be discussed throughout the analysis, the issue of long-term responsibility of the Village Electrification Project was not thought through. Rather, as commemorated by Minister Solheim (quoted earlier in Ch. 4) the implementation was praised for being carried out in ‘record-time’.

Though the villagers of Ashapura felt they had become a ‘development blind spot’ there was a looming hope. According to Sutapa, Haritika had resumed cooperation with Ashapura after a longer ‘break’, because the village had become too ‘dependent’ on their help. By taking leave of absence from the village the villagers would focus more on taking care of their resources and become more independent. When I met Sujay in 2015, he shared Haritika’s new plans for Ashapura. The NGO was in the process of finding new donors to expand and repair the electricity and water provision in the village. This time it was requested that the donor committed to having a service centre in the area, and a more extensive training of the VOs so they could do more complicated repairs independently. The end result for Ashapura and the other two villages who faced similar problems in the Village Electrification Project were still pending when this thesis was written.

## 6. Gendered Aspects of Community and Household Electrification

When we surveyed [the village] the women told me, because [lack of] electricity was such a big problem [before] you see electricity has brought people together. It has brought visions and new horizons for all. You see without electricity you are doomed... (Shilpa, Haritika staff member).

On January 26, 2009, India's Republic Day was celebrated in an unusual way in the village of Jyotipur in UP, as the celebration included the official opening of the Community Solar Power Plant (CSPP) as part of Scatec Solar's preliminary projects in UP. The celebration entailed the historic moment whereby Jyotipur would become the first village in UP to be provided with 24 hours of continuous solar electricity (Verma 2008). As one of India's largest newspapers reported; 'The sun never sets on Jyotipur village anymore'. Two years later in September 2011, Ashapura village, also in UP, was electrified as part of the Village Electrification Project with Scatec Solar, Norad, MNRE and IREDA. The implementation of the CSPP plants in Jyotipur and Ashapura was in accordance with GoI's attempts to deliver electricity to the rural population in the Bundelkhand area. However, the implementation of CSPP for household electricity in Jyotipur and Ashapura eventually became a challenging prospect, and by 2015 the project had encountered several problems.

This chapter tries to capture the electrification of Jyotipur and Ashapura beyond being merely a question of technology with certain functions, but as a social process involving different human struggles, as well as exploring the different 'stakeholders' part in the process in terms of responsibilities, participation, ownership. Though pitched as a technical energy project tasked with providing electricity through benevolent community participation, the introduction of modern energy services has the potential to provide new meanings of spaces and places as it brings new aspects to the everyday life of people in practical, social and political terms. Just as Middletown lights up in David Nye's description of how electrification redefined United States' culture and social history, the electrification process in Jyotipur and Ashapura are stories of redefined village and family culture. Exploring the social processes that have come out of electrification and the associated development intervention using a feminist political economy approach, this chapter addresses three interrelated questions: In what ways has the implementation of Village Electrification Project, and the projects' use of empowerment as a stated objective, made a difference for women's lives in the local communities? How have

women been included in the engagement and ownership of the electrification process? And what role can technology play in this process? Has household electrification resulted in consumption that enables women with new resources and agency?

In accordance with the old proverb ‘it takes a village to raise a child’, the Village Electrification Project needed an element of community mobilisation to make the decentralised system of the CSPP function adequately. It thus embodied an opportunity to redefine gendered spaces, by advocating women’s active participation in the process and ownership of the infrastructure. This process of electrification was carried out in the mode of an energy intervention that involved both commercial and government stakeholders as well as local villagers, meant that complex issues of social hierarchy had to be addressed. Upon electrification, the homes (that were connected) went through a similar transition to the villages, with changing aesthetics and practices of everyday life. The most notable change was the provision of electric light, illuminating family life and space in new ways, but also the acquisition of ‘things’ (previously inaccessible because of lack of electricity), such as televisions, fans etc. These new assets played an important part in families’ social life. However, as discussed in this chapter not all villagers were given the same access to the implementation process or benefits electrification.

## **Mobilising the Village**

The implementation of the CSPP was a socio-technical process that required the involvement of the village as a coherent unit. Unlike conventional extension of central grid electricity, where the infrastructure is organised by state government and/or private power companies, the Village Electrification Project was contingent on the conditions that the village approved of the project, handed over land needed for the CSPP and established institutions of ownership and responsibility (VEC and VOs). In this process, the NGOs DA (in Jyotipur) and Haritika (in Ashapura) needed to convince 60 % of the households to obtain connection to ensure economic viability. Without enough households connecting, the revenues from the electricity consumption would not be sufficient to cover costs of building the CSPP, pay the salaries of the VOs, or necessary repairs and replacement of equipment. Engaging the community and getting 60% of households on board was of utmost importance to ensure that the communities were invested in and felt responsibility for the CSPP. Scatec Solar’s project in Gopalpura

(described in Ch. 4) provides a stark illustration of what happens when community tensions lead to violence and sabotage of the CSPP.

The NGOs DA and Haritika played an instrumental part in mobilising the villages through their professional expertise on local community challenges. Both NGOs have a long track record of working in the local communities in Bundelkhand, and they also have a specific focus on sustainable and environmentally friendly development. In addition, both NGOs had a large base of international and GoI donors. DA, who was first out in aiding the implementation of the CSPP in Scatec Solar's preliminary project in Jyotipur, has a specific focus and competence on technological innovation and renewable energy. DA works continually with innovating and implementing decentralised energy solutions such as solar off-grids, biomass gasifiers, clean cookstoves. DA also works towards developing solutions that can materialise into profitable business:

DA through its solutions, enables creation of ecosystems that bring together diverse stakeholders of the market to form social business models. Our services reach out to aspiring businesses and entrepreneurs in the form of technology, finance, business management and market support; along all three critical phases of enterprise development namely, innovation, incubation and implementation.<sup>85</sup>

As such, DA shares the visions and goals of private sector-led development and has experience working with PPP. DA also has an explicit focus on empowering women by providing them with literacy training and skill-building in order to expand women's opportunities for employment. DA's office in Orchha contains a TARA gram paper factory that employs women from nearby villages. Though they did not have a specific gender focus in the implementation process in Jyotipur, they have incorporated women in previous bio-mass projects in the Bundelkhand area.

Haritika was selected for the implementation of CSPP in the seven villages in UP and Madhya Pradesh area in the Village Electrification Project. Their core vision is to work for: 'A just, enlightened, healthy and democratic Bundelkhand free from hunger, poverty, environmental degradation and all forms of exploitation irrespective of age, sex, religion and

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<sup>85</sup> <http://www.devalt.org/EnterpriseSolutions.aspx>. Downloaded 15.01.2017.

ethnicity'.<sup>86</sup> Haritika works with natural resource management, health, livelihood and water and sanitation, so the Village Electrification Project was their first engagement in working with decentralised energy systems. They had worked with some of the villages selected for the Village Electrification Project before, but only in relation to agricultural schemes such as irrigation, dug-wells, horticulture and vegetable nurseries. They had agricultural projects ongoing in Ashapura in 2012 and they had also approached households in Ashapura for the implementation of latrines, but at that time they had received little response. As DA, Haritika also focuses on women's empowerment through providing women with better options for livelihood generation. In 2012, Haritika had implemented self-help groups for women in rural communities in Bundelkhand, but according to the CEO Sujay it was difficult to engage women in Bundelkhand as communities preserved strict moral codes for women, inhibiting their mobility outside their households and women lacked education and the necessary skills to organise their own activities.

When DA and Haritika started the mobilisation process in Jyotipur and Ashapura respectively, they approached the communities by organising community meetings, training of villagers and awareness games to provide information and promote the benefits of connecting to the CSPP (Inception Report undated, p.11). When the NGOs approached Jyotipur and Ashapura they found the communities mostly positive towards the process, as described by the VEC president in Ashapura:

In this village, no one has ever seen light. So when the solar project came everyone was ready to take connection. So 40 households have given their community contribution from the beginning of project. The rest of households, those who were not ready to take connection, after seeing the electricity in other households have taken interest to take connection. Those who have not taken connection we have arranged meetings and have gone to all the households and said you should take connection because the benefits of connection is like this... (VEC president, Ashapura).

Though villagers were generally positive towards electrification, the mobilising process was not without challenges. Especially in Ashapura, the mobilising phase involved several meetings over a long period of time in order to get the village on board in terms of meeting the

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<sup>86</sup> <http://haritika.in/visionmission.html>. Downloaded 15.01.2017.



threshold for the number of households willing to pay the expenses for being electrified. According to Haritika staff Sutapa, the VEC played an instrumental role in this process:

They have done so much ... Even in the beginning, I think three months since implementation they have arranged more meetings like, 10-12 meetings, because we were not ready to give solar. Actually they have some wants with us, because only if 60% is ready to take connection, then we will give the solar. So they have committed us that 60% will take connection. So 40 households have taken connection and after that they have arranged meetings and they have called us also to arrange meetings and gone from household to household to say please take connection. And at present 67 households have connection in this village.

Once the terms of land, connection rate and the establishment of VEC and VOs were completed, an appropriate location (the land had to be shadow-free) was identified through surveying the village layout. Scatec Solar's main concern was to keep the plant close to the village centre in order to ensure that it would always be observed and guarded and to reduce transmission loss and costs of lengthy distribution lines. Once the land documents had been prepared and handed over to Scatec the construction phase was initiated and took approximately 6 weeks (Completion Report 2012, p. 10). Local labour was used for civil and mechanical work and the material sourced from the local area, while the process was closely supervised by the appointed contractor (Completion Report 2012, p.10). Once selected by the VEC the VO candidates underwent 'some initial training' (about 6 days) (Inception Report undated, p. 12), upon which the 2-3 most suitable candidates were selected for further training on tasks related to maintenance and load management. The numbers of VOs were meant to ensure that qualified personnel were available at all times. Issues of security and need for night guard were also decided by the VEC. As described in Ch. 5, these positions were paid a monthly salary and the selected VO for solar electricity received about 3000 Rupees for his job, while the VO for water provision in Ashapura and the night guards received a monthly salary of 1500 Rupees.

At the core of the mobilisation process was the establishment of the community institution of the VEC, which could deal with everything from collecting money for the electricity bills, keeping accounts and appointing VOs:

A Village Energy Committee (VEC) will be established in each village, which will have the overall administrative responsibility for the CSPP. The VEC will consist of elected members

from the village, and will be endorsed by the local panchayat/gram Sabha (democratically elected local Village councils, and the legal owner of the CSPPs). The member of Panchayat from the particular village will be the ex-officio member of the VEC. It is the responsibility of the NGO to facilitate the establishment of the VEC and the election of members, which ensures a fair representation and avoids community disputes. The rights and responsibilities of the VEC (through the endorsement of the panchayat/gram Sabha) are ensured through an agreement between the panchayat and Scatec Solar (Inception report undated, p. 12).

The establishment of the formal institution of the VEC was crucial in terms of safeguarding community participation and legitimacy, but additionally the VEC were intended to have *de facto* ownership of the CSPP infrastructure. As will also be addressed in Ch. 10, the Contract Agreement<sup>87</sup> (2009, p. 5) Scatec Solar was responsible for the operation and maintenance of the CSPP until at least 31.12.2012 or until the VEC would take over the responsibility. At that point, it was envisioned that when the VECs took legal ownership and responsibility they would negotiate individual contracts with the Bergen Group (Midterm Review 2011, p. v). However, the Midterm Review also stated that the installation and commission contracts are signed between the NGOs and Bergen Group, making the NGOs owners for three years as well; ‘This and other inconsistencies in the Project’s legal documents have notably not posed any difficulties in their daily project operations, but the documents should nevertheless be reconciled for consistency’ (Ibid.). Ultimately, the perspective of the NGO staff working in the villages was that the VEC were the rightful owners. As expressed by Haritika staff member Shilpa:

So now the plant is owned by them [VEC], and the ownership lies with them and they have to understand the whole thing. The account is in VEC’s name and whatever money deposited is in that name, the paying is in that name and also the money is kept because suppose after eight years they will have to replace the batteries, because the batteries break and they know that all the maintenance have to be done by the Village Energy Committee.

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<sup>87</sup> As Jyotipur is not part of the Village Electrification Project the contracts and documents are not open to the public, but as described in Ch. 2 the operations of the CSPP are today based on agreement between Bergen Solar and the VEC. In the case of Ashapura and the other Bundelhand villages in the Village Electrification Project, attempts from the villages and Haritika at communication with Bergen Solar, Scatec Solar and the Norwegian Ministry of Affairs have been dismissed.

Up until the challenges to the CSPP emerged in 2014-2015 in Ashapura, the VEC functioned well in both villages. They held regular meetings and the VO kept a system of energy consumption, collected payments of the electricity bills and oversaw operation and maintenance. In a conversation with VEC president in Ashapura in 2012, Haritika staff member Sutapa made clear how the VEC was expected to function as an independent and responsible institution:

All responsibility for maintenance and operation of this project is [with the] VEC. Firstly, they have got whatever support for collecting community contribution before establishing this project. After that they have mobilised the villagers to take connection to that project. And after that, to whatever is happening here, whatever is collection of bills, or any fault is in project or in solar panel, it is their responsibility to take whole care of that. For instance, if there is any fault in solar panel they will call Bergen Solar, [and tell them] you have to take care of that. And they [sub-supplier] will come and take it, [and then] all things are good in that panel. And after that they will take all the meter readings and they will make bills of that and they will collect the money. And after that they will deposit it in the bank account.

The issue of legal ownership brings up the question of what political infrastructure already existed in Jyotipur and Ashapura upon electrification. Indian villages often have several parallel and overlapping political institutions.<sup>88</sup> In 1992, village councils were formalised as Gram panchayats under the Panchayat Raj Act. A Gram panchayat usually consists of a cluster of villages and acts as a local self-governance institution for rural development. Jyotipur and Ashapura were part of a Gram panchayat consisting of a cluster of villages. According to Scatec Solar the VECs were meant to be endorsed by the Gram panchayats (Inception report, p. 12). Though the VEC was endorsed by the Gram panchayat, it functioned independently from formal local governance structures. In Jyotipur and Ashapura, both VEC presidents were from affluent and landholding Yadavs in the village. Their position as VEC president thus confirmed the role of Yadavs as the most influential caste group in their respective villages. Though it was evident that several of the members of the VEC, especially the VEC presidents, were influential members of their communities, none of them held positions within the Gram panchayat. In Jyotipur the Gram panchayat office was located beside the local school and close to the CSPP.

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<sup>88</sup> As discussed in Ch.8, Reshamgaon, Jyotipur and Ashapura also have informal institutions of 'elders'. Such 'council's do not have formal membership, but are trusted people of high status called upon in settling local disputes.

The school computers were located in the Gram panchayat office, enabling the electricity and use of computers to be shared. However, Ashapura was more disconnected from the Gram panchayat they belonged to, and none from Ashapura had any leading position in the panchayat. According to Sutapa, the Gram panchayat in Ashapura dealt with other issues and my requests to schedule interviews with them were politely turned down.

In a gender audit of renewable energy programs in India (Parikh et al. 2009), the authors argued for using the already existing local political institutions for implementation in order to ensure local democracy. The Gram panchayat system has legal requirement of 50 % women representatives. However, the history of patronage in local political institutions in rural UP does not necessarily ensure a democratic inclusion. Historically, the Gram panchayat's main responsibility has been to provide excess village land to the landless, a long and tedious process, while other development projects such as building of infrastructure have been less successful (Wadley 1994, p.190). The institution has also been plagued patron-client relationships and caste discrimination. One might argue that setting up parallel institutions pose the risk of creating a lack of efficiency and legitimacy. Appointing persons with political ambitions and legitimacy to the leadership of solar micro-grid infrastructure can turn out to jeopardise the sustainability of projects. This is because, as Hanne Geirbo (2017, p. 152) describes from the 'Bangla project' in rural Bangladesh, while choosing a person with a certain political pedigree may ensure that the person has a high degree of local legitimacy, which is needed to run such an infrastructure smoothly, it also yields a group of opposition and entangles the project in political disputes. For a private corporation to set up CSPP in local villages in North India, manoeuvring in the local political space is an enormous task. The independence of the VEC made it flexible to run and enabled it to avoid being attached to political factions and tensions in the local region, though it disconnected the institutions from democratic political networks.

In order to ensure legitimate and democratic representation, the establishment of the VEC was, according to the NGOs' staff, based on election by vote in a manner to ensure 'fair representation and to avoid community disputes'. As mentioned in the preceding chapter and discussed in Ch. 9, there was also a requirement for inclusion of women representatives in the VEC from the PPP in line with their stated focus on women's empowerment (Completion Report 2012, p. 25). The VECs in UP and Madhya Pradesh generally had about 10 members, with about 30% women. According to Haritika staff member Shilpa, the high number of representatives was to ensure a balanced representation according to caste and gender:

Because you see earlier the people selected, but there are so many, because you see India is a land of caste, localities and all. So you will have representatives in this group, from this kind of place, and there should be representatives of women also.

The mobilising processes in Jyotipur and Ashapura were based on an imaginative geography of a benevolent, harmonic and relatively equal community that would be ready to take full responsibility for the CSPP as soon as the construction phase had passed. As will be discussed next, the implementation process was from the start exclusionary towards women and to some extent people of lower caste and class status.

### ***Reproducing Marginalisation? Women in the Electrification Process***

Women Empowerment... Each village committee is represented by women allowing them to voice their opinions and partake in the running and decision-making of the committees (Completion Report 2012, p. 25).

Women's participation in the village mobilisation processes in Jyotipur and Ashapura deserves particular attention. The stated focus on women's empowerment in the Village Electrification Project in Jyotipaur and Ashapura was concentrated on women as end-users of electricity and their democratic inclusion in the VECs. In reality, the result of this 'makings of empowerment' was that the village mobilisation was carried out in a way involving primarily men, as different mechanisms of patriarchal family structures, *purdah* and 'silencing', inhibited women from participating when doing so was not a requirement for the implementation process. Further, as discussed later, it also marginalised women from employment and ownership in relation to the CSPP.

During interviews, I learned that it was the senior men, perceived formally as the patriarchal head of the family and with the title of the house in their name, who had participated in the mobilisation meetings and voted for the VEC representatives. As they had legal ownership of their household's assets, the decision to connect to the CSPP was also made by them. Though women were invited to the meetings, local customs of *purdah* prevented young 'newly' married women from leaving their houses. Further, most women with younger children have many chores that prevent them from participating, and the women who join are expected

to sit separately from men and not speak up in public. The challenges of women's active participation has been noted also in other studies of community institutions and development projects (Jewitt and Baker 2011; Agarwal 2010; Mosse 1995), as well as general exclusion of sections of the population in political community bodies (Agarwal 2010). However, women's representation has shown to have significance in order to raise important aspects otherwise ignored (by the men in charge), e.g. Agarwal's (Ibid.) study of community forest organisations show that such bodies with high women representation have less shortage of firewood.

The requirement of women representatives in the VEC ensured that women were included in the committees. The VECs in Jyotipur and Ashapura had 4 women representatives respectively. Still, in the 28 villages of the Village Electrification Project there were no women VEC presidents and there was only one woman selected as VO (in Chukapani, Jharkhand). As the options for income is less for women in these communities (primarily casual labour within the NREGA scheme), the salary of a VO would have been relevant for women. Women's employment as VO could also have provided empowerment not only in terms of economical capital, but also empowerment in line with strategic gender interests (Moser 1989), as women VOs visits all connected households to monitor electricity consumption and collect money from the electricity bills. As such a woman VO displays a high freedom of mobility, is skillful in financial affairs (making electricity bills and handling payments) as well as skillful in technology. In addition, a woman VO would have gained considerable social and cultural capital (otherwise difficult to obtain for women) by being well-connected with the villagers, the VEC and the NGO. This would challenge the doxa of gendered divisions of labour and attributed authoritative knowledge of men and women in the communities.

However, despite women's mandatory inclusion the main decision-making power and control over the CSPP and the VO staff resided with the VEC presidents. Women representatives had less influence over the day-to-day running of the CSPP system, but merely a formal membership to provide the institution democratic legitimacy, or consultative role at best. As described by the statements of the women VEC representatives below, they were marginalised from taking an active role in the VEC. According to the VEC representative Soni, the women representatives were elected because they had attained basic levels of literacy, but they did not receive any training or a particular role in the implementation process: 'Chosen? Because if someone's a bit literate, then because of this they get chosen'. Women's participation in the VEC was also limited due to cultural norms regarding women's role in the communities. For the women in Ashapura it was seen as an offence to their in-laws to speak up in the VEC

meetings. As described in Ch. 2, beside *pardah*, women are controlled through ideas of ‘silencing’ or ‘muteness’ and conforming to the role of a *bahu* to all members of a women’s conjugal village (Gjøstein 2014; Lamb 2001). According to earlier ethnographic accounts of rural UP, a *bahu* should never speak publicly and only in a whisper to her affines (Wadley 1994, p.55). The gender norms of present day Jyotipur and Ashapura build from such conceptions of women’s role in society. Subsequently, the women VEC representatives felt they could only speak up if they were asked to do so by male VEC members, otherwise they would act outside the norms prescribed for women to show respect and maintain family honour. In the end, they were ‘not active’ according to Haritika staff Shilpa and Sutapa, as they would not regularly attend the VEC meetings. As described by Shilpa: ‘Mostly they try to come, but sometimes their husbands come.’

Women’s mobility and ability to speak their voice is known to increase as their social status changes when they have produced children (especially sons) and become older. Some of the women VEC representatives had small children, but others also had grown children. According to Shilpa, the older women were freer in their communities, but taking an active role in the VEC was still a challenging role to manoeuvre:

They are free and they can come and sit. At least they are trying to, they are sitting and they are trying to understand why this solar energy is needed. How it is useful. It is a kind of thing that slowly the women are more responsible for these kind of things.

We interviewed Santoshi, an elderly woman and VEC representative, while she and her husband were on their way to work in their field. Sutapa relayed the husband’s perspective ‘He [Santoshi’s husband] is saying that all the time she is busy and has some essential work, when she is busy he goes to attend the meetings, when she feels she is free she goes to attend the meetings’. According to Santoshi, she had attended about four meetings (in the start-up they had about 10-12 meetings and subsequently held monthly meetings), and had been active in the starting phase of the project, giving information and promoting household electrification among other women:

Sutapa (translator): Did you convince anyone to get connection when they didn’t have it previously?

Santoshi: Yes, yes, and they took it. So we decided that they should get the connection. We prepared the connection. When there was no connection, we worked out how to get the connection. You take water, pay money. Like we'll give you water for your home.

Despite her efforts to promote the benefits of water and electricity connection to the CSPP to other women, she felt that actively participating in the VEC meetings was more difficult as she could only speak if consulted:

Santoshi: If I am asked, then I say it.

Sutapa (translator): The men sometimes ask you what should be done?

Santoshi: Yes.

Sutapa (translator): Have you had any training?

Santoshi: No, no training.

Sutapa (translator): You haven't been called for any training? But like, any information that, yes, this will be in the meeting, or...

Santoshi: No, we haven't.

During our conversation, her husband tried to answer for her several times, speaking for them both as he participated in VEC meetings on her behalf. From our understanding, he also did not feel the inclination to speak up unless consulted when he attended the meetings. Even though Santoshi and her husband had land, they were among the poorer segment of their community. As with the interview of the other women VEC members, they seem obliged to say that they are attending meetings in the beginning, but later they also stated that they had many responsibilities and this was not always prioritised.

Sutapa's long involvement in the village had given her insight into the women's reasons for choosing to prioritise other matters. In her rhetorical question 'What would be asked of a woman?' she pointed to commonly-held perceptions of women's abilities in decision-making



and formal work in the communities in Bundelkhand. Rural women are pressed for time and symbolic representation probably did not provide value enough to favour VEC meetings above other responsibilities. The situation had changed in 2015. In Ashapura, the VEC had more or less collapsed, as the infrastructure had begun failing and the villagers refused to pay for the electricity and water since it did not function according to the expectations. In Jyotipur the VEC president stated that they had four new women representatives, constituting 25% of the VEC. The former representatives had been replaced, because they had been ‘corrupted’. The corruptness was a description of the women’s lack of active engagement in the VEC, and women’s passive role was seen as a fault of the women representatives and not a problem brought on by discrimination. The new women representatives were, according to the VEC president, different and engaged in meetings and the collection of payments for the electricity bills. Unfortunately, I did not get the chance to interview them as interviews with women informants proved to be impossible with a male translator (Pratap and Prakash), and Sutapa worked for Haritika in Ashapura.

### ***Man in charge: Gendered Domains of Technology***

The CSPP stands out as part of a male technological domain: The VEC presidents are men, the VOs are men, the training and communication with the Bergen group involved only men, the payments of the electricity were carried out by men and men had decision-making power over whether a household should be connected to the CSPP. As discussed in Ch. 9, Norad suggested that the implementation process should ‘include women in the institutional structures for the operation of CSPPs’ (Appropriation Document undated, p. 5). The Barefoot College approach used in a Norwegian project in Afghanistan was suggested as a learning case.<sup>89</sup> The approach of the Barefoot College is interesting to contrast with Village Electrification Project in UP and MP (see also Standal and Winther 2016). Both projects focus on community-driven household electrification by solar energy (PV) that is and have trained local villagers for operation and maintenance the ‘patriarchal belt’ of South Asia. The project in Afghanistan involved rural household electrification through Solar Home Systems (SHS), but in this project, women were

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<sup>89</sup> The reference to Barefoot College and Afghanistan project refers to the development cooperation between Norwegian Church Aid in Afghanistan and Barefoot College in Tilonia, India, in the training of women and men as village operators to handle the solar PV systems. The Norwegian Church Aid project is described and quoted earlier in Standal (2008) and Standal and Winther (2016).

explicitly recruited as VOs (Standal and Winther 2016, p. 31). The approach in Afghanistan builds on Barefoot College who has become an icon of integrating women in energy development interventions as ‘Barefoot Grandmothers’ or ‘Solar Mamas’.<sup>90</sup>

Scatec Solar stated in the Appropriation document (2008, p.5), that it was ‘unlikely that women would be given the role of operators of the plants given the traditional social structures at the village level.’ The Energy Programme Manager of DA, who knew of the Barefoot College and their training of women, said in the interview, that they were interested in pursuing this possibility in the future as women are often more rooted in local communities and therefore ensure that any training given remains in there. According to the CEO of Haritika and the Manager of DA, the communities were not ‘mature’ enough for such a transformation of gender roles, and women lacked the skills needed. In the end, the question of gender in the implementation of electrification in Jyotipur and Ashapura had boiled down to challenges and impediments for recruiting women rather than how recruiting women could enhance sustainability and provide role models for women in the communities. First, the VOs needed to have some level of education and literacy, which excluded about 62 % of the women in Jyotipur and 50 % in Ashapura. Another reason mentioned was that women were not technically interested. Therefore women in the communities were not perceived as ‘ready’. According to Agarwal (2010, p. 183) women’s illiteracy is associated with women’s lack of capabilities (beyond care work), more so than men, which impedes their opportunities to claim public space in community decision-making. The results were that women were seen as irrelevant in management and operation, and instead portrayed solely as end-users (of electricity), accentuating their position as mothers and wives in need of services (Standal and Winther 2016, p. 42).

A comparison between the Village Electrification Project and the Barefoot College approach also needs to take into consideration the types of technology used, as they require a different social process of implementation. Social elements of village-level solar systems include services provided, pricing, revenues collected, but also the knowledge required to operate and use the technology (Ulsrud (2015, p. 12). The social elements also include the involved actors’ motivation, values, leadership styles and shared trust or distrust among the actors. As Nye (1991) states, social and technical elements of such systems are intertwined and constitute one social world. Technology is an extension of human lives and struggles. The

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<sup>90</sup> The Barefoot College’s work and approach have inspired the documentary ‘Solar Mamas’ by Jehane Noujaim.

training of the women VOs at Barefoot College involved understanding and installing SHS and portable solar lanterns. For this purpose, the VOs spend approximately six months in Tilonia to learn using practical and verbal techniques (as the women are often illiterate) (Standal 2008, p. 59). SHS and portable lanterns are ‘stand-alone’ units where each household has their own panel on the roof and battery system indoors. The services it provides are comparable to that of the CSPP, with lightbulbs and sockets for television or mobile phone charging, but the CSPP requires a different idea of responsibility and ownership within the communities. But perhaps even more importantly it requires a different set of skills to operate and repair. Therefore, the installation of a relatively simple SHS, compared to a sophisticated micro-grid infrastructure, has bearings for the way women and men interact with the technology.

The VOs in the Village Electrification Project received only about 6 days of training, and as such did not know how to repair the CSPP. His capacity extends to secure against overload, minor repairs and calculation and collection of the electricity bills. If something goes wrong he is instructed to call the producers (Bergen Group) to come and fix it. However, they still needed to know how they could communicate with the engineers from the Bergen Group who did the training and came to the communities to fix small and large technical problems that occurred along the way. It would be more challenging for a woman VO in Jyotipur and Ashapura to undertake the responsibilities of communicating with engineers from Bergen Solar or collect money from the ‘patriarchs’ who pay the electricity bills. The VOs in Afghanistan had more training and dealt with ‘simpler’ technology, and they were always coupled with a male relative VO in the village that could ensure flexibility in tasks that needed to be done by either gender. The question of including women and providing illiterate women training to become VOs also becomes a question of cost. Six months of training at Barefoot College costs more than six days of training provided locally. According to Chaurey et al. (2012, p. 49), lack of capacity-building and training has been one of the major limitations of electrification projects, which was also the case in Ashapura as they had no means of repairing when the Bergen Group withdrew their services.

## **Jyotipur and Narwara Light Up: Gender, Class and Consumption**

...a notable phenomenon that is increasingly discernible in rural consumption is a shift from necessities to discretionary goods... About one in every two rural households now has a mobile phone. Even in India's poorest states such as Bihar and Orissa, one in three rural households has a mobile phone... Nearly 42 per cent of rural households owned a television in 2009-10, up from 26 per cent five years earlier... In fact, more than half of India's stock of consumer durables such as television sets, electric fans and two-wheelers is now in rural India (Crisil Report 2012, p. 2).

A traveller visiting small unelectrified villages in North India will find them to have a unique calm compared to the region in general, and with a strange darkness in the evenings for anyone who is accustomed to living in a city. Jyotipur and Ashapura would have been no exception. Previous to the electrification the aesthetics and sounds of the village would have been characterised by their small sizes, with a mix of more affluent houses with richly ornamented doors and poorer households resembling simple tents, buffalos coming through dirt paths on their way to water, children running around, women fetching firewood and perhaps the sound of a goat here or there. However, several physical traits of village life changed in Jyotipur and Ashapura after the electrification. The physical structure of the CSPP, with the solar plant and the building containing the batteries, was erected within in a fenced space at the outskirts of the villages, attracting the attention of any visitor. Street lights were set among the most used paths, making them visible in the evenings while wires and poles would suddenly stand out towards the sky. In addition, the sound of televisions from several of the households, or music played on mobile phones could be heard mixing with the sounds of children and animals. According to a local newspaper people stopped going to bed as soon as darkness fell, and men no longer met at dusk to play games, instead they rushed home to join their families in front of the television. People also felt safer when the village was lit both indoors and outdoors with the bright glow of electric lights.

As described above, the electrification of Jyotipur and Ashapura involved a social process that redefined old meanings of village and family life. As David Nye eloquently puts it; 'A technology is not merely a system of machines with certain functions; it is part of a social world' (Nye 1991, p. ix).

## ***Evading the Fear of Darkness***

The aesthetic changes occurring in Jyotipur and Ashapura were also related to an increase in the sense of security. The implementation of light, both inside the home and outside in the form of street lights, provided a different atmosphere. Now mobility was increased both within households as well as outside, as the main paths in the villages were provided with streetlights. Most informants would comment how the light made it easy to move around. The dirt paths in the village often have drainage, which one could easily step into at night, a very unpleasant experience. There are also venomous snakes and scorpions in the villages and many of my informants had been bit. Apart from being very painful, some villagers claimed the stings made them sick and had required medical help. An older woman in Ashapura remembered an instance where a child had died from a scorpion bite. All scorpions are venomous, but only a few types are dangerous to human life and several of them are found in dry climates in India.

Apart from the fear of snakes and scorpions, electrical street lights provided a general sense of security as illustrated by Madhav and his wife Monal, heads of the Brahmin family in Ashapura:

Madhav:                You can see very far with the light. It's good that you can see far.

Sutapa (translator: Was there violence or fighting in your village before?

Madhav:                Here? Sometimes, like in the lanes.

Sutapa (translator): Do the women feel better in the night, like able to walk around, feel safe?  
Like they can go from place to place?

Monal:                 Yes, we're not scared now.

According to Madhav and Monal, the street lights also made the village a safer place in relation to burglaries. They had experienced people coming in the night to break in several times: 'When there was no light, there was a problem with thieves. A lot. With the light this has changed'. In pitch dark, it was futile to try to see who it was or run after the burglars, and despite suspicions towards certain people in other villages the darkness hindered any proof.

According to the family there had been no attempts of break-ins after the street lights came as they would be seen straight away.

Informants would not dwell on women's mobility in relation to the implementation of light. Instead it was emphasised that the light enhanced mobility and safety, but that women had no need to go outside in the evenings, as men would check on livestock and sleep in the fields to protect them against animals such as the nilghau.<sup>91</sup> That does not mean that women never go out in the dark. As only very few houses had latrines, women and men need to go out to defecate outside, probably an errand many prefer to when darkness renders them less visible. But the symbolic power and *doxa* of women's *purdah* made such themes difficult to pursue.

Other studies have shown how provision of outdoor light in villages enabled women to move around more easily after sunset. In Zanzibar, electric street lights provided a sense of security in terms of evading evil spirits, and visibility also ensured that women's moral reputation was intact (Winther 2008, p. 129). In my own previous study in Afghanistan (Standal 2008, p. 77), the provision of portable solar lanterns was greatly appreciated by the women as they could do milking, washing of clothes and pay visits to other households for celebrations after dark. For them this was a practical benefit, but it also 'scared the wolf away', meaning it provided women with a new security (Standal 2008, p. 75). Implementation of electric light ensured that women had possibilities to meet and discuss creating solidarity and support. In both the Afghan and Zanzibar villages women's mobility was restricted according to cultural norms of *purdah*, and the provision of electricity and outdoor light challenged the gendered spaces as women could enter public space more freely (especially after dark).

Children's fear of the darkness was also diminished with access to electric light according to my informants. Some would also point out that children could move easily within the house after dark without needing the aid of adults. Many households with joint families have grown quite large with perhaps several courtyards or rooms with open air between them. Parents' concern for children who fear the dark has also been noted in other studies on electrification. In my previous study in Afghanistan (Standal 2008, p. 75), parents felt the provision of light made the children feel safe enough to stay alone in the evening, enabling women to visit each other and more privacy between husband and wife. The provision of light

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<sup>91</sup> Nilghau is also referred to as nilgai or blue bull. The nilghau is the largest Asian antelope and is endemic to the Indian sub-continent. In Jharkhand fields would frequently be destroyed by elephants coming down from the mountains. Supervision of fields was therefore necessary in Jyotipur, Ashapura and Reshamgaon.

therefore provides psychological power (Friedmann 1992), as it provides a sense of self by for adults and children.

### ***The Electrified Home***

Though the Village Electrification Project needed the community to support and take responsibility for the CSPP in Jyotipur and Ashapura, it was targeted towards households as the customer of electricity. Upon electrification the homes (that were connected) went through a similar transition as the villages, with changing aesthetics and practices of everyday life. The most notable change was the provision of electric light, illuminating family life and space in new ways, but also the acquisition of ‘things’ (previously inaccessible because of lack of electricity), such as televisions, fans etc. These new assets played an important part in families’ social life.

The electrification of Jyotipur and Ashapura has enabled new opportunities of communication through television, mobile phones and the Internet, and families gradually organised their lives around sitting together in the evenings with the aid of electric light, fans and (for some) television or entertainment through smartphones or laptops. This increase of consumption has historically been marked by a rural/urban divide, but from 2009 to 2012, rural consumption per person grew annually at 19 %, two percent more than urban India. Rural spending during this period was 3,750 billion Rupees, while urban India was 2,994 billion Rupees (Crisil Report 2012, p. 1). The majority of India’s population resides in rural areas so the value of goods and services consumed have significant impact on national economy, as well as living standard of rural families. This rapid increase of rural consumption has been driven by increase in incomes, rising employment opportunities outside agriculture, such as government’s rural employment schemes like NREGA. However, the consumption increase is not just driven by economy, but an aspired change towards a more ‘modern’ lifestyle (inspired by urban middle-class) with modern ‘things’ such as mobile phones, refrigerators, plastic chairs and television.

The consumption of the electricity itself was a new experience and major change in household consumption in Jyotipur and Ashapura. Each household had to pay a connection fee of 2000 Rupees. For comparison, this sum is 600 Rupees more than women receive through the NRHM scheme when they give birth in state clinics. Further, the electricity consumption was

introduced through a system of monthly electricity bills and payments. The VO went on rounds to the households connected to the CSPP and read the household meters. A week later, he had calculated each household's consumption and tariff costs and returned with a written electricity bill. The households were then given a two weeks deadline for payment. The tariff rates for the solar electricity in Jyotipur and Ashapura were higher than the tariffs for conventional grid electricity in the area. The tariff rates of the CSPP electricity can be seen in Table 9 below:

**Table 9: Village tariff structure**

Level of consumption	Fixed tariff Rupees per month	Variable tariff Rupees per kWh
Level 1: 1-5 kWh/month/household	20	4.5
Level 2: 5-10 kWh/month/household	90	5.5

In Ashapura 65 households were also connected to the solar-driven pumped drinking water supply, which had a fixed fee of 70 Rupees per month.

The system of monthly payments proved to be difficult. As all households in Jyotipur and Ashapura are contingent on agriculture for income (whether they are labourers or have access to land) their income is seasonal. As Chaurey et al. states (2012, p. 49); difficulties in making regular payments in agricultural communities is a recurring problem with rural electrification projects. The VECs in Jyotipur and Ashapura (as well as several other villages in the Village Electrification Project) provided generous leeway for families who were out of money for periods of time. As the villages are small everyone knew who had money or not. If payments were delayed over several months or families were 'unwilling' to pay, the lines would be cut and a reconnection fee of 1000 Rupees had to be paid. The lines had been cut several times in Jyotipur and Ashapura, but they saw this as an absolute last resort. The tariff costs were already perceived as high by the consumers. Interestingly, households from all caste and class groups chose were among those who chose to be connected to the CSPP. According to Haritika CEO Sujay, the primary reason for why some families did not want to connect to the CSPP were due to village politics



In the same village it is not because they have no money [for connection]. It is because there is some problem with the community... that is why they are not taking connection. Like you see in [...] there the unconnected households are resourceful farmers, but they have some problem with the VEC that is why. There is some friction between two families.

Some villages in the Village Electrification Project had, with the VEC, decided to lower the tariffs as households struggled to pay. This reduced the sustainability of the projects however, as the revenues were not sufficient to cover the operation and maintenance of the CSPPs. Despite higher tariffs than grid electricity, the power from the CSPP was more reliable with no blackouts, which was perceived as preferable, and the likelihood of being integrated in the central grid in the foreseeable future was small. In 2015, the sentiments towards the costs and quality of the electricity had changed, as the CSPP in Jyotipur had reduced capacity and the CSPP in Ashapura only provided power a few hours a day. The willingness to pay was especially reduced and in Ashapura and the VO and VEC had stopped their rounds to collect monthly payments, as they 'did not want trouble' from angry and frustrated villagers. Though never explicitly labelled as fear of violent reprisals I had encountered violent brawls among villagers and the VEC representatives in another village, due to tensions over tariffs and people illegally connecting to the CSPP.

An important aspect of the electricity consumption was that it was a new expense for families. As the electricity and water provision was for the household it did not directly provide opportunities to enhance agricultural output and income. The Village Electrification Project also did not expand livelihood opportunities as, a part from Leelah (introduced in Ch.7) there were no one who ran micro-enterprises from their home. Some families did experience increased profit indirectly as the electricity provided opportunities for better communication with market agents, but for some families the option to use mobile phones to call markets to hear of prices etc. is not an option as they have to sell immediately (see also Tenhunen 2018). For them, the electricity induced only expenses and new desires or 'needs', and subsequently increased their economic vulnerability.

The cost of the electricity also included buying necessary equipment. Upon electrification the first household item of consumption required was the CFL lightbulb. Hence, the cost of 2000 Rupees for connection had to be followed by investing in expensive CFL lightbulbs bought in the market in the nearby towns of Jhansi and Nowgong. The NGOs put emphasis on this, as the use of ordinary and cheaper lightbulbs have much higher watt usage,

which potentially harms the battery capacity of the CSPP. The CSPP did not have load limiters, but were dependent on the VOs for ensuring that systems were turned off if the load exceeded maximum capacity. Most families had also acquired fans, or air coolers made up of large fans placed in metal cages lined with straw. When the straw is moistured the fan will blow and humid air in the house. During the intense dry heat of early summer (before monsoon) temperatures in the Bundelkhand region can run up to 47-49 °C so fans or coolers are important for health and well-being, especially for children or people with health problems. In addition the fans contributed to reducing the plagues of mosquitos. Malaria was considered a common illness among my informants, which had incurred medical expenses and loss of time for labour.<sup>92</sup> Some households had mosquito nets provided by NGOs, but as families sleep scattered around in different rooms and on the roof (men often sleep on the roof during summer), such nets were not seen as practical. Instead, my informants felt that investing in fans was better as it could also be used to decrease the temperature, and as mentioned earlier, made it more comfortable to sit together in evenings as a family in addition to helping get a good night's sleep without mosquitos. The coolers were not used in 2012, as the villagers had been warned that they would require too many watts and therefore would disrupt the CSPP system. When I returned in 2015 most villagers had become accustomed to using the coolers, partly explaining the reduced capacity of the CSPPs, as the system was damaged by overloading.

Households in Jyotipur and Ashapura had mobile phones even before the electrification. Previously, they would use car batteries or go several km to Nowgong, Jhansi or neighbouring villages with electricity, in order to charge the batteries. The number of mobile phones per family seemed to be increasing among my informants from 2012 to 2015. Most of the phones used in Jyotipur and Ashapura were smartphones with the possibility to access Internet, radio, music and camera. According to Tenhunen (2014, p. 37) there has been a rapid influx of Chinese-made cheap smartphones in India. These Chinese phones are offered at much cheaper prices than even the simplest branded phones and are thus available also for poorer segments of the population and smartphones have become the most common type of phone in India. However, it was not uncommon that women were given used older types of mobile phones from men family members.

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<sup>92</sup> According to malariasite.com there has not been any Malaria related deaths in UP 2011-2014, while the bordering state Madhya Pradesh is among the worst affected by Malaria, counting 227 deaths in 2011-2014, due to large forest covered areas.

Low cost Chinese smartphones are available all over India enabling a rapid diffusion of this technology. A few of my affluent informants owned iPhone or more expensive Samsung models and some families also had laptop computers bought in the nearest town or distributed as part of the earlier mentioned free laptop campaign of the UP government. Interestingly, almost none of my informants owned radios, instead they had acquired televisions (sometimes with cable-TV connection or DVD players), or they used laptops or mobile phones for entertainment and information. According to Census of India 2011, the proportion of households that own a radio has fallen, almost at the same rate as the proportion of households with a television has risen. Table 10 below, show the tendency of households' assets in the districts of Jhansi and Mahoba, where Jyotipur and Ashapura are located:

**Table 10: Electrical household assets in Jhansi and Mahoba district (UP)**

District	Total No households	Radio/ Transistors	Television	Computer/ Laptop (Internet)	Computer / Laptop (No internet)	Mobile/ Smartphone
Jhansi	214, 711	51, 307	60, 763 (28%)	1, 538 (0.7%)	15, 063	141, 593 (66%)
Mahoba	129, 475	35, 737	20, 158 (15%)	685 (0.5%)	7, 641	81, 635 (63%)

Source: Census of India 2011, compiled by Vasudha Foundation<sup>93</sup>

As seen in the table above the highest appropriation was the mobile phone. With the exception of extremely impoverished communities the presence of mobile phones can be seen everywhere in India.

Electricity services that are implemented through decentralised village solar systems such as the CSPP, have implications for what can be consumed or not, because the technology of such solar systems have 'shortcomings', compared to conventional grid supply of electricity. The CSPPs had inverters enabling AC appliances, but still micro-grids cannot sustain large variations in the energy consumption, but needs to stay within the limits the system is designed

<sup>93</sup> [http://www.vasudha-foundation.org/wpcontent/uploads/8\)%20Reader%20Friendly%20Paper%20for%20USO\\_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf](http://www.vasudha-foundation.org/wpcontent/uploads/8)%20Reader%20Friendly%20Paper%20for%20USO_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf). Downloaded 15.05.2016.

for (Ulsrud 2015, p. 11). For the villagers in Jyotipur and Ashapura this meant that were not allowed to use appliances such as coolers, refrigerators or freezers, which of course could have had a substantial impact on women's everyday life in terms of changing cooking practices for example (see Winther 2008).

The increase of consumption and well-being derived from rural electrification did not take place in a linear and progressive transition towards a modernised society. Rather the influx of modern items was implicated in social practices and structures that sustain inequality. The diversity in wealth of homes in Jyotipur and Ashapura was also reflected in the choice of placement of sockets and lights within the households. The homes of the more affluent Yadav and Brahmin families are large constructions built around an open courtyard. Around this courtyard, one finds numerous rooms, occasionally situated on two floors accessed by small impractical stairways. The adjoining rooms are used as kitchens, storage rooms and sleeping quarters. Constructions of rooms are often made *ad hoc* when families expand in population. The open courtyards is reached by a small hallway where goats or other things can be kept. The courtyards functions as the centre of numerous family activities: The family temple is placed here, as well as vegetable gardens and the odd tree. It is also here the traditional cooking hearth – the *chula* is located if there is no separate kitchen. Wealthy families with large houses and had several sockets and lights placed around. Their courtyards often had lightbulbs connected to lines that made them movable so light could be shifted between the doorway of a kitchen room and the open courtyard, or wherever needed. Some also had 'outdoor' light if houses had been extended with open space between them. In the large joint families with television, this was placed in one of the adjoining bedrooms, together with a lightbulb in the roof and fans. Here the family would gather during the day and evening to relax and watch television on the floor and bed. The majority of families however, live in much simpler houses, where the courtyard is merely the backside of the household. Several households in Jyotipur and Ashapura consist of a just a single room consisting of a *charpoy*, *chula* and perhaps a television. Such homes had only one lightbulb and two sockets. On the outskirts of Ashapura a few homes were built without solid foundation, made from tree branches or similar. They were also connected to the CSPP and the water supply. In several homes, the kitchen did not have electric light despite the difficulties of cooking after sunset. Especially during the intense periods in the agricultural seasons family members (also women in poorer households) are in the field until darkness sets.

The diffusion of ‘things’ in Jyotipur and Ashapura was not just contingent on the financial status of households. In Jyotipur the vast majority of the population are SC with low income, almost all households had television and mobile phones, and five even had refrigerators, while Daarun’s family, who were among the most affluent Yadav families, had not acquired television. Instead, they had invested in modernising the home through appliances relieving domestic work duties for Daarun’s mother. This was not the general pattern in either Jyotipur or Ashapura, where items for the comfort of everyday life of all the family, such as fans and television were prioritised, while cooking technology such as gas was less common. The reason for some families to not invest in televisions might be related to the value put on of frugality in traditional culture. As Wilhite (2008, p.127) points out, there is a generational difference in Indian and Kerala middle-class consumption, where a traditional weight on frugality has been challenged by younger generations who equate consumption to freedom and modernity. Television was on Daarun’s list of new items that he wanted to acquire, that his father had not prioritised. Other reasons for different choices of family and household consumption can be found in gender norms where ownership and choice is a male prerogative.

As the home was perceived as ‘universe’ of women’s space (where women are kept within the sanctity of the home by *purdah*) household electricity was conceived by both my informants and Scatec Solar as especially beneficial as they ‘typically are the ones spending time inside, next to Kerosene lamps’ (Proposal undated, p. 16). The imagery of women benefitting from electricity, in the capacity as housewives and engaged in home-based production does not account for how as Wilhite (2008, p. 68) states: ‘... the family as a mediator of social and material flows’ or class and caste differences. Lower caste and class groups do not have the same means to acquire or make full use of new things as the more affluent and privileged. Similarly, gender also determined aspects of access, ownership and decision-making concerning such things. Gendered divisions of labour mean women have reduced ability to influence consumption due to economic dependence and a *bahu* also has limited possibility to make claims of families’ distribution of resources. As discussed in the next sections with regards to communication and dowry, consumption is further embedded in social and cultural values where access to things is politicised. However, as discussed below, consumption may also challenge and open up for transforming older hegemonies of power. The importance and significance of obtaining ‘things’, or ‘stuff’ as Miller (2010, p.50) terms it lies not necessarily only in their visibility, but the ‘less we are aware of them the more powerfully they can

determine our expectations, by setting the scene and ensuring appropriate behaviour, without being open to challenge’.

### ***Connecting People: Electricity and Social Life***

But television is an extraordinary technology for breaching boundaries and intensifying and multiplying encounters among life worlds, sensibilities, and ideas. Television brings into Zaynab’s home, her conversations, and her imagination, a range of visions and experiences that originated outside her community (Abu-Lughod 1997, p. 122).

One of electricity’s main effects on communities can be felt through the re-organising of social life and its possibilities to connect people in new and different ways (Standal 2008, Winther 2008). Home space was redefined to a place of leisure and entertainment after the electrification in Jyotipur and Ashapura. Light, fans and television brought people together in new ways in the evenings. According to several informants, this had changed life quality towards a more comfortable and joyful being. Television and mobile phones mean that people can receive information and communicate with networks, which translate into material, cultural and social capital over time. Television, electric light and fans also change how people interact together in a family. The light, fans and television were often placed in the same room where family members would gather in daytime or evenings. These rooms were previously used as bedrooms or storage area and had now been transformed to a social space and a window to outside lifeworlds and ideas (as phrased by Abu-Lughod 1997). The ‘death of distance’ collapsing the local and global has been fronted as one of the major impacts of modern technology (Cairncross 1997). Despite rapid rural electrification, a significant part of India’s rural population is still without electricity and therefore in many ways disconnected from the outside world. As can be seen in the below illustration, electrification enabled new opportunities for technological adoption and communication in Ashapura:

*Illustration 6: Television, laptop and mobile phone in an electrified home*

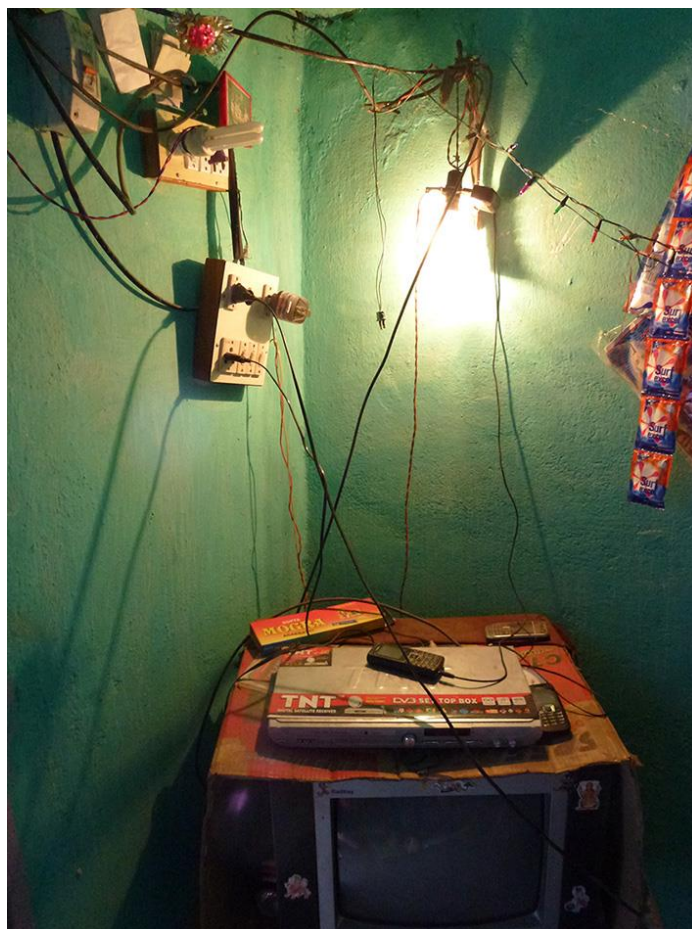


Photo: Karina Standal

Already in 2012 mobile phones were used for listening to music, watching news and sports in Jyotipur and Ashapura. During my last visit in 2015, the villages had Internet access and especially the younger and male population used their mobile phones to communicate and receive information in new ways such as Facebook, WhatsApp and Twitter. The mobile phone is also an important tool for farmers in Jyotipur and Ashapura to have contact with networks and for investigating prices of grain and vegetables in the market. As described later in the story of Daarun, this helps families to find the best time to sell their agricultural output by calling agents in the market. If possible they would then stock their product if the prices were low. This increases the profit and can save cost and time from futile transportation. As many farmers do not have access to cars, and the villages are relatively isolated on kutchha roads, transport of products is challenging and time-consuming, making the farmers vulnerable to drops in prices or expensive intermediaries. Being able to wait it out is an important strategy for increasing profit. However, the use of technology for this purpose shows that such resources amplify to some extent the socio-economic polarisation in villages, as only those who already are relatively

well-off have the possibility to hold off on selling their products at a favourable price, further increasing their economic position (see also Tenhunen 2018).

The distribution and access to mobile phones had gendered aspects. In 2012, few women reported owning their own phone, though most adult men had one. Still, many women had access to use their husband's, sons' or brothers' phones. By 2015, some households reported that all adult members had acquired mobile phones, including women. This is not a surprising trend as more and more people in India, of all ages, gender and socio-economic status, acquire and use mobile phones. However, the tendency to communicate via the Internet was not common among young women, and many had older phones passed on from male relatives. In contrast to men's wide use of mobile phones, women mentioned using mobile phones to make private calls to a husband working in another town or calling their 'father's house'. Since a *bahu* had very little freedom and was not at liberty to speak out in her new family, this contact was seen as important. Though women did not express critique of their conjugal home, the natal family are important pillars of support if the relationship with the in-laws is strenuous. Some households consisted of just women and young unmarried boys due to work migration, so communication with husbands was seen as necessary for practical issues. According to Tenhunen (2014, p. 41), access to mobile phones is an important resource for women and can provide them protection as mobile phones enable women to keep closer contact with their natal family. In Tenhunen's study in rural West-Bengal mobile phones could relay news of their daughter's well-being in terms of food security and domestic violence instantly, whereas previously such information could take years to reach them. Subsequently, some families chose to provide their daughters with their own mobile phones when they entered married life with their family-in-law. Extended networks of family and friends are important resources for individuals and families. Families in both Jharkhand and UP rely on family networks in difficult situations, such as transport money to the hospital, finding suitable life partners for their children and so on. Technology can also 'disconnect' families, as habits of watching television can disrupt social encounters or create new divisions, as who has access to it differs both within families and between neighbours in the village.<sup>94</sup>

Despite an increase in access to and ownership of mobile phones, a discourse of women's limited access was evident during my fieldwork. This was not stated explicitly in the

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<sup>94</sup> As described by Winther (2008, p.174) in her study of electrification in rural Zanzibar, television brought husband and wife closer as a couple entertaining guests, but also disrupted opportunities of private intimacy in the evening.



villages, but stories of women in urban student hostels, who were not allowed to use their mobile phones or leave the hostels in the evenings to avoid any immoral behaviour in terms of contact with the opposite sex, were frequently heard. Harold Wilhite (2008, p.34), describes the same tendencies from Trivandrum in Kerala, where concerns over women's and girls' unchaperoned communication with men have resulted in restrictions on mobility and use of mobile phones. Such practices meant that few of Wilhite's young women informants were allowed to have their own mobile phone, and calls would have to be made with someone else present.

Television also brings rural communities such as Jyotipur and Ashapura closer to the rest of the world through its provision of news, sports, series, movies and advertisement re-organising social life. Television has a long history in India since the first broadcasting in 1959. After liberal economic reforms in the early 90s, which allowed private and foreign broadcasters in India, television in India has increased in range of channels, languages and numbers of viewers, and not least growing commercialisation. Most television channels are free, while cable television and similar solutions provide a range of channels for a monthly fee. Today, television in India is a huge and varied industry ranging from foreign news channels to cable TV offering the ever-popular Indian soap operas and religious shows. Some families in Jyotipur and Ashapura had installed cable television. According to Lila Abu-Lughod (1997, p. 111), television becomes a social space where different categories of gender roles are challenged, merge, become naturalised and intersect in people's notion of themselves and the world. India's soap operas are well known for their popularity and for promoting issues such as family planning or domestic violence. The popular series *Main Kuch Bhi Kar Sakti Hoon* (I, a woman, can achieve anything) serves as a good example. The series, which has exceeded 400 million viewers, takes up several sensitive issues and uses the plot to promote family planning and women's empowerment.<sup>95</sup> Soap operas and religious shows were popular every day pastime after the electrification in Jyotipur and Ashapura.

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<sup>95</sup> <https://www.theguardian.com/global-development/2017/jun/01/indian-soap-tackles-taboos-become-one-worlds-most-watched>. Downloaded 01.06.17

*Illustration 7: Television in a Yadav house*



Photo: Karina Standal

As Wilhite found in Kerala (2008, p. 152), Indian-produced television, with themes resonating to local culture, was the most popular among my informants. But as illustrated below there was a gendered difference in what people stated as preferred entertainment:

Sutapa (translator): Since the light has come, have things changed for your family?

Sanchari: Everyone watches television.

Sutapa (translator): Everyone or the women or...

Sanchari: No, just the women.

Sutapa (translator): If the men want to watch cricket then what do you do?

Sanchari: The elders decide.

Sutapa (translator): What do you like to watch?

Sanchari: Serials [soap operas].

Sutapa (translator): Do you also watch the news?

Sanchari: No.

Most informants expressed that men watched sports and news, while series and religious movies were preferred by men and women together. Men could also use their mobile phone to watch news and sports, while women only had the shared family television. In some families women faced restrictions on watching television. Some content was deemed inappropriate for women, and it was evident that a *bahu* had work that kept them from watching or they would keep distance out of respect to affines or older men in the household. Yet, in many homes, the television would be on during daytime when women were often alone and they could watch whatever they like. In the family of Sanchari (the *bahu*) only her mother-in-law, children and young unmarried brother-in-law remained due to work migration, and the television had become a joint social arena for the women.

Media and entertainment have potential to bring not only human capital (in terms of knowledge and information), but also new categories of woman; through introducing themes of generational conflicts, dowry, son-preference and gender relations within an Indian patriarchal family can emerge in live pictures in people's homes. As described in Ch. 1, several studies have found that television might be a powerful medium in changing discriminatory gender relations (La Ferrara et al. 2012 Jensen and Oster 2009; Barkat et al., 2002).<sup>96</sup> When doing fieldwork in Bamiyan, Afghanistan (Standal 2008) television was frequently mentioned by both women and men in this regard. Women said watching Iranian television provided them with a wedge to claim a part in decision-making in their families by referring to women's rights within an accepted Muslim discourse. Men, on the other hand, stated how seeing the multitude of women's roles through the media of television increased their awareness of women's abilities:

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<sup>96</sup> For more information on the impact of television, radio and mobile phones on gender relations in South Asia please see: Tenhunen, S. 2014, Standal, K. 2008 and Jensen and Oster 2009.

We used to think our women were a little stupid, but now we see on television Afghan women in the Loya Jirga [Grand assembly] and we have a woman governor in Bamiyan, and they are just like our women. This encourages our women and the education of our daughters becomes important (Standal 2008, p. 90).

For the women in the Afghan project television provided them with empowerment in terms of social and symbolic capital that increased their agency and choice. The women I encountered in Jyotipur and Ashapura did not put the same emphasis on television as a medium for knowledge and information. Instead both men and women talked about television as an important resource of entertainment and leisure that brought the family together. Access to communication both with extended family via mobile phones and between family members due to light and television thus provides social capital, even though it did not affect women's ability to claim part of decision-making.

The Village Electrification Project's impact on social life was met with great enthusiasm, especially among the women in Jyotipur and Ashapura. As described below, electricity provided a new setting of relaxation together and entertainment with television, proper light and fans:

Sutapa (translator): Do you think that anything has changed now with your relationships because before you just slept, but now you stay up together and spend time together?

Respondent: It's good. We care when we sit together. We can care.

Sutapa (translator): Before when you weren't sitting together, spending time together, but now can you decide things together, talk together, like buying land or...?

Respondent: Yes, things about work can be decided, settled.

In their view, this change in social life in villages had brought a new quality of life. The use of fans also made social life more comfortable in the summer heat and the television would often be on during daytime, playing in the background and ready to be watched when relaxing or by the children.

The decreasing amount of electricity in Ashapura had consequences for the villagers' sense of life quality. In the case of Leelah, presented in Ch. 8, the family's television was not working during my visit in 2012 so the family did not have access to news and information other than mobile phones. When I returned in 2015, this had changed and they had grown accustomed to adapting their lives to socialising and watching television in the evenings. When the electricity was not working the women in Leelah's family felt 'compelled' to go to bed early at 7 p.m., in contrast to 10 or 11 p.m. They and other families showed frustration and anger over the project's failure, as without light and television the social gatherings in the family had come to a halt. Returning to the use of kerosene was dismissed by anyone I spoke to. Evidently, the use of kerosene, with its smell, fire hazard and potential headaches, was seen as an energy resource of the past.

Television and mobile phones do not just connect the villagers to the rest of the world, but they connect communities and families together in new ways. They share 'world' information and their social life routines changes (Tenhunen 2018, Standal 2008). Electricity thus brings social capital when people invest in things like mobile phones or television because it allows them to develop and strengthen extended networks of family and friends, and it provides them with updated information on what happens outside of the village. Tenhunen (2009, p. 17) describes the reorganising of social life after the introduction of new communication technology as 'a form of "social logistics" characterised by the increasing multiplicity of social contacts and market relationships' greater efficiency'. The ability to sell agricultural produce via phone, where prices can be negotiated until the last minute, provides economic capital to the farmer. However, the economic growth and reinvigoration of the economy that as a result of better communication have also reinforced economic polarisation in the communities. This only helps the farmer that is in a position to wait for prices to be beneficial. These social logistics, as per now, are still mostly part of a man's domain. Just as markets are often discriminating towards women (Kabeer 2001), the influx of technology does not automatically change this. Cairncross (1997) depicted a world marked by the free movement of goods, people, and ideas, enabling equality and growth. In reality, the 'communication revolution' has been a contradictory resource for Jyotipur and Ashapura, as the opportunity to 'tap into' the benefits of this process was privileged only for some. Nevertheless, absorption and use of communication technology were one of the main aspects of change in Jyotipur and Ashapura after the electrification of their community. Village life and connections did not just change in the manner of connecting Jyotipur and Ashapura to the rest of the world in a new and

qualitatively different way, but it also connected most villagers together as stakeholders of their own development in relation to the CSPP. Technology accentuates the forging of the village as a unit for development project as an enabler for keeping track of politics in the media and larger networks. As an example, the village Manpura in the Village Electrification Project managed to get media attention in order to shine a light on the negligence of the donors to help in repairing of their broken CSPP. During my visit in Ashapura, the villagers also succeeded in attracting a journalist for the same purpose as Manpura.

### ***Dowry Developments: The Intangible Effects of Electrification***

You know if it is a joint family... The bride's family gives to the groom all these things; washing machine, all these kind of things. If it [is] a joint family everybody uses for that [sic.]. If [it is] like separate [family], then the bride and groom only use the things. But mostly it's only one per cent [of families] that will be like only bride and groom. Mostly we live in joint families... If I am working in Delhi I don't take these things [with me] in Delhi. They are left in the house.

The above quote is an excerpt of the interview with Daarun presented earlier. As mentioned many of the households assets were brought to the household through the practices of dowry. Electricity spurs a change in which assets are desired as it enables use of new things. The predominant ideas and theories of consumer culture are products of fully capitalist societies viewing consumption as freedom and empowerment in a liberal economic world. Less attention has been given to consumption, especially rural, in the South. As Wilhite argues, practicing extended family relationships with gifts such as dowry is an important part of consumption in India (Wilhite 2008, p. 31). Several of my informants noted a change in the gifts given in dowry mirroring the 'modernisation' and commodification of society. Jeffery (2014, p. 180) relate the increase of dowry, among many things, to increasing monetisation of the economy in the colonial period and consumerism that have come after the liberalisation of Indian economy since 1991. The result has led to status competition of display of ostentation, and finding the right groom in the marriage-market where there is a shortage of men that have secure and good income. The rise of available consumer goods has also raised the bar for what is seen as acceptable living (Wilhite 2008). One common way for poorer families to achieve this is through dowry:

For “many” in the middle and lower middle class, dowry is the means to acquire desired consumer goods, capital investment, bribes to “buy” secure jobs, or an investment which may draw in further wealth (Palriwala 2009, p. 161).

Dowry expectations were perceived as increasing among my wealthy higher caste and lower caste and poor informants. In one of the SC households the dowry received in the latest marriage of a son 20,000 Rupees as well as bicycle, motorcycle, fans and a cooler. The outcomes of dowry and consumption changes render women into commodities themselves. For some like Daarun a marriage would provide him with the possibilities to obtain consumer goods such as television through dowry, which was not prioritised in his family despite their wealth due to generational differences. Interestingly, the electrification of Jyotipur made Daarun an even more attractive groom on the marriage market as families are reluctant to marry off daughters to families in unelectrified households. This made it possible for Daarun to expect an even higher dowry upon marriage.

In Jyotipur and Ashapura rural coolers, televisions, motorcycles were listed as popular wedding gifts in addition to cash, while mobile phones were never mentioned.<sup>97</sup> The connection between dowry gifts and the home is not surprising as dowry gifts traditionally would include utensils, clothing and jewellery to help the bride in her new home. However, the dowry system has changed considerably over the years as the amount of cash dispensed has rapidly increased for more or less all Hindu (and often Muslim) social groups. This tendency (of consumerism as interweaved with dowry) was already noted in the 1990s:

Parents felt themselves enmeshed in an increasingly competitive and materialistic marriage market in which the stakes were constantly shifting... In rural areas, television sets and motorcycles would have been unheard of in the 1970s, but they were not uncommon among the wealthy in the 1990s. In real terms, dowries have been increasing (1996, p. 69).

Several households in Ashapura had acquired electrical appliances through dowry even before the Village Electrification Project came to the villages, in anticipation that the central grid would finally come one day. Some families also owned a refrigerator given them as part

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<sup>97</sup> According to Tenhunen women were sometimes given a mobile phone by her natal kin when marrying. Though none of my informants mentioned mobile phones as part of dowry, it may have been provided as a personal gift.

of dowry. As the CSPP does not support the watt usage of such 'big' appliances it was being used as an ordinary cupboard. This shows that remote rural places are not cut off from the advents of consumerism and ideas of new and comfortable life. It also shows that consumption is not just a matter of economic models such as rational choice, but entrenched in different social practices, which can have gender discriminatory consequences.

The consequences of dowry was seen as difficult according to my informants. My informants would tell stories of fathers working more or less every waking hour to provide enough for more than one daughter. Families who principally refused sex-selection abortions and had two-three daughters paid a heavy price. Of course sex-selection abortions have more explanations than dowry alone, but dowry definitely has a significant impact on son preference. Women feel the consequences through having to undergo sex-selection abortions, neglect of girl children (leading to higher mortality rates than boys) and 'dowry deaths' and dowry related violence. The practices of dowry have a complex historical and cultural background and economic reforms and availability of consumer goods only reproduce such practices in new forms. As dowry is not considered the property of bride like a son can take control over his inheritance. (Stone and James 1995), the positive aspects of dowry for a woman are reflected in attaining a 'good' groom. However, electricity, television or utensils can improve life quality for the bride in her new home (Wilhite 2008, p. 83).

### **Young Hopes and Bright Futures?**

Improving children's education by providing electric light was also stated as an important tangible benefit of the Village Electrification Project (Proposal undated, p. 16). Electricity has been coupled with improvements in children and women's education (Daka and Ballet 2011; Standal 2008). Electric light facilitates children's homework in the evenings and the possibility to shift children's household responsibilities to the evening, freeing up time for education without 'cost' to the family. In Jyotipur the CSPP was located near the local state primary school and lines extended the electricity also to the school. The electricity consumption of the school was covered by the Bergen Group. The CEO of Bergen Group also donated a television, reading materials and a playground for the children in the village school in 2009. The electrification of the school had immediate benefits, such as the possibility to use fans in the heat and to be able finally to use the computers that were previously donated by the Indian



government. Jyotipur has also placed solar electricity for lighting in the Panchayat office next to the schools. In 2015, the computers had been moved to the Panchayat office near the school, but was still used by the pupils. The electrification of the village school was seen as a very important outcome of the Village Electrification Project in Jyotipur as this had increased the learning and encouragement of the pupils. According to Daarun (presented below) and the VEC president, enrolment in the village school had increased and the quality of the school had made it easier for the children to get into good schools at secondary level. The education of the children was also felt to reflect well on the village.

In Ashapura the local state primary school had also been electrified by extending the lines from the CSPP. This was a decision that was made by the community and the VEC after electrification, and in 2012 they had not solved the issue of who would pay for the school's electricity consumption. In Ashapura, the villagers were much less positive to the village school. Since the Right to Education Act passed in 2009, government education has been given more legal and financial focus than before and enrolment of children has also increased as a result of the Midday Meal scheme for pupils. However, trust in the government primary schools in northern rural India is known to be low, and stories of teachers falling asleep or turning up drunk to government schools are commonplace in UP. Many teachers in government schools also tutor pupils who go to private schools in the evenings and thereby work double shifts due to low wages and saving for daughters' dowries. There has been a massive development of commercialisation of education in India, alongside the provision of free education for all, where private schools and private tutoring plays a pivotal role. Informants in Ashapura complained that teachers were not present, and even when they were there they would not take care to ensure that the children stayed in the class. Further, the school was only for 1<sup>st</sup> to 5<sup>th</sup> grade and some parents wished for both pre-school and secondary school in the village.

Among both the staff at the village school in Ashapura and the NGO there was a perception of the villagers as backward farmers, not prioritising or understanding the need for education. During an interview Supata reacted to the complaints of a father who wished for pre-school availability and the opening of a private school in the village:

Supata: He is saying that there should be qualified teachers in the school and there should be private schools. I am just giving them suggestion that the government has provided them with teachers and the school also. They [government] are

paying 18000 Rupees per month to those teachers. So if they will not be aware of the studies of their children then what will be done before that?

Karina: But they are sending their children to school, no?

Supata: They are sending, but making excuses that the teachers are not giving them [the children] proper education and are unaware if they are attending class or not.

Hence, even in small and isolated villages families with enough income would prioritise sending one or all sons to private school. This was also the case for Jyotipur and Ashapura, where some families sent their sons to go to private school in Jhansi or Nowgong. The costs of such schools were 2000-3000 Rupees a month plus the admission fee.

As the quote and examples above show, electrifying village schools and external projects like the Village Electrification Project have a limited effect if the quality of the school is poor in terms of qualified personnel, teaching material and a popular discourse that favours private education. On the other hand, the example of Jyotipur in many ways contradicts this as the majority of the villagers did not have the means for private education for children, so the increased quality of the school in terms of adequate lights, fans and computers was important. In terms of gender equality it is even more important as, thus far, the expenses of private education were only prioritised for boys. The avenues of adequate education are an important resource for social and psychological empowerment (as described by Friedmann 1992).

Historically, wealth in the form of land and physical power to work and cultivate the land have been the main basis of power for rural communities in UP, but education has also been a significant source of power as this is a prerequisite for outside employment (Wadley 1994, p. 95). Most families with wealth aspire to have at least one of their sons employed 'in service' such as in Daarun's case elaborated below. Outside employment in government bureaucracies or the military provides families with a stable income. Historically, high status families have also derived their social power from their ability to manipulate bureaucracies, such as ensuring proper treatment in hospitals or exerting influence on government officials (Wadley 1994, p. 81). Having family members in service therefore solidifies the high-status

families' important relationships that uphold their positions as patrons in their communities.<sup>98</sup> But these jobs are only possible if education is secured. The statistics of higher education in India display gender and caste gaps (Chanana 2018, p. 223), but even on a general basis only about 15% of pupils reach high school and just 7% graduate (Bhandari 2013, p. 2). To improve their chances some families spend considerable money and energy on private schools or private tutoring, but the costs is beyond most families (Majumdar 2018; Krishna 2010). This explains why in Jyotipur and Ashapura only sons are sent to school. Educated sons have a higher chance of securing outside employment, which will benefit the family as a whole, while daughters marry into their husbands' families and take their resources with them. However, for wealthier families in some rural communities, educating daughters is also beneficial as they may be married with urban or elite families and thereby establish beneficial extended family relations, but this was not prioritised in Jyotipur and Ashapura.

The story of Daarun elaborated below illustrates the idea of the hopes and future of the young generation in rural India. With a proper education and social networks, the possibility was open to secure formal employment and connectedness with the world, as well as freedom to choose their own future regarding things such as family setting and geographical location. Daarun hence represents the young hopes and bright futures, though he is not representative for the majority of his generation in rural Bundelkhand.

### ***Daarun***

The personal life of Daarun provides an illustrative narrative of how Jyotipur's electrification enables the young generation of men to aspire and how certain class structures prevail when electricity translates into different types of capital. Daarun is a young man in his early 20s from an affluent Yadav family in Jyotipur. He was introduced to me by the VEC president as relevant to interview in January 2015. They both belong to the Yadav community in Jyotipur and hold positions in the VEC. I was accompanied by Prakash, as my driver and translator, and the conversation between the two young men and myself provided new insight into a young man's life and his perspectives concerning electricity's impact on everyday life. Daarun was already an educated man with a College degree from Jhansi and he planned to continue his education

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<sup>98</sup> For an elaboration on high status families (traditionally Brahman) please see Susan Wadley 1994, or for analysis of lower caste politics and appropriation of local administrations see Jeffrey Witsoe 2013.

by joining the Policy Academy, with a Master's degree in natural science as a second option. He lived in a nuclear household with his parents and a younger brother. His sister was already married and had moved to her husband's family. The family lived in one of the largest houses in the village, built with concrete and a large ornamented door reflecting the family's wealth. The interior was spacious, with a large courtyard and 10 adjoining rooms. The house had been built by his father in 2011, but they were expanding the house in 2015.

The household was among the first houses to connect with the CSPP. They now have light in 5 rooms, fans, a cooler and an electric iron. Daarun estimated that their electricity bill was about 150 Rupees a month, which was paid by his father. Like women in the other affluent households in Jyotipur, his mother cooked food using both the *chula* and gas. As opposed to poorer households, Daarun's family were also among the few that had a latrine. He and his father and younger brother also had mobile phones. Daarun proudly showed off his, one of the latest models of smartphones. His mother did not have a phone, but according to Daarun she could use his or his father's whenever she wanted to speak with her natal family. Despite the family's economic status, they had not invested in items such as television or DVD-players after the electrification. Daarun owned a laptop, which was provided by the government after finishing his education. The laptops were given for free to every student in the state who passed the Class 12 examination.<sup>99</sup>

The family derived their wealth mainly from selling milk from their buffalos. They had five buffalos and four goats. In addition, they owned land where they hired help in the form of manual labour to cultivate rice and wheat. Daarun's family had accrued wealth before the CSPP was installed in the village, but the electricity enabled them to increase their profit through improved communication. His family used the mobile phone to connect with people to find out about prices for wheat and rice grains in the market to sell at a good time for profit as stated by Prakash (translating Daarun):

If people need the money, if he is a really poor guy he needs to get some money. If the price is low or high he just sells (sic). He doesn't wait... he (Daarun's family) can just wait... if the price goes low he stocks, when the price goes high he sells.

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<sup>99</sup> This refers to Akhilesh Yadav's free Laptop campaign from 2012 by the Samajvadi Party.

As Daarun's family was well-off they could stock the grains from their fields if prices were low. According to Daarun they had increased their profit by about 50% after the electrification. Since milk needs to be fresh it has to be sold immediately, but having a mobile phone was important in order to keep contact with the distributors in Jhansi. The responsibility for selling the milk was given to Daarun. As the quote above shows, not all families had the option of stocking if the price of their agriculture product was low, as poor families need income from the agriculture immediately. Hence, the benefits of improved communication did not necessarily translate into higher income for all farmers in Jyotipur.

As mentioned before, connecting agricultural machines to the CSPP was also part of the project. According to the VEC president and Daarun, these machines had not worked as there were some technical problems with the current from the CSPP. Instead villagers went to the neighbouring village close by. Daarun's family and other affluent families had their own diesel driven irrigation pump and tractor with the possibility for threshing, further increasing their security in terms of agricultural output.

In many ways Daarun and his family were in a position to enjoy all the benefits of electrification. As they already had economic resources they could easily decide to take connection to the CSPP, and they could invest in mobile phones, light, as well as an iron and cooking technology (gas) to make everyday life easier for his mother, who had the sole responsibility for the family's domestic work after his sister married. As Daarun has a higher education and some proficiency in English he was also able to use his mobile phone to connect with friends on social media and for reading news. For those who are illiterate or have no English skills, managing the more and more sophisticated opportunities of smartphones is not within reach.

Daarun benefitted from the electrification of his village in other ways as well. He has a position in the VEC forging bonds in the village. At the time we met he was also eligible for marriage and his family received many guest making inquiries concerning this, scrutinizing himself, his family and their home. Before the village was electrified it was more difficult for men in Jyotipur to find a wife as many would be hesitant to marry their daughter into an unelectrified household. If married Daarun and his family could expect a considerable dowry including 'modern' appliances running on electricity. Daarun stated that he would like to have television, which obviously had not been prioritised before. Receiving dowry might also alleviate some of the costs the family had when marrying off Daarun's sister. According to

custom the bride had been taken to her new family in a car loaded with wedding gifts including, in his words, a ‘motorcycle, fan, TV, iron, washing machine and these things. We also gave 4-5 lakhs [Rupees]’.

Daarun said he planned to settle with his future wife in Jhansi, setting up a nuclear household there. In his village nuclear households were not unique, but said to be dependent on whether parents wished their household to consist of just the oldest son or all sons. Being the oldest son and educated, with prospects of steady income, Daarun had the privilege of choosing his family script. As opposed to women, such as his sister, Daarun will have the opportunity and freedom to live both the traditional family life and be ‘modern’ when he marries. His future wife will in all likelihood dutifully take care of children and uphold the traditional values of a home, while he can suspend farm work and earn a comfortable living in the government sector when his education is over. Men are also embedded in traditional familial relationships, but they are freer to develop relationships outside the home, such as with fellow villagers or students. This does not free Daarun from moral obligations to his near and extended family, such as responsibilities for paying electricity bills and acquiring dowries for female relatives, but his male gender provide him some prerogatives in both access to and use of new technology. Thus, the implementation of electricity and the resources derived work differently on men than women.

Importantly, Daarun stands out in his illustration of how electrification enables him to prosper in life both in terms of getting a (good) partner, making connections and relationships through communication and increasing profits, but he does not stand out as representative of all young men in his community as pre-existing economic resources and knowledge (such as English skills and technological competence) work as barriers not just for women, but also other marginalised groups in his community to fully utilise the benefits of electricity.

## **Translating Electrification into Capital: Social Change or new Elites?**

To possess the machines, he only needs economic capital; to appropriate them and use them in accordance with their specific purpose (defined by the cultural capital, of scientific purpose or technical type, incorporated in them), he must have access to embodied cultural capital either in person or by proxy (Bourdieu 1986, p.50)

As Bourdieu (1986) illustrates in the above quote, embodied cultural and social capital create distinctions between people that access to material assets cannot easily transform. As shown in this chapter, the ‘idea’ of the CSPP and electricity access was perceived in line with technological determinism (e.g. Abdelnour 2015) as a force in itself that would become a catalyst for social change ‘where all things begin to move’ as illustrated by the quote of Jawaharlal Nehru in the introduction of this thesis (in Kale, 2014 p.1). But the CSPP is not a thing in itself; it comprises of the producers and planners behind it, the implementers, the VEC and VOs and the different end-users, all of which have more or less control over the electrification process and with different capabilities to use the electricity to advance well-being and status. This complexity is also reflected in the ways empowerment as a stated focus, made it possible or not for women (and men) to transform their everyday life and position in society.

The stated focus on women’s empowerment in Jyotipur and Ashapura was primarily tied to how electricity would benefit women concerning their domestic role when their household was electrified. However, the grounds for makings of women’s empowerment from the Village Electrification Project was also influenced by the implementation process. One element of this was the prevalence of ‘men in charge’ in the organisation and implementation of the CSPPs. Except for one, all VOs who were selected for training in the Village Electrification Project were men, all VEC presidents elected were men and women only had a nominal role as VEC representatives. The ‘gendered division of labour’ presented in the Village Electrification Project reinforces spatial binaries concerning feminine/private/unskilled and masculine/public/skilled (e.g. Wajcman 1991). The recommendation by Norad (Appropriation Document undated, p.5) to consider learning from the Barefoot College’s approach and earlier mentioned project in Afghanistan (see Standal and Winther 2016; Standal 2008) in order to include women in technical and management positions of the infrastructure was dismissed. As will be discussed in more detail in Ch. 9, Scatec Solar and the NGOs operating in UP shared the perception that the communities were not ‘mature’ for such a transformation of gender roles

and women were not interested in technology or lacked the qualifications due to low levels of education. Whereas the Norwegian Church Aid and the Barefoot College wished to challenge the underlying roots of women's discriminations in their communities, the imaginative geography of the projects in UP and MP envisaged women's empowerment solely on the basis of quota representation in VECs and to serve what Moser (1989) refers to as practical needs of the women in terms of household work. The position as a VO or VEC presidents would have provided women with new opportunities for social and cultural capital and related social empowerment (Friedmann 1992). Because, engaging women in such key positions would challenge the perception of women's abilities (see Standal and Winther 2016) as a product of gendered division of labour in the patriarchal family setting in Jyotipur and Ashapura, where women gain experience in care work or work within areas defined as 'feminine' such as sewing, growing vegetables or taking care of livestock (Moore 1988).

The social elements of the technology, as described by Ulsrud (2015) earlier in this chapter, also influences women's inclusion into key roles in the Village Electrification Project. Frequently, technology's relation to women's empowerment is dismissed as irrelevant as the structures of inequality women and men are bound in are too rigid for technology to motivate change alone, or it is assumed that technological innovation will transform societies in a way that inevitably will also promote gender equality (Standal, Winther and Danielsen in press). The socio-technical elements of village level solar systems are markedly different from conventional grid extension (carried out by national utilities), which are 'much the same' in all contexts (Ahlborg 2012, p. 30), whereas micro-grids such as the CSPP require the community to be invested in ownership and responsibilities, and that the VO has a level of technical understanding for the daily operation and communication with engineers who come for repairs. Due to gender differences in cultural perceptions, standards of education etc., the latter signify a 'male dominated' technology (see Winther 2014). Simpler systems, as in the Afghan project, might provide avenues for women to directly interact with the technology not only as end-user, but also operating and maintaining the technology without extensive formal education (Standal and Winther 2016).

Though the concerns of how to recruit women into more technical and managing positions are understandable and legitimate, the gendered spaces framing women's roles signify a hierarchical order of power and authoritative knowledge (see Raju 2011, p 1; Moore 1988, p. 12) within the local communities, as well as the PPP and their partnering NGOs on the provision side. The gendered and spatial economic geography of Jyotipur and Ashapura also limited



women's ability to join the information meetings and taking a formal role in decision-making, because they were circumscribed by cultural norms and gendered divisions of labour that kept them physically away (see also Jewitt and Baker 2011; Agarwal 2010), and because they lacked formal ownership to land and house in the patriarchal family structure (see Kelkar 2014), and thus were not officially 'consumers' and decision-makers of the electricity. Women were not given formal ownership of the CSPP infrastructure either, as they only became token representatives of the VECs. As discussed in Ch. 9, the issue of legal ownership was not straightforward, but in the end, it was given over to the VECs, which in Jyotipur and Ashapura, was controlled by the VEC presidents who were men from the Yadav caste and who had a high position in village politics and economy. The mobilisation of the village thus reproduced and to some extent strengthened such perceptions on gender norms and relations.

Though the implementation process of the CSPPs in UP did not include women in the technical and managing role of the project, they were end-users of the electricity (in the households connected) and thus experienced important positive benefits of electricity access. As discussed in this chapter, the electrification of Jyotipur and Ashapura has been a complex social process, changing everyday life in many ways. Electricity and water provide important resources for families, which translate into increased material and social capital by enabling new connections, consumption and income. Consumption of televisions and mobile phones also reorganise village life at a higher level as people not only can increase life quality, but receive information and interact with the world in a qualitatively new way merging the local and global as described by Tenhunen (2018) and Cairncross (1997). The story of Daarun elaborated earlier illustrates how access to electricity and position within the VEC can translate into increased economic, social and cultural capital. With proper education, English skills and a base of economic capital, the electrification of his household aids him in communicating with business contacts, friends and family networks, as well as finding a suitable wife.

Despite significant benefits of the electrification, these have not been evenly distributed, rather, the translation of electricity into increased capital, material or otherwise, have been concentrated within segments of the population that have high social status, especially young men. Again the story of Daarun is illustrative; he represents the belief in technology as a means of progressive transformation of society (understood as a linear development of modernisation) (Cairncross 1997, see Toyoma 2015 for a critical discussion of this), as communication allows him to connect to family, friends and business contacts. Electricity thus enables more profit in his business, but also an opportunity to marry an attractive girl in the 'marriage market' (see

Jefferey 2014). But not all of his generation in Jyotipur have been 'dealt the same cards', as not only do women and the very poorest often lack material capital for acquiring 'things' like a smartphone, but also the cultural capital to use them such as literacy and English skills. Access to electricity and the consumption it enables makes the socioeconomic polarisation in communities visible in new ways. The illumination of electric lights and sounds of television reveals who has access to electricity and finances, and who has not. As noted in Ch. 1, India's commitment and effort of providing electricity to Indian villages the number of households connected are low, meaning that a large portion of the population will be without the benefits described above, increasing class and caste divisions, even though India's electrification looks good 'on paper'. According to Palit and Chaurey (2011, p. 267) one of the main reasons for this can be found in households financial constraints. In contrast, there was no apparent connection between families' economic and social standing and connection to the CSPP and acquisition of 'things' such as television or mobile phones in Jyotipur and Ashapura. Families from all levels of the caste and class status had chosen to get connected to the CSPP, despite the connection fee of 2000 Rupees and additional costs of equipment. However, the intersections of caste, class and gender played an important part in the cultural capital needed to benefit from such consumption (as illustrated by Daarun).

The simple dichotomy of gender inequality between women and men, or community polarisation does not account for the inequality within households (Nordfeldt 2016; Lemb 2000). As described by Gjøstein (2014) and Lamb (2000), women occupy a subordinate position to men, but a *bahu* occupy a subordinate position to her mother-in-law and women who are natal to the family. As this chapter has shown, access to items such as (placing of) lightbulbs or watching television is also politicised within the household. What is a particular aspect of women's situation is the lack of ownership of resources (see Kelkar 2014) and seldom do they have substantial income in their own name. Women and especially young married women have limited mobility, and are not free to go to markets in the cities of Jhansi and Nowgong without men's approval. Without ownership to resources, little income opportunities and *purdah*, women are dependent on men's approval before items are acquired. The practice of *purdah* also limited some women's access to utilise 'things' that were already acquired. According to the appropriate codes of conduct, a *bahu* could not sit down next to her mother and father-in-law and watch a television show.

Here social capital in the joint Hindu family has taken an institutionalised form where the head of the family, the patriarch, is as Bourdieu phrases it (1986, p. 53) ‘tacitly recognised as the only person entitled to speak on behalf of the family group in all official circumstances’. It is men who decide on whether a household should get connected to the CSPP, what agricultural equipment should be bought and if the family should acquire a television. The politics of access within the family, mean that women have both economic and socio-cultural limitations in influencing household consumption. Young women living in their affinal home, are especially excluded from decision-making, but also access to household space where men of her affinal family gather. This results in limitations on their access to television, fans etc.

The exclusion of women was also highly noticeable in not electricity-driven consumption such as education. A recurring theme in Jyotipur, Ashapura (and Rehsamgaon) was how increased economic capital was prioritised towards the education of their sons. According to Majumdar (2018, p. 237) the massification of basic education in India has been accompanied by a ‘shadow’ education where especially ‘the privileged social classes, and anxious competition to stay ahead of the masses, to be “country’s first boy” ... for a better career and higher status’ has led parents to opt for tutoring and private school education for their hopeful young. As such, families like Daarun, who gain opportunities to earn more through energy access will use their privileged position that reinforces earlier inequalities within the political economy of their community.

In both development and the field of economics, the household is taken to be the unit of analysis under the assumption that the comprising individuals exert rational choice in maximising their benefits in a way that ensures that welfare is distributed for all household members. As described above such a view does not take into consideration the complex relations of power between the ‘people’ of the Village Electrification Project. It also does not take into consideration how consumption is embedded in social and cultural values and practices (Wilhite 2008, building on Bourdieu’s theory of social practice) that favour men’s priorities and ownership in Jyotipur and Ashapura. As will be discussed in Ch. 8, women who earn an independent income reported to have more decision-making power over consumption, as they had some claim to the income they produced. However, the Village Electrification Project in Jyotipur and Ashapura, with the exception of Leelah described in Ch. 8, did not expand women’s income opportunities. It did not directly affect households’ income opportunities either, resulting in a push towards new consumption patterns without a financial base. For women, this may come at a high cost, because as shown in this chapter the push for

new consumer patterns is interweaved with the practices of dowry (see also Wilhite 2008, p. 78).

### **Reflections: The Politics of Access, Use and Ownership of Energy**

Analysing the electrification of Jyotipur and Ashapura through the lens of a feminist political economy approach highlights who loses out on the 'journey of development' that access to modern energy envisages. This chapter has described how Jyotipur and Ashapura have been electrified, and analysed how women have could or have acted to transform their subordinated position in this process. This chapter has argued three points: Firstly, the electrification of Jyotipur and Ashapura was set out on the premises of imagined geography where the electrification process would comprise only technical and economic aspects, which would benefit women specifically (as they are tied to the home differently than men). The concept of the 'people', as is the starting point of this thesis, and which is denoted in the PPPP, was hence construed towards an imagined beneficiary devoid of gender, caste and class hierarchies of power. Secondly, the by failing to understand the gendered economic geography of Jyotipur and Ashapura the electrification process to a large extent excluded women, as well as partially excluded people of lower caste and class from taking part in the implementation process, and ownership of the CSPP. Women were further excluded from the technical position as VOs. Thirdly, existing gender, caste and class hierarchies also frame how access to electricity translates into increased economic, and cultural capital. Women and the very poorest did not have the same opportunities, and access to some consumed items are restricted in socio-cultural practices. Thereby the Village Electrification Project reproduced women and people of lower caste and class' marginalisation in their communities, which made their empowerment from the project limited and not able to bridge the inequalities that prevailed in the villages.

By exploring the electrification process through the gender lens, as described by Peterson (2005, p. 499) the gendered economic geography of the patriarchal structures within the local communities, NGOs, and neo-liberal private sector-led development is revealed. On the one hand, rather than being the imagined geography of benevolent local homogenous community, Jyotipur and Ashapura were characterised by caste, class and gender hierarchies where men with dominating caste and class status have the possibility to reproduce their position (Peterson 2005). Electrification both produce new and reproduce old hierarchies as

ownership of commodities become more conspicuous and media bring new values and identities to isolated communities (e.g. Winther 2008). Similarly, the patriarchal structures of the joint Hindu family and gendered divisions of labour put severe limits to women, especially a *bahu's*, participation in the electrification process, decision-making (within the VECs and concerning household electricity connection) and use of electricity in the home.

The assumption of women benefitting from electricity is related to a perception of women as rational actors consuming products that maximise their benefits within capitalist and neoliberal ideas of consumption need to be revisited. This perspective of women's benefit from electricity is limited to an understanding of empowerment within practical gender needs (Moser 1989) and overlooks the opportunities to provide women technical and managing positions concerning the CSPP, which would if successful, serve the local women's strategic gender needs. In reality, women have limited possibilities to influence consumption as they are economically dependent on men, because as described by Kelkar (2014) and Hartmann (1979) men own the means of production and private property (see also Agarwal 1994) in the patriarchal setting. Further, cultural norms limit their ability to claim a part in decision-making (see Kabeer 2001; Lamb 2000). The politics of access within the household, also means that things consumed are not evenly accessible to all members in the patriarchal family structures in Jyotipur and Ashapura. The importance and assumptions laid on women's benefit from their role in domestic work, as well as a gender gap in education and literacy levels, made women and their communities irrelevant and 'immature' for an implementation process where women took an active part also in technical and managing positions. One could rhetorically ask, what is the point of women's representation in the VECs when the contextual gender norms and power relations are not considered? The Village Electrification Project chose other approaches to electrification in Jharkhand and Ladakh, to provide women with an opportunity to have active roles in the project through a productive role in income-generating activities, instead of focusing only on their reproductive role within the home.

These shortcomings are not meant to dismiss how, as shown, the electrification processes in Jyotipur and Ashapura have provided many significant benefits to the villagers, but that these benefits are not equally distributed because gender/caste/class axis of discrimination as described by Sha et al. (2018) and Guha (2007) limited equal participation in the 'journey of development' aspired by the electrification. As the story of Daarun illustrate, the visions of bright futures, here literally meaning the anticipation of the younger generation to be able to do homework and complete an education due to light in the homes, does not include

all young, but those who belong to a particular class/caste and gendered segment of the population. Further, the notions of gendered spaces both within in the communities and the socio-technical process of implementation have resulted in a further marginalising of women to fully take part in the project. However, the way electricity connects villagers to the global world through mobile phones, media etc. will intensify struggles over meanings such as gendered norms at an increasing rate as these connections inevitably will represent confrontations with '*status quo*' (see Tenhunen 2018; Standal and Winther 2016; Jensen and Oster 2009). Television will bring new representations of women and their abilities and successes in generating economic growth will cause new struggles over meanings of home and related consumption.

## 7. The Caring Woman: Electrification and Domestic Work

When there was no light the children were often crying [in the night] because of [fear of] the darkness before falling asleep, but now I can feed them easily in the evening with the light... Before when there was no light, they cried and I said don't weep, don't weep and in frustration I beat them. Now, it's easy with the light and they don't get scared anymore (Leelah 14.3.2012).

The drudgery of household cares is peculiarly heavy in the farm home, and yet there is not a household task but that electricity cannot lighten or brighten (NELA Proceedings of 48<sup>th</sup> Convention 1925, in Nye 1991, p. 301).

As the above quote shows, lack of access to modern energy resources and women's work responsibilities are intertwined in ways that are often disempowering for women. Women's work is often denoted as domestic work as it relates to their position as family care-takers who take responsibility for family needs of childcare, cooking, cleaning and tending to livestock (versus men's role as providers). The assigned roles and gendered work division in the spatial economic geography of Jyotipur, Ashapura and Reshamgaon means that women are tied to the space of home, and when resources such as electricity are lacking, women end up in frustrated situations like Leelah. Exhausted, and with no means to find an adequate solution, she ended up taking her frustration out on her child. Relieving household burdens is considered the way that electricity can empower women the most, as women's main responsibility and perceived authoritative knowledge in the research sites is tied to nurturing children and caring for other family-members, cleaning, cooking, and other small-scale activities run from the home. Indeed, Scatec Solar perceived women to be important beneficiaries of household electrification through their particular connection to private sphere and work activities there, and this was a main emphasis in 'makings of empowerment' (Appropriation Document 2008, p. 5).

This chapter analyses the ways that the Village Electrification Project has made a difference in women's lives in Jyotipur, Ashapura and Reshamgaon. In order to capture the process of change and makings of empowerment brought on by this intervention, and the way in which women have acted or potentially could act to transform their subordinated position from it, this chapter focuses on women's work and the social reproduction of the family through a feminist political economy approach. Such an analysis raises some questions concerning

women's work, social reproduction and gendered decision-making: What difference does the implementation of electricity play on women's work responsibilities? What difference does electricity and mode of intervention play on gendered divisions of labour? Does the social value of women's labour affect consumption of electricity-related appliances for household chores?

The heart-rendering stories of Leelah and Sunita described in this chapter give witness to how electricity can be empowering for women's health, time-use and psychological well-being. Women's domestic work shares the commonality that regardless of its importance for the family function and economy, it is unwaged and taken for granted. The devaluation and invisibility of women's work is a feature that has been known both in research, development policies and within different communities (as shown by Fraser 2017; Elson 2005; Waring 1988). However, to fully understand women's work and the ramifications it has on the social and cultural category of woman, and how it frames her social position, it is necessary to understand the conditions where women's work takes place, and the attached social value given in the cultural context (1988, p. 43). The family relations that women's work is organised by, and the property relations that these structures of authority uphold are key factors in this (Moore 1988, p.43). Only then can we understand why some activities are rendered more important than others and how development interventions and technological innovations can fulfil practical and strategic gender needs concerning women's work.

### **Streamlining Everyday Domestic work with Electricity**

The link between technological innovations (made possible by electricity) and women's domestic work, and how such innovations can decrease women's drudgery and gender inequality, have been an area of focus for about one and a half centuries. Already in the late 1800s, feminist utopian novels described visions of public kitchens and laundries as a solution to free women from the role of the 'willing slave' in their households (Nye 1991, p. 247). Similarly, in contemporary development discourse, energy access has been heralded by policy-makers for its positive effects on making women's everyday life easier by relieving burdensome tasks of fetching firewood, diminishing health effects of cooking, and providing time and resources for education and small-scale economic activities within the home (Standal, Winther and Danielsen in press; Listo 2018). As illustrated in the below quote from a UNDP policy brief:



Energy poverty – a malaise that afflicts over a billion people – is one aspect of broader economic poverty and has similar, marked gender characteristics. Women and girls are often primarily responsible for collecting fuel and water for their families. In India, for example, women gathering firewood, crop waste and cattle dung fulfil 92 percent of rural domestic energy needs.

This view has also been advocated by some as so significant that household energy should be integrated into all rural development programs;

Since household energy plays a large role in women's work, one of the most effective ways of supporting rural development is by integrating household energy activities into all types of rural development programs (Klingshirn 2000, p. 2).

The opportunities for streamlining women's everyday responsibilities by introducing solar electricity was also the stated focus on women's empowerment of the Village Electrification Project (Preliminary Inquiry 2008, p. 3, my translation); 'The positive health effects, freeing time for domestic, small-scale productive activities and education and more, has an especially positive effect on women's situation'.

According to OECD, India is the nation where men do the least household work in the world (a mere 19 min a day), leaving Indian women with the brunt of the burden. Research from rural India has also shown that women spend a much higher proportion of their time on domestic activities than men; in addition women often spend more hours on work for less wages than men (Harris-White and Janakarajan 2004, p. 161). A study of women's work responsibilities in Jhansi district, where Jyotipur is located, showed that women spent 14-17 hours a day on household and farm activities (Mishra et al. 2008, p.1). The study also found that women participated in labour intensive parts of production, such as sowing, weeding, harvesting, threshing and winnowing, while men engaged in ploughing, planning and decision-making. The result was that women in the age group 25-50 spent more time (14-16 hours a day) on farm labour than other family members. Younger women and high caste women, were restricted from participating in farm labour due to purdah. In Jyotipur and Ashapura these women also did not fetch firewood and water. Though restricted from such responsibilities, they had the main responsibility for cooking and cleaning, as well as care for children and elderly and often livestock. Both the studies of Mishra et al. (2008) and Harris-White and

Janakarajan (2004) found marked differences of class status, where poor women worked more than others.

Women's responsibility for ensuring their household's resources of energy and water in rural areas, are what Elson (2005, p.8) coins backbreaking forms of domestic work, which depletes bodily health and bodily energy, which takes its toll on women's time and health. This presents real obstacles to spending time on other activities that provide income, education, and creating social wealth through childcare. The introduction of energy technologies can reduce time taken to undertake household task, freeing up time for other activities (Klinshirn 2000, Nye 1991). I use the verb streamlining as it signifies something that has gained increasing speed and ease of movement, symbolising making work more efficient and effective by employing faster or simpler working methods. Here women's responsibilities as their households' main suppliers and users of energy have a pivotal role. As elaborated in Ch. 1, lack of modern energy for cooking and heating constitutes the fifth worst risk factor for disease in developing countries (Akbar et al. 2011). Tasks such as collecting fuel wood can take women and girls up to 20 hours a week, in addition the heavy loads of carrying wood both has severe health consequences and may put women at risk of violence and animal injuries (Matinga 2010, p. 54). In many rural societies fetching water is an equally arduous part of women's responsibilities.

Women in Jyotipur, Ashapura and Reshamgaon shared the responsibilities for procurement of water and firewood, cooking family meals, tending to children and elderly. Further, since agriculture was the main source of income in all three villages, with the exception of families who could afford to pay for labourers, women had several responsibilities in relation to their families sowing or harvesting which also is considered to be part of their unpaid domestic responsibilities. Women usually also have responsibility for religious rituals such as *puja* in the mornings (Lamb 2000). As touched upon later in this chapter, some women also do casual labour or small-scale activities in NRGEGA, preparing school meals or silk-reeling in self-help groups (in Reshamgaon). When interviewing people in Jyotipur, Ashapura and Reshamgaon about electricity's impact on work responsibilities, the benefits of the electricity were often seen as so evident that no further explanation was needed, but some stated it to be most beneficial for women, based on the idea that electricity was bound to the house in the same way as the women and their responsibilities are. For instance, when the light had been placed in the kitchen area, which was seen as 'space of the *bahu*', the electricity was seen as especially beneficial for her. As the story of Sunita below show, consumption and electrification in the home can 'empower' women by giving them more control over their everyday lives and health,

by streamlining domestic work. Due to Sunita's health problems her family has invested in technologies that in many ways challenge traditional concepts of the rural household and women's role in it. Interestingly, Sunita's story stands out in its uniqueness, as in many ways it is the exception to the rule, both in terms of rapid transformation towards a 'modern' home compared to most homes in the study, but also the prioritisation of consumption in line with practical interests of women's everyday lives.

### ***Sunita***

Sunita is an elderly lady living with her husband in one of the UP villages in the Village Electrification Project. Sunita's home was an interesting display of a modern electrified home. The standard of her house was much higher than in general and it contrasted that of other affluent houses in the village. Her house was a new and quite plain structure on the outskirts of the village. The house itself was a concrete square building in a fenced garden with high grass surrounding it. The house consisted of only two rooms and a high walled backyard garden with some vegetables, a tree, tap water and a flush latrine.

As Sunita and her husband were the only ones with a latrine in the village, I went by her house several times and she generously offered me to use the premises, take rest and have tea. Sunita was timid, but hospitality showed her generosity and warmth. As guests we sat on the *charpoy* in the living room and drank *chai*. The living room was decorated with a large television set, ceiling light and a fan. In addition she had a small gas cooker. The walls were freshly painted white, and as most of the homes in Jyotipur and Ashapura the walls were bare and there were no furniture except the *charpoy*, a plastic chair and a shelf for the television. Adjoining the living was a bedroom being used for guests and storage. Below is an illustration of the living room in Sunita's house.

*Illustration 8: Sunita's modern home*



Photo: Karina Standal

Despite the simplicity, Sunita's home revealed both wealth, but also a prioritisation of modern technology to make everyday life chores easier. It was interesting to pursue why Sunita's home was so markedly different from other homes in the village. Sunita did not know her age, but she was probably in her 60s. Her children were grown up and had moved out. Two sons lived in other towns with comfortable jobs and her two daughters were married and lived with their husbands. As her parents-in-law were no longer living, the household consisted of only Sunita and her husband. Sunita's husband had previously worked in the military, but was

retired. Despite his retirement, her husband kept himself busy with work, and Sunita spent most days alone in the house. As wife of a husband who had been in service, Sunita and her husband lived a comfortable life with a robust economy. They also had land that they had labourers farming.

Sunita was, like Daarun's mother (Ch. 6), the only remaining woman to do domestic work in her house as she had no daughters or *bahus* residing with her. In addition, Sunita had had suffered a stroke, which caused limited mobility in one arm and leg. This had prompted seeking for solutions making everyday life easier for Sunita. Sunita's main responsibility was now cooking for herself and her husband. In the mornings they would eat *halwa*, and she would make dinner before *puja* in the evening. She did not use a *chula* anymore, but did all her cooking on gas. As women in the cities Sunita would roast *roti* on the open gas flame.

For Sunita, electricity and solar water provision in the backyard had become a crucial resource for enhancing quality of life and perhaps even safeguarding her health. Without the 'comforts' of inlay water, gas cooker, light and fan, her everyday chores would be extremely difficult for her state of health after her stroke. Before the CSPP and water provision was implemented, women in the village used about 4.5 hours daily for fetching water, carrying heavy loads twice daily. Sunita had only fetched water for herself due to her health problems, while her husband collected water for his own consumption. Now they could get water whenever needed in their backyard. Also using a *chula* would require long and frequent trips for fetching firewood. Sunita and her husband did not keep livestock so they did not get fuel from dung, which is also often a heavy responsibility for women. The firewood they needed for warmth in the winter was bought by her husband at the market. During long days alone, television provided Sunita with a connection to the outside world and perhaps some company and her husband's mobile phone made it possible to keep contact with their children.

The story of Sunita is an example of how electricity and wealth has been translated into consumption to aid women's everyday life. Following Friedmann (1992), this could be perceived as empowering, as it provides material resources as well as information and physical and psychological well-being. Nevertheless, a part from a prioritisation of consumption, it did not alter other power relations in the household. Sunita's responsibilities were lessened, but she still performed within the expected duties of a wife. She had gained more control over her daily life routines and health, but her mobility and freedom was not altered. Perhaps even the contrary, as the displays of wealth made her neighbours jealous and she kept to herself behind

a locked gate. Generally, women's work was under prioritised as their labour is unpaid and there are often several women in a household to share the tasks, and as discussed in Ch. 6, women's lack of ownership to resources and ability for choice has directed the consumption towards men's prioritisation. As discussed below, the provision of water does not only serve practical gender needs, but also provide women, men and children social and psychological well-being.

### ***Drinking, Keeping Clean, and Empowerment***

In the case the electricity is providing water supply through pumping, the girls do not have to collect water from longer distances by foot. Use of water will also inevitable increase with such systems, and thus hygienic standards in the households will evidently improve (Midterm Review 2011, p. 9).

The most significant change in domestic work responsibilities from the Village Electrification Project was the provision of water supply in Ashapura, where the CSPP was combined with a electricity-driven pumped drinking water supply, of which 65 households were connected. As presented in Ch. 4, Ashapura lies in the Mahoba district, which is prone to intense droughts and media reports of drought and resulting hunger is not uncommon for the area. Spring and summer 2016 were exceptionally dry and images of dying livestock in 50°C were presented in the media.<sup>100</sup> While other animals can be slaughtered, cows are sacred and protected by law, and are therefore left behind as villagers try to fend for themselves in obtaining food and water.

The severity of water shortage has led Haritika to focus on water for personal consumption and agriculture as one of their main focus; 'The main problem faced by the region are soil erosion and shortage of water for irrigation and domestic purposes...' Further, climatic uncertainties concerning frequent droughts in the region has led to drastically reduced agricultural yields.<sup>101</sup> The negative implications of water shortage have according to Haritika led to rapid out-migration from villages in Bundelkhand. Several villages in Bundelkhand have private wells and government wells close to where people live and NGOs like Haritika had

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<sup>100</sup> <https://thewire.in/35227/in-drought-stricken-mahoba-animals-are-rapidly-dying/>

<sup>101</sup> <http://www.haritika.in/aboutHaritika.html>

implemented several solutions for harvesting rainwater in the area. In Jyotipur and Reshamgaon there were government built wells nearer to the villages than in Ashapura. In Jyotipur some households also had private water pumps directly outside their houses. But during the intense dry and warm months of the summer water levels are low and wells run dry, increasing the distance women have to go to find water. Though it was not a topic touched upon in interviews and conversations, some families probably also had to buy water during the dry seasons, putting stress on their economy. In the case of drought the government is required to dispense water to affected households and communities. The distribution of water during the drought in 2016 was hampered by political tensions between the central BJP government and the UP state government led by the Samajwadi Party, leaving the villagers water deprived. In addition, issues of caste has been known to limit SC from using public or shared wells, at least simultaneously with other caste groups. The story of Gopalpura, the second of Scatec Solar's preliminary projects (presented in Ch. 4) is a good illustration of how sharing wells can lead to caste tensions and violence. The implementation of water in Ashapura followed a different model than Gopalpura and was provided as tap water inside or directly outside the house, as can be seen in the below illustration.

*Illustration 9: House with water connection in the backyard*



Photo: Karina Standal

According to the women I talked to in Ashapura they had previously spent 4-5 hours a day fetching water, taking two trips each day. Haritika reported that on average a woman had to carry 24.3 kg water for a distance of 5.75 km twice a day using about 5 hrs. Being able to use water within the house at any desired time was a great transformation and most women said they used this time for 'taking rest'. Especially for pregnant women, or women with small children, the relieved burden of walking far distances and carrying heavy loads have positive impact on health and life quality. Friedmann (1992, p. 68), lists surplus time (over subsistence requirements) as one of the most important bases of social power of households This is related to time for transport to work, consumption, medical services as well as time for domestic chores and frequency of illness. Without surplus time households and women are 'severely constrained'.

Access to water supply also impacted on family health. Through Haritika's implementation of the solar driven water supply, Ashapura village also had facilities for testing the water quality, which made boiling of water redundant. This also reduces the physical labour of fetching the firewood needed for boiling the water for eliminating waterborne infectious diseases, but people in Ashapura had no practices of boiling water before the water provision. Several reported fewer health problems after the water provision, especially for the children, and less expenses on medical costs. As illustrated in the story of Sunita, access to water in the home enabled her to rest more and cope with responsibilities she had despite her deteriorated health. Historically, physical strength (to work hard) was the main source of power and wealth in rural UP, after ownership of land or higher education (Wadley 1994, p.77).<sup>102</sup> For most farming households the agricultural production is still labour intensive and therefore depend on the health and well-being of the family members. Containing one's health through access to clean water, and being able to reduce hard and health depriving hard labour enhances families' ability to accrue material wealth.

Access to water is also related to social capital. The difficulties of socialising with others due to lack of water was a theme echoed frequently in Ashapura. For those households who had tap water this entailed a difference both in standard of the household, but also in terms of

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<sup>102</sup> Caste also plays a vital role for accruing power and wealth in rural UP, but mainly this has been also in conjunction with land ownership. Higher castes or Yadavs have been in a position to obtain land, thus generating more power and wealth. On the other hand several villages, such as Ashapura have Brahmin households that are not particularly wealthy or powerful as they did not have enough land to generate significant income from (for more on this please see Wadley 1994).



socialisation and religious customs. As water resources were scarce, especially in the dry and hot part of the early summer season, being able to wash clothes and one self was not always possible. Santoshi mentioned this as one of the main struggles before the CSPP came to the village:

Sutapa (translator): She's asking what's the best thing about having light? In the village.

Santoshi: Two things: we had to go for water, going here and there, sometimes it had run out..

Sutapa(translator): Auntie, she's asking how it troubled you? Like, what challenges did you have to face?

Santoshi: Going in the dark. You can't wash, you can't go anywhere when there's no water.

Being able to not wash one self, one's children and clothes limited their possibility to socialise with others outside the household. As phrased by Madhav the head of the Brahmin household in Ashapura: 'We couldn't bathe. We couldn't get our clothes clean'. Though not touched upon explicitly in the conversation, cleanliness forms an essential part of Hindu religious culture. Especially higher castes have norms of cleanliness to preserve purity and their standards form an ideal for others to follow. Cleanliness according to Hindu norms entail a 'bodily training' concerning dress, bathing, interaction with others and comportment of body (Lamb 2000, p. 182). There is a clear gender difference in relation to cleanliness as women are perceived as more 'open' and 'hot' and therefore vulnerable to impurity in Hinduism.<sup>103</sup> Menstruation and childbirth is also linked to Hindu understandings of female pollution. For women and (especially higher caste women), this entails that lack of water impacts on their ability to live according to norms concerning domestic work (such as washing clothes or dishes) and personal and ritual cleanliness. This affects women and their families' social and psychological power. Not being able to socialise with neighbours or feeling unclean in relation

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<sup>103</sup> Sara Lamb (2000) and Susan Wadley (1994) have interesting analysis of perceptions on women's purity in North Indian rural Hindu communities.

to family members, limits self-confidence and access to social networks. According to Friedmann psychological and social power are reinforcing as self-confidence has positive effects on social empowerment and strength in social power provides psychological empowerment (Friedmann 1992).

Unfortunately several households who were ‘up-stream’ had problems with the solar based water supply. Complaints were also made of households using excessive water, letting it run continuously or providing it for livestock. The water was not allowed to be used for animals, which are also the women’s responsibility. This meant that women still had to walk distances to allow livestock to drink. In 2015, the water provision to most households in Ashapura was suspended due to technical problems, and Haritika was trying to find other donors to restore the water supply using new solar pump technology.

### ***A Well-lit and Clean Hearth<sup>104</sup>***

If the space of the home is tied to women and their domestic work responsibilities, the kitchen or hearth is the heart of this space. As mentioned, cooking and procurement of the firewood or dung used as energy for cooking, is women’s responsibility in Jyotipur, Ashapura and Reshamgaon. Preparing food for the family or guests is much more than a task to ensure nutrition, it signals women’s love and caring for their family and the quality of the food provides women respect from in-laws, husband, children and guests (Standal and Winther 2016, p. 34). As such, preparing food is associated with culture, meaning that there are certain norms and traditions that must be acknowledged, and the sharing of food cements social bonds between family members, and between family members and guests. In large joint families in Jyotipur, Ashapura and Reshamgaon, men and women ate separately, and meals were eaten sitting on the floor sharing the same food. Usually families ate two hot meals daily with *roti*, vegetables, rice and or lentils. Most families did not eat breakfast, but drank tea in the morning. Sunita and her husband were affluent enough to eat *halwa* for breakfast. Small children were fed more frequently.

The food is normally prepared on the traditional *chula* as shown in the illustration below, though Sunita and few families in Jyotipur had gas for cooking.

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<sup>104</sup> Title inspired from Ch. 6 of David Nye’s book; *Electrifying America. Social Meanings of a new Technology*.

***Illustration 10: Woman making roti on chula***



Photo: Karina Standal

The electrification of Jyotipur, Ashapura and Reshamgaon had changed the cooking process for many. Most households that had connected to the CSPP in Jyotipur and Ashapura had placed light in the cooking area. The *chula* is either placed in a small separate room or outdoors within the household inner courtyard or backyard. When placed in small separate rooms they become quite dark as there are either only small windows or even no windows at all, and the soot covers the walls. Using kerosene lanterns in the kitchen can be dangerous due to the poor ventilation and the open fire of the *chulas*. In order to have light for both the cooking area and other space of the house some families had found creative ways of attaching the light bulb to a cord that could be moved around to reach the outdoor cooking area or above the doorway of the kitchen room.

Research has shown that cooking in light is more efficient (Winther 2014, p. 55; Chakrabarti and Chakrabarti 2002, p. 40) and visibility ensures that the food is not raw or overcooked (Standal and Winther 2016, p. 34). As shown in the illustration below the visibility

in separate kitchen rooms is also not good even when electrified by a lightbulb (depending on type of bulb).

*Illustration 11: Kitchen room with lightbulb*

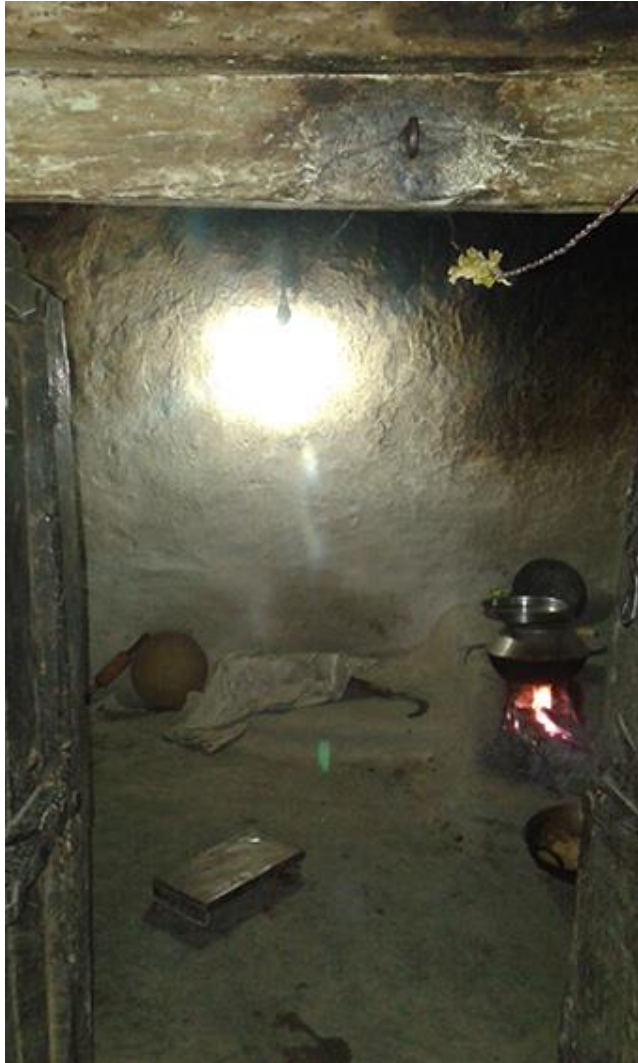


Photo: Karina Standal

According to informants the light was beneficial not just for cooking better with the aid of light, but it also made the timing of meals more flexible as it could be done after sunset. As phrased by Shilpa in Haritika:

Because earlier they have to cook before it is dark, around six, six-thirty or seven pm. Otherwise they were not able to cook and see with the kerosene lamps. You have to cook in long hours with that light. Children have to study with kerosene lamps. The smell is also there... So now, they have longer hours. They have got some free hours also. Because they can cook in night they can stay and work in fields [now]. They can earn more, their health is improved.

Also in the Midterm Review (Appx. 4, 2011, p. 6), informants stated that earlier they needed to cook their evening meals during daytime and the food would be spoiled when evening came. Now they could cook during the evening and have fresh food.

As mentioned previously, practices of cooking and provision of light also reflected the social life of the family. As Daarun (presented in Ch. 6) explained: ‘Yeah, like people sit all together. Talk all together, feel happiness. It is easy to eat the food in the night and easy to cook’. Similarly, Leelah, which will be presented below, expressed that life was literally brighter and included more socialising among family members in the evenings after electrification. Food also plays an important role in Hindu traditions and is often used for ordering relationships and creating internal order in one’s body (Wadley 1994, p.45). Food transactions of taking and giving, denotes relationships such as God and devotee, landlord and tenant, mother and child or husband and wife. These food transactions also implies caring and subordination. As such, women’s responsibilities for cooking proper meals (with the aid of light) and for families to be able to enjoy food together in light has both social and cultural significance, as well as practical.

Unfortunately, the load limit of the CSPP (and village-level solar energy systems in general) does not allow for electrical stoves that would eliminate the problems of indoor air pollution. Several schemes to promote clean cookstoves have been implemented in India, but the uptake has been slow. As noted by several, the implementation of clean cookstoves have been embedded in policy and research discourse that misrepresent the complexity involved such as the contextuality of food cultures and gendered norms (Listo 2018; Abdelnour 2015; Matinga 2010). The households in Jyotipur and Ashapura did not use clean cookstoves, but the conventional home-built *chula*. As mentioned only a few households had started cooking on gas. Women who had experiences of cooking on gas, such as Soni, one of the women VEC members, who cooked school lunches for the Midday Meal scheme in the local school in Ashapura, desired to bring this technology home. However, most households continued traditional practices of using animal dung and firewood, which constitute a great work burden. Similar to India in general, UP has a very poor penetration of clean sources of energy in relation to cooking and heating as illustrated in Table 11 below:

**Table 11: Sources of energy for cooking and households of UP in per cent**

Firewood	Crop residue	Cow dung	Coal/ Charcoal	Kerosene	LPG/PNG	Electricity	Biogas	Other	None
54.4	10.5	27.9	0.11	0.23	6.38	0.08	0.13	0.12	0.18

Source: Census of India 2011, compiled by Vasudha Foundation<sup>105</sup>

Changing cooking technology is, however, not just a question of rational choice if economic opportunities are present. Shifting from cooking on firewood to electrical stoves or gas, involves costly investment in new utensils and pots, but perhaps even more prevalent is the discourse of tastes and traditions. Studies also show the significance of preferences among men and women for traditional ways of cooking, both for the taste of the food, but also to preserve a traditional identity of ‘good women making traditional food’ (Winther 2008, p. ; p.206; Matinga 2005, p. 171).

Indoor air pollution as a result of cooking was commonplace in Jyotipur, Ashapura and Reshamgaon. When the *chula* was located in a separate room there was often little or no ventilation (chimneys are not common), leading to emission of dangerous particles. A few such separate rooms had straw roofs, which allowed some smoke to evaporate. Many families opted for cooking outdoors in open air, which makes smoke and dangerous particles air out more effectively and during daytime the visibility is good. But one is more prone to bad weather conditions and disturbance from children and animals. As mentioned in Ch. 1, indoor air pollution is believed by the WHO to take almost half a million lives a year in India alone. As have been found in other studies, there was little awareness among the informants concerning the negative health effects of indoor air pollution in Jyotipur, ashapura and Reshamgaon.<sup>106</sup>

Women’s responsibilities for household energy also include procurement of firewood or dung. In Jyotipur, Ashapura and Reshamgaon women had the main responsibilities for fetching branches and twigs in the jungle, something they did about every second day taking about 3-4 hrs. During the rainy season it would take longer as the wood would have to be dried over open fire before brought home. In some families however, gathering firewood was a task

<sup>105</sup>[http://www.vasudhafoundation.org/wpcontent/uploads/8\)%20Reader%20Friendly%20Paper%20for%20USO\\_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf](http://www.vasudhafoundation.org/wpcontent/uploads/8)%20Reader%20Friendly%20Paper%20for%20USO_Status%20of%20Rural%20electrification%20status%20in%20Uttar%20Pradesh.pdf). Downloaded 15.05.2016.

<sup>106</sup> For more information concerning this please see Matinga, Margaret N., Annegarn, Harold J., and Clancy Joy S. 2013.

involved several household members. Men would drive the tractor or bull-cart and everyone would help out. The family would then spend one to two days collecting and perhaps drying the firewood and they would gather enough for several months. Some places forests are protected and firewood is scarce, but this was not the case for my informants in Jharkhand and UP. Households with livestock also dry dung cakes for fuel. The dung cakes are shaped and then left to dry on the roof or other sunny places, which involves hard work as the dung cakes are heavy. The processing of dung for fuel was gendered and only performed by women.<sup>107</sup> As the Village Electrification Project did not have solutions for women's responsibilities of procurement of energy, they missed out on providing benefits that would relieve a significant sources of their work drudgery.

### **Electricity and the Psychological Empowerment of Motherhood**

Women's work and attributed gender roles in Jyotipur, Ashapura and Reshamgaon also concerned upholding the norms of obedience and chastity, and the continuation of the family line. Having children, and especially sons, were seen as a 'rite of passage' earning women status and social and cultural capital in their affinal homes and community. This aspect of women's work includes much more than going pregnant and giving birth, but also nursing, feeding and bringing up children well to be functioning adults, safeguarding the social reproduction of labour within 'proper' social and cultural mores. Social reproduction play a vital role in society as women's unpaid care and nurture is important to the socialisation process where children are being formed into individuals who are good citizens who are able to take part in the economic system and who are equipped with attitudes and identities that enable societies to function (Bhattacharya 2017; Elson 2005). However, as feminist political economists have argued, women's work in social reproduction has been (and continues to be) seen as obsolete in conventional political economy that focuses and privileges productivity within (the masculine space of) formal work and public sphere. The impact of electricity on women's psychological well-being in relation to social reproduction work has been similarly overlooked in studies of energy access and impact, which focus on how energy enables women surplus time that can be invested in productive activities (with the exception of a few studies e.g. Standal and Winther

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<sup>107</sup> In contrast, during field work in Naryn Oblast, Kyrgyzstan, I found that the processing of dung fuel was associated with men's work and his responsibility to provide for his family.

2016; Matinga 2010; Winther 2008). However, electricity play and has historically played (see Nye 1991) an important role for women to fulfill the expected role as caring and nurturing.

Women with small children also described how electricity impacted their ability and sense of self as it provided opportunities to be good mothers and improved family interaction. Access to clean and safe light in several rooms made it easier to comfort children who were scared in the night or in need of nursing or toilet visits. Children could also more easily move around in the houses and backyards during nightfall. As mentioned most houses were expanded *ad hoc* when families increased, making them full of small winding staircases, open passages without ceiling and winding corridors. Kerosene lanterns are more complicated to light (specially in the dark) and it emits soot and smell, which reduces the length of time it can be used. For some Kerosene is also expensive commodity. Women's domestic responsibilities often resulted in the need for getting up early and going to bed late, resulting in sleep deprivation. For mothers with infants or small children this was very challenging as they also had to comfort and nurse children during the night, which is illustrated in the story of Leelah below.

Women's emphasis on electricity as empowering to them in their roles as mother was something I had also been confronted during interviews in Bamiyan, Afghanistan (Standal and Winther 2016; Standal 2008). After the solar electricity was introduced they felt it was easier to comfort and breastfeed children during the night, as it could be done in less time and confusion just by turning on the light at night when they were crying. This also decreased men's anger towards the women (Standal and Winther 2016, p. 34). In Bamiyan joint families normally slept all in one room and children crying and needing assistance not only impacted mothers sleep deprivation, but also annoyance from other family members. Women in Jyotipur, Ashapura and Reshamgaon, and to even greater extent Bamiyan, have several children in their lifetime and spend a good part of their life pregnant or nursing, so providing everyday resources in relation to motherhood is important in terms of empowerment. According to women in Bamiyan the electricity's effect on helping women to do chores also created a positive relation between the spouses in Bamiyan as well as it decreased family tensions and reduced husbands and in-laws complaints. The question of domestic violence was never raised by my informants in Jyotipur, Ashapura and Reshamgaon, though it is known to be commonplace from both husband and in-laws. In the next section I focus the analysis on Leelah, a young mother and *bahu* from a SC household. Leelah's story exemplifies how frustration can lead to violence and how electricity can aid the situation. The narrative also show the general impact of energy



access on young mothers who toggle the responsibilities of loving and caring for their children, household chores, small-scale income generating activities, in a poor households.

### ***Leelah***

Leelah was one of the young *bahus* I interviewed in UP. When we met in 2012, she was in her early 20s, married with a two year old child and a five month baby. Leelah and her children lived with her husband's family in a large joint household of 25 adults and 10 children. The family belonged to the caste group Ahirwar, among the lowest SC groups in the village. The house of her family was a one-floor kutchra building made of bricks and adobe, and with simple stones for roof. It was buildt with five rooms around two small courtyards in the center. The door was a simple old wooden frame reflecting that this was not a family of high social and economic standing. Her husband's family owned a meagre five *bighas* of land and their means of livelihood consisted of growing wheat and *chana* (chick peas) and they had two buffaloes and three goats. Despite reporting a low income from their agricultural output, the family had been among the first households to connect to the CSPP and the water provision. Surprisingly, the family had also aquired several items displaying wealth such as bicycles, a tractor, a motorbike, a television, a fan and a cooler. All these items, except the television, was acquired through dowry gifts. In 2012 the men in the household also had mobile phones and Leelah's husband had subscribed for cable television, which they were waiting for. By 2015 all adult family members including the women had aquired their own mobile phones. Despite not being affluent the family thus had invested in several things post-electrification that even some affluent households did not have. However, they had not invested in items such as gas stove or iron such as Daarun's family (presented in Ch. 6), and though they had put light in most rooms they had not put one in the kitchen area.

Leelah exemplified the ideal *bahu* with her modest gentle appearance and always balancing her words. In line with the customs in her village she was in *purdah* in 2012 so she did not leave the house alone and always veiled in front of adult men, including the ones in her affinal family. In 2015 she was freer to go beyond the house to chat with neighbours or participate in celebrations in the village. As other women in her community, *purdah* was gradually lifted when they had two or more children and became affiliated members of their households. Interviewing women such as Leelah was challenging as their ability to openly speak about experiences and emotions are circumscribed by norms of silencing (described in

Ch. 2). She was especially careful not say anything that reflected negative on her family-in-law, but despite her brief answers and low voice she related volumes concerning women's hardship and how access to electricity could bring happiness and comfort in everyday life.

In 2012 her mother-in-law or husbands sister fetched water (4.5 hrs a day) and firewood (3-5 hrs every second day). As *purdah* had been lifted in 2015, Leelah would be expected to collect firewood and water for her affinal family, but the provision of solar pumped drinking water in the household had reduced Leelah's work burden. According to Leelah she still had to get water for the livestock, as this was not allowed with the solar water provision and she was responsible for the family cooking. In order to prepare the meals she spent about 3 hours a day and woke at about 4 am to have it ready. She prepared meals for lunch at 10 am and dinner at 4 pm. Despite not investing in explicit things to make domestic work easier the implementation of the CSPP benefited Leelah to a great extent. In addition to saving time and hard labour fetching water, Leelah attributed the electricity to a psychological and social improvement of everyday life. As many in her community she experienced that electricity had transformed family life from a more depressing mood – *dukhi*, to happiness in the village in general. She ascribed this transformation to more socialising among family members in the evenings as people would sit together talking or watching television now that they had clean and adequate light, as well as fans.

Another important aspect of this psychological transformation from *dukhi* to happiness was how the light had provided her a resource to take care of her children better, providing self-confidence and more harmony. Her home was electrified some months after the birth of her second child. In the opening quote of this chapter Leelah describes her frustrations before the electrification. At that time they did not have any light in the sleeping quarters and the children were often crying in the night because they were scared or hungry. With the possibility to have light by simply flicking a switch she could more easily feed and calm them. As quoted at the start of the chapter, she had earlier, due to lack of sleep and exhaustion, resorted to violence to end their crying. This is a powerful illustration of how electricity can lead to empowerment in ways not generally imagined when planning projects like the Village Electrification Project. Leelah felt that the electricity gave her opportunities to fulfil her role as mother with love and caring. For her and most mothers in the world, being able to take care of one's children in a meaningful way and in accordance with the cultural expectations of motherhood, provided Leelah psychological empowerment in what Friedmann conceptualises as self-potency (Friedmann 1992) derived from self-confidence and awareness of one's possibilities.

For Leelah the electricity provided her empowerment in other domains of work as well. Leelah also worked from her home as the village seamstress. She had an old manual Singer sewing machine, which she used to sew or mend clothes. Her skills as a seamstress derived from training before her marriage and she had brought the ‘business’ with her to her husband’s home. Before she had children and before her home was electrified she sewed during the day earning about 700-800 Rupees a month. After the electrification she had increased the hours of work, but in 2012 and 2015 she was caring for an infant making this difficult. However, access to electric light in the evening had made it possible to have more flexible working hours and combine the sewing with parenting small children. In 2012 she was earning about 1600 Rupees monthly and even employed an assistant. In 2015 however, her income was reduced to about 400 Rupees a month as the hours of light from the CSPP was reduced to only 1-3 hrs a day due to the technical problems of the plant. The sewing could not be done with kerosene as this caused problems for Leelah’s eyes and gave the garments a bad smell, so she no longer had the flexibility to sew in the evenings or scale up the production if needed. In addition, she by then had three children, and the youngest only a few months old.

The electricity also translated into economic capital and psychological empowerment for Leelah, in terms of being able to financially provide for her children. Because of the family economic situation she was not able to keep savings, but she used the money to ‘feed the children and myself’. As most mothers of small children she was worried about her children’s welfare; feeding and nursing them, ensuring their education and balancing childcare with her other responsibilities. Earning an income in a family of relative limited resources provided her, her children and husbands family with some security. As the women in the self-help groups in Reshamgaon, Leelah’s work was also contingent on help with childcare and balancing other unpaid domestic and agricultural responsibilities. Sadly, the income and her fulfilments of motherhood were in 2015 severely constrained by the reduced hours of light from the CSPP. With a new baby, she would also have difficulties with calming and feeding children in the night when the light was used up.

The rest of Leelah’s family was similarly unhappy and frustrated over the problems with the CSPP. When I returned in 2015, they had had cable television since 2012 and grown accustomed to adapting their lives to watching television and more socialising in the evenings. As the energy provision was severely hampered there was a high degree of resentment against the Village Electrification Project in both Leelah’s family and village in general. This was especially voiced by the women. ‘Now that the electricity doesn’t work we have to go to bed

early. When the lights were there the children read their homework and we watched television. Now we are forced to go to sleep at seven [pm] and not 11 [pm]...’

As shown, Leelah’s and her family experienced several benefits from household electricity; increased income, easier everyday life and new ways of socialising to name a few. For Leelah the light brought happiness and means to fulfil the (practical) expectations of motherhood, which provided her psychological empowerment. Leelah was also exceptional in the fact that she was the only woman in her village earning using the electricity to earn an independent income. Only a very few of the women in the village earned an income through casual labour. However, despite the benefits of energy access Leelah was still not able to make what Kabeer refers to as strategic life choices (Kabeer 2001), such as decisions about her fertility. She had given birth in the local hospital on directions from her father-in-law and it was common knowledge that young mothers underwent sex-selection abortions on the request of parents-in-law.

Despite providing Leelah an easier everyday life and increased income, the narrow focus on women as consumers in the Village Electrification Project reinforced values that see women’s main accomplishment in life to be good mothers and provide domestic work in Leelah’s community. Young men, such as Daarun presented in Ch. 6, experience the benefits of the Village Electrification Project differently as their main empowerment from the electricity is associated with increasing social capital through opportunities for communication with a wider network and business, whereas so far, it provided opportunities for Leelah to specialise in her care work role. This is linked to the different gendered spaces of divisions of labour and attributed gender roles within the joint Hindu family. Leelah’s opportunity to extend her income-generating activities in some ways challenge the gendered division of labour where women are economically dependent on men, but Leelah was not in a position to control her income fully and her work as a seamstress did not radically challenge the type of work appropriate for women as it was home based and involved an extension of women’s care work duties of producing handicraft.

As shown in the example of Leelah, how electricity affects women’s domestic work responsibilities is also closely linked to health related consequences of women’s domestic work. Women’s responsibility for cooking, fetching firewood and water are activities that are associated with negative health effects for women and children. As illustrated in the previous descriptions these tasks are also often delegated to women in their reproductive age, which may

reinforce negative health effects or lead to specific complications such as pregnancy complications, low birth weight and premature births (Matinga 2010; Pope 2010). As will be elaborated in the narrative of an interview with three young women in Ashapura below women also have emotional work in relation to their fertility.

### ***God Should Give me a Daughter: Women's Emotional Labour***

Indeed, throughout all the trials of feudalism, colonialism, Partition and early nation-building, it has often fallen to women in India to uphold patriarchy in two ways – by embracing customs which link the belittlement of women with “family honour”, and by abiding by what Leela Gulati calls “culture of silence”. This is not a minor mannerly avoidance of certain topics. Here then, it is internalisation and a matter of keeping real pain to one’s self (Hochschild 2005, p. 257).

A particular interview in Ashapura highlighted the difference of women’s domestic work responsibility according to the status of women in the household. The interview took place in one of the large joint families (counting 40 family members) in the village and was conducted with three young women in one of the sleeping quarters of the house. With Sutapa from Haritika at my side we asked if the young women would have time to sit with us and talk. Sita, the eldest of the young women had two small children and was visiting her father’s house. Such ‘breaks’ from affinal family is not uncommon in Jyotipur, Ashapura and Reshamgaon. Once in her ‘father’s house’ she was relieved of most responsibilities and could take time to rest and socialise with her natal family. Kamala, the second of the younger women was her sister, an unmarried girl in her late teens. Anjali, the third young woman was a newly married *bahu* in the household. She was 17 and had only been in the household about a month. She was still adapting to the customs of a new home and family and insisted on veiling during the beginning of the interview to much irritation of the other women.

As the three women were in such different situations within the same family, their responsibilities and hardship was also different. Upon marriage Anjali was the person of lowest status in her household. This entailed not only low social standing, but also a quite radical shift of work responsibilities. Anjali would not go in detail, but stated that she now woke an hour earlier in the morning and got up to make *roti* for the family. As she was still in *pardah* she was exempt from the hardest toils of labour of fetching water and firewood. It was paramount that

'no one sees her in the village' at least the first year after marriage. As the household consisted of 40 people of which several were able-bodied men, and they had money to pay for casual labour Anjali was not expected to help out in the fields after *purdah* was lifted, as she would have been in a poorer or smaller household. Though Anjali would not speak in detail of the change to married life, Sita described the abrupt shift from being a doted on and beloved daughter to the toils of the *bahu*:

Before [marriage] you wouldn't have to make food; Mother made it. We would just eat the food and sit, that's all. I could sleep long and go take a bath [in the morning]. If I didn't want to cook I could just tell the *bahu*; Cook! Today I want this dish... But going there [my husband's house], I have to suffer all the chores... And now in in-laws house I have to do everything. I have to get water. And after cooking food I have to go for agricultural work. Then I have to collect firewood for cooking food. Everything should be done at right time and it should be done by me. So this is the major change...

Kamala nodded her head during the statements of Sita, and told how she was in a position to boss the young *bahus* of the family around, and how she could sleep till late and enjoy the freedom of having few responsibilities.

The contrasting situation of daughter and *bahu* is especially illustrated when women return for visits to their natal home. Such visits are never, at least not officially, initiated by women themselves, rather they are 'called on' by the father-in-law or their father to go back to their natal home. Such affairs are therefore decided by the 'elders' of the family, meaning the patriarch and those he consults with such as the mother-in-law or uncles. Women go back to their father's house to participate in rituals such as marriages or birth of children or to help out in difficult times. As described in earlier ethnographic accounts from the UP some women are seldom called to their father's house, as such visits generally should be accompanied by gifts from parents to daughters and not all families have resources for this (Jeffrey and Jeffrey 1996; Wadley 1994). Such earlier ethnographic accounts also describes how women 'on leave' in their natal homes were also freer in personality and could take up more space, but would have to revert to the demure behaviour expected of married women when returning to their husbands families (Jeffrey and Jeffrey 1996, p. 155).

The example above also relate to what I call women's emotional work in Ashapura, Jyotipur and Reshamgaon. The 'demure behaviour' expected by them means that they are not

in control even of their behaviour or their bodies. Women's fertility is a matter decided by the father-in-law and those he consults with (often the mother-in-law). Like Leelah, Sita had given birth in a government clinic at the request of her father-in-law. As I was pregnant in 2<sup>nd</sup> trimester during the fieldwork we began speaking about ultrasounds and the gender of our children. The women were astonished and worried that I had been told of the baby's sex in Norway.<sup>108</sup> Sita's sons (in 2012) were 3 years and 4 months. Though not speaking directly about herself we talked about what an ultrasound cost and how women would have to undergo an abortion if she was carrying a girl:

Sutapa (translator): She's saying like, if you get girls, and not boys. In this village, people want boys and girls?

Sita: They do a test to see whether it will be a boy or a girl. You have to have a check.

Sutapa (translator): When you're pregnant, how far in are the tests?

Sita: Six months, sometimes seven months, sometimes four-five months.

Sutapa (translator): So if it's four-five months in, you can't do anything – it will be born. If it's three-four months, you can do something.

Sita: Yes, two-three months, you can do something, but four-five you can't.

Sutapa (translator): How much does an ultrasounds cost?

Sita: 500 Rupees.

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<sup>108</sup> In Norway women are routinely offered ultrasound screening in hospital around 18-19 week of pregnancy. Health and gender of the baby is then revealed to the parents.

The pressure to produce (the right amount of) sons to continue the family line, while they might go pregnant for months just to have to take an abortion if it is a girl involves an invisible and emotional part of women's work. As described in Ch. 5, the child gender ratio of Jyotipur, Ashapura and Reshamgaon suggests that sex-selection abortions are commonplace, and though Sita did not know how much land the family owned, she knew well the price of ultrasounds. As my translator Sutapa herself was newly married, this topic was of interest to her and she stated that women longed for daughters, but the situation would not allow it. Sita remarked that I would be happy when my daughter was born and that she also longed for a daughter: 'God should give me a daughter. What would we know? Only God knows whether a boy or a girl will be given to us.'

The invisible and emotional pressure women go through in regards to their fertility is difficult to describe. Jeffrey and Jeffrey (1996, p. 58) ethnographic accounts show how the pains of women in their fertile years with continuing pregnancies and child mortality taking the toll on their body and mind has been a historical feature. Fortunately, access to healthcare and reproductive technologies have improved women's emotional work and health drastically. However, women are still not in control of their own bodies and fertility in Jyotipur, Ashapura and Reshamgaon. Often the only family planning available is 'the operation', which is the most prevalent form of female contraception in India, which carries both a stigma and a health risk (Pereira et al. 2007, p. 213). Until women have produced the desired amount and sex of children to continue the family line, her fertility is controlled by her husband's family.

But as time goes on, women look forward to more freedom and autonomy and less labour, including the labour of reproductivity. As phrased by Sita: 'First you're a *bahu*, then you have children, then slowly, slowly, slowly, you get this'. The 'this' Sita refers to, is an age where women have more control over their own bodies, as they are no longer expected to produce children, and when they do not have the responsibility of small children and generally can distribute more work responsibilities to the *bahu*. This shift also involves more freedom to voice an opinion and take part in more decisions in the household. As described above the emotional work of Sita and Anjali is interweaved with other care work responsibilities that access to electricity can positively influence such as cooking, water provision, light, entertainment, as well as positive health effects from fans and opportunities for rest.



## Energy, Health and Women's Work

The above stories of Leelah and the three young women Sita, Anjali and Kamala show how women's work and access to electricity is intertwined with physical and psychological health. The provision of solar electricity in the Village Electrification Project did not provide energy suitable for cooking and heating, but the household electrification in Jyotipur and Ashapura had other health benefits. Firstly, the provision of water in Ashapura both decreased women's time use and hard labour. In addition the availability of clean water reduced health risks. Secondly, those who had installed light in the kitchen also could cook more efficiently, reducing the time inhaling dangerous indoor pollution, but also visibility from electric light when preparing food decreases the risk of rawness and related infectious disease from bacteria or parasites. Thirdly, as discussed in Ch. 6, electricity reduced illness from insects and snakes. The availability of light in village lanes outdoors, and inside homes made it easier to spot snakes and scorpions and most homes with electricity had acquired fans and coolers to decrease temperature and evade mosquitos (and therefore Malaria). My informants stated that as a cause of this their health was improved and costs of medical services had decreased

In addition to the immediate health effects the reduced strain on women translates into the potential health effects of more time and rest, as exemplified with Leelah. According to the women themselves they spent the time earlier spent on fetching water on taking care of their children, or relaxing with other family members. This resonates with psychological empowerment, as it provides a sense of self-efficacy as one has energy and time for childcare. In their opinion this was an increase in life quality. More time also means being in more in control of one's time. Something women in Jyotipur, Ashapura and Reshamgaon often have very little of. An important part of women's health in Jyotipur, Ashapura and Reshamgaon is women's control over their bodies and the emotional work involved in their fertility. Though electricity does not directly influence women's fertility and women's emotional work it is interlinked as it is part of women's work and influx of electricity has the possibility to as discussed above provide a reduction of other work responsibilities and provide new perspectives of women (and their emotional work) through mediums like television. As mentioned, women in Jyotipur and Ashapura, and partly Reshamgaon, had restricted mobility (due to *purdah*) and limited opportunity to use their voice and agency, especially during the first years of marriage where they would most likely get pregnant and have children. According to traditional gendered norms in Jyotipur and Ashapura a young *bahu* should not question her

in-laws control of her fertility or even voice her own opinion on the matter. Father-in-laws, often in accordance with the mother-in-law would decide if a *bahu* in the family should give birth in hospital, if they were to take abortions, as well as what work responsibilities they would have in the home. This control seemed less in Reshamgaon, though women were under social pressure there as well to conform to traditional gender norms and aspect such as son preference. Women only escape such control during cherished ‘holidays’ with their natal families.<sup>109</sup>

The relationship between fulfilling work expectations and psychological empowerment is also related to violence. Inadequacies (believed or real), on the part of some of the household members relating to expectations of the domestic work can trigger violence from other members higher in the household hierarchy of power. As Elson (2005, p. 11) writes: ‘We must not forget that the home is the site of domestic violence as well as love and affection’. It is no little thing to escape violence either you are victim of domestic violence hitting your children, as Leelah, due to exhaustion. As Kabeer notes (2015, p. 194) conflicts over needs like food or general frustration and despair seemed to be a trigger of violence: ‘wife-beatings were frequently an outlet for men’s powerlessness in the face of grinding poverty’. Provision of solar electrification can be viewed as meeting women’s practical gender needs in streamlining domestic work, but also reducing domestic violence and improved health is part of makings of empowerment that stretch into serving strategic gender needs as it provides a basis for women to change their subordinated position in family and community.

## **Women’s Work and Women’s Income**

The story of Leelah also demonstrates the difficulties for rural women in Jyotipur, Ashapura to secure their own income. Amidst the overwhelming responsibilities of providing domestic work for large families, tending to small infants, sleep deprivation and customs of *purdah*, the time,

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<sup>109</sup> Earlier ethnographic studies have described the importance on returning to the natal family now and then for women’s health and psychological well-being (Jeffery and Jeffery 1996; Papanek 1973, 303). The post-partum period was such a cherished break for women in the Reshamgaon area. Women gave birth and spent the first weeks after delivery in their natal home as it was perceived that a woman would feel more relaxed and taken care of there. On the other hand, this also means that any costs for healthcare would fall on the natal family, who already had invested in a girl’s dowry and were obliged to keep providing for a daughter with no remuneration. While in Jyotipur and Ashapura the care of the mother and newborn during first post-partum period was perceived as in the affinal family’s best interests adding to their emotional strain.

energy and resources for income-generating activities are small. As presented in Table 8 (Ch. 5), three times as many women as men were marginal workers with less than six months employment or earning during the year in Jyotipur, and five times as many women as men were marginal workers in Ashapura.<sup>110</sup> Add to that female literacy levels of women in Jyotipur and Narwara are below 50%, further inhibiting women's work opportunities (men's literacy levels are about 70%). The Women I met who worked for employment in Jyotipur and Ashapura had either casual day labour such as digging ponds under NREGA scheme or cooking in the village school for the Midday Meal scheme. One family had gone for work migration and done heavy construction work in Delhi. Apart from this, Leelah was the only one engaged in paid work from home. Women in Reshamgaon faced similar challenges in obtaining work, though they have more freedom of mobility and literacy levels of women were higher, about 60 % (men's literacy level was about 70 %). Women in Reshamgaon also worked as casual labourers in agriculture or NREGA projects and 21 women worked in the self-help groups with Tasar silk-reeling enabled by the Village Electrification Project and PRADAN. In Reshamgaon, 11 women and 65 men were listed as main workers, while 53 women and 11 men were listed as marginal workers.

Access to electricity can positively impact on women's possibilities to engage in income-generating activities. Leelah's story is especially illustrative as it highlights four major points of how electricity enables her to earn her income: 1) Electricity extends the hours of day for domestic work and other activities by providing adequate clean light after sunset; 2) The provision of adequate clean light in the evening makes it easier for women with small children to be flexible in prioritising when activities need to be done; 3) Electricity can provide input resource that enable or improves an activity (such as electrified machines); 4) electricity can provide resources for making other everyday responsibilities easier (such as water provision), freeing up time of other activities. But, women are still circumscribed by their role in care work or work within informal and unskilled work. As discussed in the next chapter, the responsibilities of motherhood were one of the major obstacles for allocating sufficient time for silk-reeling in Reshamgaon. As noted by Desai and Jain (1994, p. 117) 'domestic labour consumes a tremendous portion of women's time in poor areas, affecting both their care of young children and their opportunity to participate in the labour force'. This was evident in the fact that mothers of small children and pregnant reported less income and time for working in

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<sup>110</sup> The Census 2011 data defines work and workers as anyone engaged in work such as agriculture or livestock. As such it is difficult to draw out what type of work and if this translates into personal income or income of family.

Reshamgaon. Daily women brought small children to the centres and babies slept on the concrete floor. Enabling time for silk-reeling hence involved negotiations with other family members in order to be relieved of the domestic work responsibilities generally considered their duty. As described by in Ch. 9, a woman is dependent on her mother-in-law's good will to free time for silk-reeling. If her affinal family is less inclined to help, the silk-reeling is suspended. Another informant exchanged gifts with the other *bahus* in her household in return for their help with her domestic work duties when she was reeling.

As shown above, women's empowerment in relation to being able to fulfil the expectations of motherhood is also related to how childcare limits their time for income-generating activities. Rural villages of the size of Reshamgaon or Jyotipur and Ashapura do not have organised availability of day care or nurseries before children attend school at the age of seven. One of the silk-reeling centres had for a while also provided a crèche on the centre's top floor organised by PRADAN. This had been used by the reeling women, but PRADAN had terminated the service since none of the self-help group members were willing to pay for it, and the operations had been sponsored only for the initial months. The termination of the crèche were repeatedly taken up as a complaint during self-help group meetings as this made it more difficult for the women with small children to take time for silk-reeling.

Being able to earn an income, as elaborated more in Ch. 9, provide women with economic capital that can translate into other capital and empowerment. It provides them possibilities for increased social and cultural capital within a household as they can help provide for themselves, their children or their affinal family. Even consumption of things such as *saris* and *bindis* can increase women's social and psychological empowerment. There is, however, no obvious link between women's work and control over one's income, even when the cash is dispersed directly in the hands of the worker. For some women there might not be possible to make an individualised claim to the additional earnings they toil to make, though some women said the independent income gave them more leverage in the decision-making of how the money should be spent.

The provision of income and effects on families material and cultural capital does not always materialise into social change that produce lasting positive effects on gender relations. Some informants from the self-help groups used their savings for daughter's dowry, putting increasing pressure on daughters as costly and temporary residents in the household. This was also found by the Midterm Review (Appx. 5, 2011). As a side-effect of increasing prosperity

of rural families in Reshamgaon, Jyotipur and Ashapura, the higher the demand for dowries of daughters, making rural development a driving force for increasing dowry expectations.

### **Freeing the Willing Slave: Enabling Capital and Agency through Electricity**

The makings of empowerment from household electrification in the Village Electrification Project has significantly served the practical gender needs of women in Jyotipur and Ashapura by promoting technological advances to ‘streamline’ domestic work. Firstly, electrification brought forth a range of opportunities for domestic work such as light, irons and not least water provision in Ashapura. The examples of Leelah who now felt more accomplished as a mother, and Sunita who with an upgraded home could cope with deteriorated health and everyday life responsibilities, illustrate how electricity can be empowering regarding well-being, health benefits, surplus time and sense of self. Secondly, electricity can have a more indirect impact on women as it facilitates time to rest and a more flexible reallocation of work, which might reduce pressure related to women’s emotional labour. The decision-makers of households do not treat the leisure of all their members equally, but generally favours men and boys leisure and need for entertainment (Kelkar et al. 2017, p.74). For women to be able to have more leisure, entertainment and rest are empowering in the sense of being a function of self-development. These gains in social and psychological power (Friedmann 1992) are important because they allow women to cope with responsibilities that define them as human beings; *bahu*, mother, hardworking woman etc. (Fraser 2017; Elson 2005). Failing in these roles has significant consequences not just for themselves and what is perceived as their *raison d’être*, but is also potentially harmful to their children and families alike. Lack of care depletes social wealth, human capabilities and can at worst cause premature death (Elson 2005, p.7, see also Bhattacharya 2017). As shown in this chapter, there is ample evidence to support the claim of Scatec Solar that household electrification is especially beneficial for women due to their position within the gendered division of labour which ties them to their home. However, technology can also conserve the tradition of women’s domestic identity (see Standal and Winther 2016; Winther 2015), when it provides first and foremost resources contributing to a specialisation and empowerment related to care work in the home.

From a historical perspective the aspired innovations that would set women ‘free’ from being the family’s willing domestic slave (Nye 1991; Oakley 1974), has not necessarily

materialised into a structural transformation providing women's full autonomy in the sense of what Sardenberg (2008, p. 19) denotes as liberating empowerment. The electrification of United States provides a good illustration. The earlier mentioned feminist utopian novels (emerging at the time electrification), envisaged a transformation of society where electrified, efficient and professionalised collectives undertook women's responsibilities so women could join the workforce on par with men (Nye 1991, p. 247). Instead of a landslide of women joining the workforce, a discourse evolved, framing women's freedom as a consumer who could make her household work more efficient to become a better wife and mother. Adoption of new technologies relieving women's burden became popular, but within a powerful myth of electrified modern homes that make work emotionally satisfactory and simplified with the aim to enable more time for motherhood, nurture and caring (Nye 1991, p. 271). In reality, women's domestic work burden increased after industrialisation due to new expectations and because many chores earlier shared by men and children were left to women alone (Oakley 1974, p.156). This myth was greatly influenced by the pressure of corporate advertising, as illustrated by this newspaper clipping from 1920:

## Illustration 12: Newspaper advertisement 1920

May, 1920

HOME JOURNAL

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### Love's Labor Lightened

**F**ROM Baby's bassinet to the rug on which he creeps, the Royal keeps everything in the house clean, sweet and free from harmful, germ-laden dirt and dust.

It is no task at all to clean the whole house thoroughly from top to bottom, with the light, dependable Royal and its convenient attachments. It cleans by air—alone! Its powerful cleans-

ing air stream gets all the dirt, wherever it may be—deeply ground into the rug, clinging to draperies and upholstery, hidden in out-of-the-way corners and crannies hard to reach by ordinary means.

Your dealer will be glad to show you why thousands of women have selected the Royal. Write for interesting booklet.

The P. A. Geier Company  
5101 St. Clair Avenue, Cleveland, Ohio

**ROYAL**  
QUALITY OF SERVICE  
**ELECTRIC CLEANER**  
*Cleans by Air—Alone!*



This myth is echoed in contemporary discourses of energy access in the global South (e.g. Standal, Winther and Danielsen in press, Listo 2018) The discourse of electricity enabling emotionally and simplified housework, whether in the United States in the 1920s or in present day development policies, functions as a way to validate the existing social order and raise tradition on a pedestal. As pointed out earlier, technologies that challenge traditional gender roles, such as new cooking technologies, are not so easily adopted, e.g. when the ‘taste of firewood’ is seen as a marker of good quality food and attributed gender role of a good woman, the result is opposition towards potential transformation of habitus (Matinga 2010, p. 171; Winther 2008, p. 206; see also Akintan, Jewitt and Clifford 2018).

Perception of women as knowledgeable only within the ‘cults of domesticity’ has implications for what kind of capital they can acquire in relation to the Village Electrification Project. Women’s domestic and social reproduction work is part of creating social capital and

social resources (Bhattacharya 2017), and provision of electricity can strengthen the positive outcome. However, but it mainly reflects positively on families' empowerment and not women themselves (Papanek 1974). However, according to Kabeer (2001), areas of social relationships like family and community are important for women social resources. Improved family and marriage relations (enabled by electricity) can provide better social resources needed to make choices for women and men. This was the case in the previous mentioned Barefoot project in Afghanistan, where men and women felt that light had provided new possibilities to be together, positively affecting women's decision-making power in the family (Standal and Winther, p.35).

The underlying of structures of women's work and agency is also influenced by the intersections of their identity, such as status in the community of caste and class. Women from higher caste and class in Jyotipur did not participate in work outside the household. Caste groups such as Yadavs were more affluent and thereby their family had labourers relieving their workload in agriculture, especially for the women in the family. Also, Misha et al's (2008, p.4) study show that illiterate women in the rural Bundelkhand area spent more time in household and farm work than women with education. Again, the case of Sunita provides a useful example. The transformation of her home into a modernised dwelling where the drudgery of household cares were no longer 'peculiarly heavy' (as stated in Nye 1991, p. 301) post-electrification was striking, but it was also unique because it was the only household of its kind in Ashapura. Sunita and her husband belonged to the wealthy Yadav group in the village, and her husband had retired from formal employment in the military service.

Aspects of class/caste is a prerequisite for this type of transformation, but Sunita's case also illustrates that women's position and status within the family/household is a significant factor (see Nordfeldt 2016; Lamb 2000). For women, the household composition and family scripts matter greatly. Most families in Jyotipur, Ashapura and Reshamgaon, consist of joint families. The common perception was that married women in nuclear households had much greater autonomy and increased action to decision-making in the family than a *bahu* in a joint family. However, it was also perceived as hard for women and men to live in nuclear households due to heavy workloads and fewer resources and help from the husband's family. The nuclear and affluent households in Jyotipur had acquired gas-cookers, but even in the more affluent houses in Sunita's village, cooking was still done on the *chula*, and women had to go far distances to get firewood and water livestock. The prioritisation of using family resources for streamlining women's domestic work was not a general trend. In Sunita's case, as well as the mother of Daarun (Ch. 6), the acquisition of electricity-related appliances for women's work



seems not just a product of the families' economic situation, but the fact that these women have acquired a heightened status on basis of their motherhood and seniority. In addition, they did not have any other women to share the burden of domestic chores with.

As shown earlier in this and the preceding chapter, women in Jyotipura, Ashapura and also Reshamgaon are to a large extent economically dependent on men, as stated in their overrepresentation in marginal work and as a consequence of the gendered division of labour in these communities. As noted by Agarwal (1994) severely limited in their ability and willingness to claim part of decision-making or transformation of gender relations in patriarchal settings such as Jyotipur, Ashapura, and Reshamgaon, because they have few if any options to break out of their family relationships.<sup>111</sup> As seen, the policy discourses of women as 'game-changers' (Standal, Winther and Danielsen in press; Chant and Sweetman 2012) the idea of women in the global South as new rational actors who can influence consumption in order to maximise their and their family's well-being (by buying gas cookers, irons, etc.), does not take into account the complexity of gender relations and intersecting axis of oppression within communities and within household.

## **Reflections: Ambiguous Empowerment**

This chapter has explored in what ways the Village Electrification Project has changed women's work responsibilities and the gendered divisions of labour. As noted in Ch. 2, women's work and attributed gender roles of this work is key to understanding women's position in society and how women in Jyotipur, Ashapura and Reshamgaon have acted or potentially could act to transform their subordinated position in the communities. Seen through the theoretical lens of feminist political economy, this chapter has emphasized the following points: Firstly, the household electrification of Jyotipur and Ashapura through the Village Electrification Project has provided women new opportunities to streamline their domestic work responsibilities in a way that feels empowering to them. These effects were related to the implementation of household light and drinking water provision (in Ashapura) and consumption of electricity-related appliances such as irons. These findings also indirectly relate

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<sup>111</sup> Women are generally distanced from natal family support as a consequence of exogamy, and divorce is also still a taboo in India and in general frowned upon. Break up of marriages do occur, but during fieldwork I only encountered one woman who had separated (not divorced and not of her own choice) in Jharkhand.

to Reshamgaon that has electricity provision from the central grid distribution. Secondly, the opportunities of electricity and energy-related consumption items that streamline women's work are embedded in the intersections of gender, class, caste and ideology in the community and household, which limits the decision-making power for women from poorer households or younger *bahus* concerning consumption. Thirdly, the mode of intervention in Jyotipur and Ashapura, where empowerment as a stated focus was tied to ideas of the caring woman and women's benefits as consumers in this regard, did not provide opportunities for women to challenge the gendered divisions of labour that limit their public role and access to capital, but actually reinforces this role, as it provides opportunities for women to specialise in the care work that subsidises the patriarchal structures in their families and communities. Another point taken up in this chapter is how the benefits of for women has dwindled with the technical problems of the CSPPs and consequent reduction of electricity provision.

The implementation of household electricity in Jyotipur and Ashapura provided women resources in their role as caregivers in the home and as consumers of electricity and items to enhance the quality of this work, which as described by England (2005) provides a 'public' good for families and societies in the neoliberal capitalist economy (see also Bhattacharya 2017). As long as the provision of water and light was working adequately (before 2015), it constituted a substantial difference in women's lives, as exemplified by Leelah and Sunita. It led them to live a better life and provide meaningful care for their closest enabling social and psychological power (Friedmann 1992). Hence, the makings of empowerment experienced by being able to fulfil these expectations were perceived as valuable, and maybe even outweighing possibilities to earn an income. The issue of women's empowerment in the role as mothers is not usually explored in either development discourse or research. Women's empowerment through care work as mothers, wives etc. poses significant dilemmas to theoretical understandings of empowerment. It is important to acknowledge women's important and unpaid specialisation in domestic work (e.g. Enloe 2013; Elson 2005) while the underlying logic of development and feminism has been to aid women's entry into the public sphere and economy of society (Kelkar 2014). For the women informants in Ashapura, Jyotipur and Reshamgaon, the issue of motherhood was their main aspect of life in addition to survival.

Apart from being a methodological issue, theorising emotional labour within social reproduction and a feminist political economy approach is challenging. Ever since the famous slogan and theoretical perspective of 'the personal is political' the importance of the 'mundane' work women do and the important contribution it has on political economy, as noted by Waring

(1988), been given focus in research within feminist political economy. Others have followed this pursuit (e.g. Elson 2005; England 2005; Enloe 2013; Bhattacharya 2017; et al.). Following such a theoretical approach, the daily toils of making roti in the morning while being sleep deprived from nursing infants during the night, and then being expected to ‘go for agricultural work’ needs to be taken seriously to ‘alter our understandings of how political cultures are constructed and enforced’ (Enloe 2013, p. 40). There are linkages to be found, and which need to be highlighted between everyday gendered divisions of labour at the micro level, and women’s position in society in general. The stated focus on women as consumers and caregivers in the Village Electrification Project is also an acknowledgment of the importance of women’s ‘mundane’ work, but it is imagined in a capitalist understanding of a consumer as a rational actor, while in reality the opportunities of women is circumscribed by caste, class, age, religion and social practices.

For the women in this study, electricity’s effects on their domestic responsibilities have thus resulted in an ambiguous empowerment that simultaneously improved their lives in relevant domains, but still reinforced gendered hierarchies and gendered divisions of labour that kept women’s agency limited. The project benefits of household electricity and water never entered the realms of liberating empowerment (as understood by Sardenberg 2008), such as enabling women to make strategic life choices or challenge patriarchal structures (Kabeer 2001), as it did not provide any means for transforming the gendered divisions of labour that undermined women’s access and ownership to resources and the attributed perceptions of women’s capabilities and knowledge. Even if access to electricity is a crucial factor in improving the hardship of rural and poor women, and benefits women’s domestic work, the fact remains that women’s domestic work enforces women’s economic dependency, and hence subsidises patriarchal structures and hierarchies of power that denies women their agency and choice (Elson 2005). Still, the benefits of women as end-users in the Village Electrification Project also partly addresses strategic gender needs of women by providing opportunities for improved health, but also potential reduction of domestic violence as might reduce some triggers brought on by frustration. As discussed in the next chapter, if modern energy also provides women with income the benefits that create a reinforced identity of women as the primary caregiver in the family can be balanced, both regarding economic independence over decisions on consumption, but also by gradually changing common perception on women’s abilities beyond wife and motherhood.



## 8. The Empowered and Productive Woman

The silk-reeling activity in Jharkhand is led and managed by [self-help groups] comprising only women. The revenue allows the group to be at least an *equal contributor* to the income of their families and helps them take decisions for the betterment of their children and families (Scatec Solar, Progress Report 2010, p.17, my emphasis).

... equity is made possible by replacing the helpless isolation of a single poor woman's experiences, with the courage she derives from belonging to a group of peers from similar circumstances (PRADAN Annual Report, 2014-2015, p. 14).

The above quotes relate to the main components of the Village Electrification Project in Jharkhand state in east India; women's livelihood generation and women's networks. By merging the implementation of the Community Solar Power Plant (CSPP) with the already existing self-help group model undertaken by the Professional Assistance for Development Action (PRADAN), an NGO already working in the area, the Village Electrification Project sought to enable the women to generate an increased income that would support greater economic independence. This was expected to allow them to contribute equally to the family income and to improve family well-being. The focus of this chapter is Reshamgaon, which like rural Jharkhand in general is a poor village with small *kutcha* houses and the main livelihood is derived from growing wheat, rice, or through casual labour. As a response to alleviate poverty, and to address the feminisation of poverty and women's marginalisation in rural Jharkhand, in the early 1990s PRADAN started setting up Tasar silk-thread reeling as a livelihood scheme for the women in poor Hindu communities. In Reshamgaon, 21 women in three self-help groups were thus engaged in the hard manual labour of reeling silk-thread with pedal machines in order to increase and diversify their family's income. In December 2009, through the Village Electrification Project, Reshamgaon had electrified its reeling centre with solar PV installations on the roof and with electric silk-reeling machines. By August 2011, the Village Electrification Project had enabled the instalment of 180 electric reeling machines in 10 villages, covering 210

women self-help group members in Jharkhand (Geirbo 2012).<sup>112</sup> As will be discussed next, PRADAN's objectives aligned well with both Scatec's vision for rural electrification and GoI's plans for poverty eradication in rural India.<sup>113</sup>

This chapter is concerned with how the Village Electrification Project and PRADAN's self-help group model altered the framing and tasks of women's work and the effects on women's access to decision-making and public space. By examining this process with a focus on Reshamgaon village, this chapter will address six interrelated questions: In what ways has the self-help group model and the added component of electricity through the Village Electrification Project, and their stated on women's empowerment made a difference in women's lives in the local communities in Jarkhand? How have women been included in the engagement and ownership of the CSPP? Has income-generation in Jharkhand resulted in consumption that enables women with new resources and agency? Has increased income generation materialised in greater autonomy and control? In what ways has the forging of women's solidarity networks through the self-help group model enabled them to challenge discriminatory structures and institutions? What role does the electrification and CSPP play in forging women's solidarity networks and greater economy and control of income?

The plight of women in Reshamgaon village was characterised by a continuous everyday life struggle due to economic insecurity as well as their inferior situation in the patriarchal family and community setting. The impositions of *purdah* were less strict in Reshamgaon than Jyotipur or Ashapura, and women did not hide their faces from strangers and had more freedom of mobility. Nevertheless, the women in Reshamgaon were also marginalised in terms of economic opportunities and decision-making in their family and community. The objective of the merger of PRADAN and the CSPP in the Village Electrification Project was twofold: To boost the quality and effectiveness of the silk-reeling process and to reduce the physical labour and related health problems of the women involved in the Tasar silk yarn production. In addition, as with the household electrification in UP, the Village Electrification Project was perceived as a potential business model to be scaled up. As the starting quote of this chapter states, this would allow the women to provide income on 'at least' equal basis to

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<sup>112</sup> The CSPPs were commissioned to be ready December 2009 (Inception Report undated ,p.31), but due to difficulty in finding a manufacturer for the machines there was a slow roll out in several villages which meant that the electricity was not fully utilised in the initial months (Progress report 2010, p.11).

<sup>113</sup> The Village Electrification Project comprised of 10 villages in Jharkhand, while PRADAN has a wide range of projects with a great number of villages and communities in Jharkhand and six other states in India.

the family economy, assumingly enabling them to take part in family decision-making ‘for the betterment of their children and families’ (Progress report 2010, p. 17). For the Village Electrification Project, PRADAN’s activities enabled the use of CSPP infrastructure within an established micro-credit structure where women in self-help groups, as PRADAN phrases it in their Annual report, are ‘leading change’ (2014-15, p. 14).

## **Electricity beyond the Bulb**

The Village Electrification Project’s objective to arrange for electricity to provide economic growth through commercial activity in local communities, or as in their own words: Scatec Solar’s CSPP models are based on the idea of providing solar power ‘beyond the light bulb’ (Proposal undated, p. 9), was met in their cooperation with PRADAN in Jharkhand. The PRADAN villages in Jharkhand were selected for the Village Electrification Project due to the economic potential foreseen by electrifying the silk-reeling process (Scatec Completion Report 2012, p. 8).<sup>114</sup> By replacing the pedal-machines with electric ones, the efficiency and quality of the yarn could be increased, allowing the women to earn more. When using handlooms or pedal-machines the filaments are given an undependable and irregular twist by the right hand, while the left hand guides the filaments (Moulik and Purushotham 1983, p. 434). The yarn reeled is thus very coarse and the quality is not uniform. Manual production is also restricted to about 50 grams of yarn per day (ibid.). In addition to knee and back pain, the manual handling of the filaments can lead to loss of sensation and in some cases to constant skin irritation or allergy. After electrification, the physical labour and accompanied negative health effects were decreased, further increasing the opportunity for profit.<sup>115</sup> As a result the women’s production was increased from about 1.5 – 2.5 times and the quality of yarn improved to a level A quality.<sup>116</sup> Below is an illustration of the traditional handloom and an electrified reeling machine in Reshamgaon.

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<sup>114</sup> The selection of activity in the Village Electrification Project in Jharkhand was based on PRADAN’s suggestions and experience in the local field (Interview Sanjay 6.2.2012 ).

<sup>115</sup> The electrical machines required 30-35 Watt. PRADAN stood for the design, testing and funding of the new silk-reeling machines (Inception report undated, p. 12).

<sup>116</sup> Price range per kg/grade quality in 2012: A grade: 2050 Rupees p. kg, B grade: 1850 Rupees p. kg, C grade: 600 Rupees p. kg

*Illustration 13: Traditional and electrified reeling machines*



Photo: Karina Standal

As in as Jyotipur and Ashapura, the Village Electrification Project in Reshamgaon and the surrounding villages in Jharkhand were based on a model of institutional administration and consumer payment to bring in revenues to cover the operation and maintenance of the CSPP and replacement of parts in the future, as well as providing women increased income. In Jharkhand, the VEC was formally represented by the women self-help members of their respective village. In Reshamgaon, the VEC was made up of the self-help groups Ujawal, Sitara and Santoshi and its 21 members. For each reeling centre the VEC selected a Village Operator (VO) from the community, for managing the reeling centres and taking responsibility for cleaning silk cocoons, accounting and simple repair of the solar equipment. All the positions of VO's were occupied by men, except in Chukapani village where a women was selected for the job. PRADAN considered the VO as being employed by the women self-help groups, which could be interpreted as a signal of their empowered position. However, in reality the VO worked on commission from Mahila Sula Tasar Producers Limited (Masuta), which paid the monthly salary. As discussed later, Masuta was established as an intermediate between the self-help groups and the commercial silk market in east India. The average monthly salary of the VO in



Reshamgaon was 2200-2500 Rupees, while the only woman VO received an average monthly income of 700 Rupees (Appx. 5, Midterm Review 2011, p. 5 and 23).

The VO's main responsibility was preparation of the cocoons.<sup>117</sup> The self-help group members each paid 5 Rupees per day for renting the reeling machine, and an additional sum for the cocoons. Information about production and prices were retrieved from the silk-reelers, PRADAN and different reports (Geirbo 2011, Midterm Review 2011) and the numbers and metrics did not correspond. Statements regarding sums of payment to the VO for the cocoons varied from 1.5 Rupees per cocoon (Geirbo 2011) to 40 Rupees per kg (Appx. 5, Midterm Review 2011, p.3) while the self-help group in Reshamgaon claimed they paid 40 Rupees per output of A grade kg of yarn, or 30 Rupees per B grade kg of yarn reeled. Despite these discrepancies, the business model was based on the self-help group members purchasing cocoons on credit and receiving payment after the yarn was sold. The payments by the women for renting of machines and cocoons were meant to cover both salary of the VO and cost of the CSPP.

The solar electrified community centres were also meant to work as charging hubs for solar lanterns and mobile phones. The costs of charging a solar lamp were initially set to 50 Rupees monthly for the silk-reelers and 90 Rupees for non-reelers. According to the tariff chart hanging on the wall, a month of mobile charging cost 30 Rupees for silk-reelers and 50 Rupees for non-reelers, or 5 Rupees per charging.<sup>118</sup> Due to problems of quality with the solar lamps this scheme was abandoned and the centres were not used for charging mobile phones either as Reshamgaon (and several of the other villages) was connected to the central electricity grid provision shortly after the implementation of the CSPP. The silk-reelers and the VO in Reshamgaon charged their mobiles when they used the centre, but there were no payment systems for this.

The main feature of the silk-reeling activities was, however, to provide new and better income opportunities and life quality of the self-help group members and their families. According to the Midterm Review (2011, p. ii) the self-help group members had increased their

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<sup>117</sup> The cocoons are cleaned and boiled to ensure the best quality. The VO's payment is linked to women's profit from the reeling. Since the quality of yarn depends on the quality of preparations of the cocoons the VO has incentives for ensuring the best preparations.

<sup>118</sup> The tariff rates of charging were decided by PRADAN and Scatec Solar. The onset of the repayment period of the CSPP was expected to happen after 2-5 years. The interest rate was set at 5% from the date the repayment would start (Geirbo 2011, unpublished report).

income up to 70 % as a result of more efficient production and higher quality of yarn. The increase in efficiency going from manual to electric machines had allegedly increased the output from about 100 - 300 gram yarn per day, to 150 - 750 gram per day (Geirbo 2011, p.4). However, the income and payment reported by the women in Reshamgaon varied considerably, from 600 – 3000 Rupees a month, depending on the ability to take time for silk-reeling, the quality of the yarn produced, as well as the individual workers skill in using the new machines. Table 12 below, illustrate the change in efficiency and income opportunities after electrification based on the informants statements and Geirbo’s data:

**Table 12: Monthly income silk-reeling, Reshamgaon**

Pre-electrification		Post- electrification	
Income in Rupees	Gram yarn per reeling	Income in Rupees	Gram yarn per reeling
400-1200	100 - 300	600 - 3000	150 -750

As illustrated by the table above most of the women in Reshamgaon experienced a considerable increase in their income after electrification. But the numbers must not be interpreted literally as most women found it hard to convey averages. Their production varied in terms of life situation, season and general availability of time. Their income opportunities should be seen in contrast to casual labour, which was stated to be 100 Rupees for a man and 80 Rupees for a woman paid on a day to day basis.<sup>119</sup> Such income opportunities would be making bidi cigarettes or manual labour in construction or agriculture, sometimes through the NREGA scheme. However, this kind of work is more physically demanding and only available sporadically. As presented in Table 8 in Ch. 5, 64 (of a 115) women in Reshamgaon were engaged in work activities, but 53 would only be able to make an earning less than six months in the year.

Though the Village Electrification Project provided the women in the self-help groups in Reshamgaon with opportunities to significantly increase their income, the project was also confounded by certain challenges and fluctuations that limited the realisation of the ‘business idea’ of the project in terms of being economically viable in covering the costs of the CSPP. As

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<sup>119</sup> One of the schemes used extensively for daily labour was the rural employment guarantee of NREGA. Also, PRADAN was involved in NREGA by providing jobs and casual labour for well and pond digging.

in Jyotipur and Ashapura (Ch. 5 and 6), people's life in Reshamgaon centred on farming and agriculture. This meant that their activities and incomes fluctuated through the yearly cycle. My fieldwork was done during the winter months January and February, when farming is paused until spring when the temperature increases. I therefore came at a time when the women were fully engaged in the silk-reeling. When my research colleague Hanne Cecilie Geirbo visited the silk-reeling centres in July-August 2011, the women silk-reelers were preoccupied with farming:

The silk-reeling centres are closed in the main agricultural season, which normally is 4 months per year. Rice production is labour intensive, and when the rain comes all work capacity is invested in preparing the fields, sowing the rice and transplanting the seedlings. As it is not possible to predict the exact onset of the rainy season and the amount of rain that will fall this season, it is difficult to plan and maintain the necessary production for the business case to be viable. I was told that the heavy rain this year had reduced the productivity of the Jharkhand silk-reeling centres as compared to the year before (Geirbo 2011, p. 6).

Similarly, when the consultation team for the Midterm Review (2011, p. ii) visited the project villages in September 2011, they noted that in eight of the ten villages the reeling centres had not been in use the last six months.

According to Sanyaj, the CEO of PRADAN in Jharkhand, the area had suffered consecutive seasons with drought at the time the Village Electrification Project and PRADAN cooperation was initiated in 2009. The motivation for other livelihood options was therefore high as the need for income outside families' agricultural production was crucial for survival. In 2011, the communities had experienced heavy rainfall and their harvest yields were good, which resulted in that women's time use on silk-reeling was nominal.

Interestingly, the project was then seen partly as a failure, since it did not meet the standards of PRADAN and Scatec Solar in terms of time use of the centres and in retaining revenue. However, the idea of regular monthly incomes is often unknown in rural settings that are in tune with yearly cycles of agriculture. Similarly, reverting labour to agriculture for the family has obvious benefits to women, even though it does not give women the same economic autonomy as income made in their own name. This considerably hampers the 'business' potential of the project as the funds gathered were not sufficient to make the project

economically viable. The modalities of success and empowerment hence have different understandings for the self-help group members, and PRADAN and Scatec Solar.

Agriculture also impacted on the participation of the VOs in the projects. Being a VO did not provide a large income and most of the VOs had land or cultivation that they tended to as well (Appx. 5, Midterm Review 2011, pp 22-90). Of the ten villages only two, of which one was the woman VO from Chukapani, of the operators did not cultivate land in addition to being VO. As the VO is the one who guards and locks the centres, they are closed during the time the VO is away. Further, the VO at times would not have time for the labour intensive boiling and preparing of cocoons. Even during periods where silk-reeling was intensive, the centre was only open 15-20 days a month, which also limited the women's opportunities for silk-reeling.

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The relationship between the women workers and the VO was also influenced by local tensions or politics that harmed the effectiveness of the silk-reeling production. In one of the villages, the relationship with the VO and self-help groups had soared to such a state that the centre had been closed for several months. During my visit it took time to find someone with a key and the machines were full of cobwebs and dust. The women claimed the closure was due to internal problems of savings and credit in the self-help group, blaming other members for not repaying their loans. Later, when taking the issue up with Sanjay, he said the closure was not over financial problems but tied to local politics. The VO had run for the Gram panchayat election and one fraction of the women self-help group members had supported his candidacy while another had supported his opponent. After the election sentiments still ran high, making the working climate unbearable. According to Sanjay they were continually working to solve this issue, which cannot be considered unique in Indian village politics and community development.

Women's absence from the silk-reeling activity is also related to the power relations inherent in gendered divisions of labour within the patriarchal family system. As will be discussed in Ch. 7, women's domestic work responsibility limits their abilities to engage in other activities. Parmesri, who was in her early 30s and had five children, illustrates the challenges of taking time for silk-reeling;

Parmesri: Mother-in-law takes care of the children and does some of the chores when I work.

Parwati (translator): Can you work more in periods if you need to increase your income?

Parmesri: Mother-in-law only takes care of the children sometimes

Parmesri did not want to openly criticise her mother-in-law, but it was evident during our conversation that the help she needed to take time for silk-reeling was not something she could take for granted, even though her income also benefitted the family. The younger women in the self-help group who had small children needed to negotiate time and help with childcare in their families in order to do the silk-reeling activities. When their labour was needed to aid the family in farming or other activities the silk-reeling production (and income) had to be suspended for the greater good of the family, and the women's labour was diverted to their unpaid responsibilities in the family household.

The business case of the Village Electrification Project in Jharkhand has not been able to retain enough money from the users to be fully economically viable. According to Geirbo's report the savings generated is not sufficient to replace batteries and other costly equipment when their life-cycle ends (Geirbo 2011). The capacity of the CSPP is also not fully utilised both because the centres are closed when labour of the VO and the self-help group members are needed in agriculture. But also Masuta has not been able to cover the machine demand by recruiting enough self-help group members (Midterm Review 2011, p. iii). In order to increase the economic revenue in the Village Electrification Project, PRADAN was in a discussion with Scatec Solar in 2012 about expanding the silk-reeling centres into also providing household electricity, as the reeling activity were limited in terms of the total load capacity of the CSPP. When the village electrification project started in 2009, grid electricity was only available in a

few of the villages, but by 2011 all the 10 project villages had been connected to the national electricity grid. Though the electricity supply is unstable in Jharkhand with several blackouts this diminishes the number of villagers motivated to connect to the SCPP for household electricity or solar lantern and mobile phone charging. As Scatec Solar India was dissolved in 2013 and the Bergen Solar stopped the cooperation with the PPP, this also effectively inhibited expansion of the project for household electrification.

### **30 Years of Empowering Women: PRADANs Self-help Group Model**

As mentioned, the Village Electrification Project facilitated the use of CSPP infrastructure and business model within PRADAN's self-help group-based micro-credit structure.<sup>120</sup> Self-help groups are formed with poor women who jointly undertake a livelihood project and collectively save money that is used to provide the members with microcredit. PRADAN supports introduction of locally suitable economic activities for the self-help groups and build linkages between the self-help groups and banks, other financial institutions and government bodies.<sup>121</sup>

As one of the largest NGOs working on rural livelihoods in India, PRADAN works with some of the most socially excluded groups in India such as women, SC and Adivasis.<sup>122</sup> The groups PRADAN work with are subject to inequalities and axis of social oppression (caste, class, religion ect) that reinforce and exacerbate each other and generate far-reaching forms of disadvantages. Based on their long experience working with women in Jharkhand, PRADAN boasts '30 years of empowering women' (PRADAN Annual report 2012-13, p. 20). As Jharkhand is one of India's poorest states known for its high degree of poverty, social unrest and location for Maoist insurgency, this has affected gender relations viewed in terms of important human development indicators. As described in Table 8, in Ch. 5, female literacy is lower than the national average and maternal mortality considerably higher than the national

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<sup>120</sup> The self-help group model has been applied by many development institutions in India and the global South, and is as such not the invention of PRADAN.

<sup>121</sup> [http://www.PRADAN.net/index.php?option=com\\_content&task=view&id=17&Itemid=3](http://www.PRADAN.net/index.php?option=com_content&task=view&id=17&Itemid=3)?. Downloaded 15.3.2017.

<sup>122</sup> PRADAN is active in Jharkhand, Bihar, Chattisgarh, Orissa, West-Bengal, Madhya Pradesh and Rajasthan. According to Kabeer and Nojonen's PRADAN reached all but the very poorest 3 per cent in the communities they were involved in (2005, p.3).

average. Though the sex ratio fares better than the national average, it suggests that daughters are still valued less to sons.

The concept and formation of self-help groups are at the core of PRADANs activities for women. Through self-help groups, the women members engage in a shared livelihood activity, such as silk-reeling or livestock development, and manage their money collectively in a joint micro-credit system. PRADAN works with both men and women in poor rural households, but their self-help group model targets women only. Their rationale for this is based on instrumental and equity concerns (Kabeer and Noponen 2005, p. 24). Their instrumental concerns were related to women's compliance with the self-help group model. Like many other micro-credit organisations working with the poor, PRADAN has found that women are more likely to observe group norms and processes, such as attending group meetings and making regular savings and loan payments (e.g. Kumar 2013a, p. 70). PRADAN's emphasis on women to achieve equity was based on their view of women's disadvantaged status relative to men both within their households and in the larger community in Jharkhand. Their exclusive focus on poor women as a group was meant to rectify these disadvantages:

Self-help groups (SHGs) are the primary units of social mobilisation at the grassroots. They enable women from marginalised communities to come together, express themselves, dream of a better life, and work towards social and economic improvement through small but tangible activities such as small savings and credit. PRADAN promotes SHGs by putting in place the processes and systems for such activities, to gradually help them function and thrive on their own (PRADAN Annual Report 2013-14, p.4).

Sanjay made the specific distinction between Adivasi and Hindu communities to put emphasis on this point;

Women in these [Adivasi] communities are more active and they are governing the family resources, they are already working so much and do not have time for self-help group activities. We therefore started this silk-reeling activity with self-help groups in non-tribal communities where women play a more submissive role and are isolated at home. [Non-tribal] men have played the dominant role in Jharkhand so we don't need self-help groups for men, because they can organise activities themselves.

According to Sanjay they had engaged men only in relation to the transfer of technology concerning breeding and preparing of cocoons, which will be described later.

Further, PRADAN helps in establishing a link between self-helps group and relevant institutions such as banks enabling the self-help groups' opportunities for savings and loans. These groups are intended both for promoting women's economic empowerment through livelihood and microcredit, but also to provide women's social and psychological empowerment by promoting women an arena for solidarity and networks.

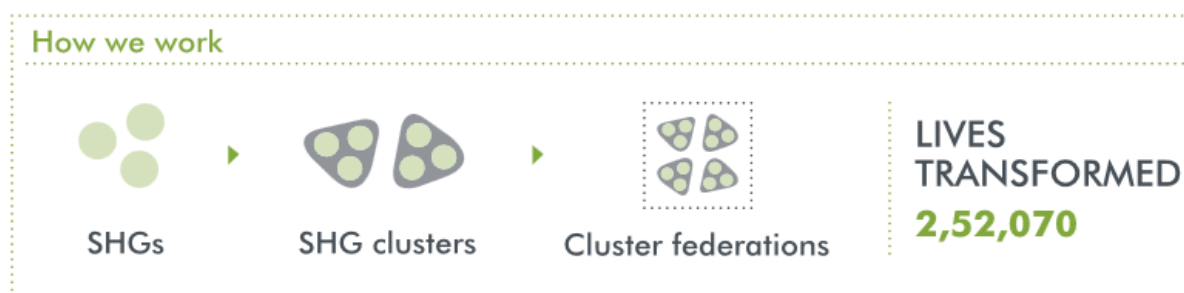
Over a period of time, PRADAN has realized that it is not enough to focus on income generation for families while women, who are equal stakeholders in the family, face violence or discrimination. It is important to see how our work puts women in charge of their lives. This shift is based on the belief that women are equal stakeholders in the development process. It calls for women to work together on a large scale as collectives and strive to bring about a cultural change in the patriarchal society (PRADAN annual report 2012-13, p. 20)

PRADAN's belief and motivation lies in their perception of micro-credit as a holistic effort of inter-related means for strengthening individual and group livelihood generation (Kabeer and Noponen 2005, p.3).

PRADAN's self-help group model also works to organise women in larger and formal women's networks. Other self-help groups in geographical proximity are joined in clusters where they have joint meetings discussing broader issues, and are connected with social and political institutions and governing bodies. The clusters are also connected within a formally acknowledged cluster federation as shown in Figure 2 with PRADAN's illustration of the network formation in their annual report 2012-2013:



**Figure 2: Network formation of PRADAN's self-help groups**



Source: PRADAN Annual Report 2012-13

According to PRADAN access to these institutions provides the women support and networks far beyond their local communities and enables access to political participation in a different way than formal politics or voting. According to my informants, the women in Reshamgaon and their cluster federation had regular meetings and dealt with issues ranging from livelihood activities to addressing broader areas of discrimination.

The idea is that such groups will foster women's solidarity and provide opportunities for what Gopa Samanta (2011, p. 148) terms 'compassionate transactions' of money based on mutual support between them, as opposed to the growing commercialisation of microcredit. The 'market' for microcredit in India has grown immensely and interest rates have also increased as a result of this (Kumar 2013a). According to Geeta, one of PRADAN's team leaders, PRADAN opted for self-help group schemes in rural populations in the early 1990s, and to much dismay and criticism decided to refrain from conventional microcredit schemes in 2000.

PRADAN's self-help group model illustrates the modality of empowerment they envisage for their imagined beneficiaries in the communities such as Reshamgaon; previously marginalised women who have, through the self-help group model, gained control over their own life and who have gained the capability solve problems in their life, as well as positively induce social change by committing to solidarity networks of women. To acquire such abilities PRADAN assist with income-generating activities and an arena for women to come together to for developing abilities and offer mutual support. According to PRADAN staff Parwati, being able to foster an 'independent' self-help group, in line with PRADAN's goals of enabling women 'to be independent and solve their own problems' without the aid of PRADAN, was the driving force for all PRADAN staff and associated with a great achievement. However, this had

not been yet been achieved as the areas in Jharkhand were, according to Parwati not 'ready' for this.

### ***Access to Markets and Regular Income***

A major challenge to women's economic empowerment is found in their limits to access to public spaces such as markets and banking systems (Kabeer 2001, p. 84). The link between the self-help groups and markets was therefore a major concern of PRADAN. Sanjay had established the company Masuta as a partner in the process to help sort out demand and supply disparity. As the full name Mahila Sula Tasar denotes (Woman Silk Thread), Masuta is a producers' company for women Tasar silk-reelers. Masuta buys the silk cocoons and sells them at cost price on credit to the self-help group producers and buys the silk yarn back after production and sells it on the market. Prior to Masuta's involvement the women only received irregular payments, maybe months after the yarn was delivered, but Masuta ensured that the women could rely on regular payment for their small quantities. As it would take a long time for the bulk to reach a significant quantity Masuta would buy the material and provide salary within a month, however there were still delays in payment at times when Masuta would be in loss. The silk yarn is sold in bulk to the market for factories producing Tasar silk cloth or garments. The services of Masuta are crucial for making the silk-reeling a viable option, and the payments are supposed to come within a month of delivering to Masuta.

### **Compassionate Transactions and Women's Empowerment**

According to the self-help group members in Reshamgaon the most obvious benefit of the Village Electrification Project was accrued through increased income and economic capital, as the electrification enabled more income through more efficient production, better quality of yarn and less health problems due to the eased physical labour of reeling. As phrased by Asha; 'I started to support my family [financially]. My husband and I decided I should do this'. Other women also stated the financial opportunities of the scheme as their motivation and that starting the activity was part of joint decision within their family. The women self-help group members need their families support and approval before becoming member of the self-help groups. Asha had earlier worked as a cook preparing school lunch as part of the Midday Meal scheme. Her

salary was then 25 paise per child, if it was a hundred children she could make 250 Rupees, but according to Asha: 'I never got paid and only did it for a short while'. The reasons for why she did not get paid were not clear, but it shows the difficulties for women to assert their rights in these cases and the difficulties they have in obtaining income. None of the other women in her family earned an independent income.

The second benefit of the Village Electrification Project was how the project built on ideas of solidarity and strength of being together. The compassionate transactions meant that women collectively created savings and credit schemes to increase the economic well-being of the entire group. As Samanta (2011, p. 148) notes, this is distinct from typical banking procedures as they are personal and solidaric. In the meetings women expressed how they saw themselves as a unit. This was particularly within the cluster group meetings, such as described in the story of the tribunal later where the women took collective action after one of their members had been victim of harassment. Also the possibility for credit was seen as important and if women for periods did not have an income, men would contribute the small sum for the savings.

These acts of compassionate transactions also involved transformation of identities. By forming women into self-help groups, the framing of their identities was expanded from categories of kinship and class and caste status, to new collective groups that transcend 'traditional' social boundaries. PRADAN's main work did not just constitute aiding these groups through providing necessary input for livelihood generation such as finances, technology and infrastructure (building of centres etc.); it also meant hosting regular meetings and training in new identity-building. This identity-building brought in a new discourse meant to break walls of isolation and joining women together as peers of similar circumstances. The peers were united on the basis of conceptions of *didi*, all sisters in the family of poverty. These framing conceptions of sisterhood and poverty were carried out by regular meetings, singing of group songs, staging theatre and role plays. Membership in such groups contributes to social capital, in that members provide each other with collectively owned capital, or 'credential' that entitles them to credit, in various senses of the word (Bourdieu 1986, p. 51). The ceremonial rituals of 'bonding', such as singing and meeting, can be seen as 'rite of passage' necessary to produce and reproduce lasting useful relationships. That does not, however, necessarily mean that women continue to uphold this identity in all spheres of their life. When they return to their families after meetings they also continue to be *bahu*, mother-in-law or daughter.

The changes noted above necessarily also involve a change in capacities and practices. The self-help group model seeks to provide women new skill sets:

An important element of government schemes for microcredit-based livelihood-generating activity is training for running an activity. It is not enough for women to merely attend meetings — they should be trained to have self-confidence to participate effectively through active speaking and listening (Samanta 2011, p. 145).

Though one could definitely question the assumption that rural women involved in self-help group schemes lack skills concerning running of activities, the adoption of the ‘new’ skills also involved a process of changing practices and *habitus* that had been part of the bodily training that defines women’s femininity. As presented in Ch. 2, the structures of patriarchy also have a cultural base concerning gender norms such as *purdah* and *Lakshman rekha*. Women in Reshamgaon are (conventionally) through their lifetime taught a way of being, a habitual state that generates practices that limit their freedom of movement and their ability to speak up in public and within the family. The formation of this *habitus* (and the symbolic power it provides) occurs through a process of embodiment of the rules.

Women in the self-help group in Reshamgaon challenged the traditional *habitus* of femininity and gendered work divisions by undertaking ‘masculine’ activities such as dealing with money, speaking in meetings and travelling to meetings outside their village. Participating in PRADAN’s self-help group activities entailed an expansion of women’s mobility beyond the vicinity of their home and community, as well as terminating women’s muteness as described in Ch. 2 and 6. Speaking up and expressing feelings in new arenas, such as self-help group meetings, village meetings or even larger cluster federation meetings, contradicts the social norms of the category of woman in Reshamgaon and surrounding villages in Jharkhand. It had also taken PRADAN many years to build this platform of engagement with the women. Though the women in the self-help group mostly talked about the benefits of income and the economic empowerment, for women to ‘handle money’ also involves a shift in the gendered perceptions of divisions of labour and authoritative knowledge. Kabeer and Nojonen’s (2015) illustrate this shift in their study of PRADAN’s self-help groups in Jharkhand, presented in the table below, of how women in the self-help groups had acquired skills and knowledge that differed from non-members.

*Table 13: Acquired skills of PRADAN self-help group members*

	<b>Non-Members</b>	<b>PRADAN Members</b>	<b>Total</b>
Knows how to sign name	2.90%	40.10%	27.20%
Know how to count large currency	29.10%	46.90%	40.70%
Knows how to calculate interest	26.20%	45.80%	39.00%

Source: Kabeer and Noponen 2015, p. 25

When the women in Reshamgaon joined PRADAN's self-help group activities in the early 1990s and started moving beyond 'women's places' prescribed by gendered divisions of labour and cultural norms to public meetings, speaking their voice, handling money and become conscious and reflexive concerning power relations in their family, community and nation that are disadvantageous for them, there was according to PRADAN a move in gender identities. Such processes require time and are subtle by nature, but it was evident from my participatory observation in the meetings and in the village that the women in the self-help groups were more outspoken, had more self-confidence and more mobility than compared to Jyotipur and Ashapura where the women did not have the same platforms for meeting and cultivating organised networks. Friedmann (1993) puts emphasis on acquiring skills, participations in social organisations and access to finances as part of acquiring social power. Further, the self-confidence coming from a process of social power provides psychological empowerment that has positive effects on struggles for social and political power. Still, the advances in the makings of empowerment in Reshamgaon and other Village Electrification Project and PRADAN self-help group villages were hampered by traditional gendered perceptions of the category of woman in the local communities, PRADAN and the PPP, which, as will be discussed later, limited women's full participation both in the Village Electrification Project and decision-making in family and local political institutions.

## ***Consumption as Empowerment***

As shown above the electrification enabled economic capital of the self-help group members by increasing their opportunities for income and access to microcredit, which has important ramifications for opportunities of consumption. Development has often been equated with increase in material capital and consumption. In the context of the women in poor rural communities, opportunities to increase consumption and exercising choice in consumption is revealing to how energy translates into both women's empowerment and changes in gender relations. Such choices coincide with what Kabeer (1999, p. 437) term second-order choices, meaning that they are important for life quality, but are less consequential than strategic life choices. Kabeer argues that if our notion of empowerment is about change, it has to address the expansion in people's ability to make strategic life choices. Such a view suggests that the expansion of women's second-order choices, such as consumption of personal or family assets are not empowerment in the fullest meaning of the word. As discussed next, though it did not challenge existing relations of power, consumption was viewed as empowering by the women in the self-help group, because it provided necessary resources for a good life and it elevated their status in their family and community.

As mentioned in the beginning of this chapter, there were great variations of how much time each women would spend working and the income received, but to all the members the income was considered as significant for their own or their household's needs. When discussing how the income was utilised, most of the women listed their personal consumption first, then other uses of the income later. Again, Parmesri serves as example; 'I take money for myself first and give the rest to my husband... I use the money for *saris*, *bindi*, jewellery, and to go to my father's house. I don't have to ask my husband for money anymore'. She and her husband had also decided together to save in a life insurance scheme for poor. As shown in Table 14, items such as bangles, *bindis*, and *saris* were frequently listed as women's personal consumption. Such items are everyday clothing and accessories for women in rural India and signal social standing as well as beauty. Women in rural India receive clothing and jewellery through extended family networks during family events such as marriage, birth of children etc. There might therefore be differences in women's ownership of such assets in the same household, depending upon her natal family's wealth and distribution of wealth to their daughters. Having access to disposal of income can provide women other ways of acquiring such assets. For some of the *bahus* the increased income had translated into an elevating their

status in the family. One of the women gave parts of her income to the other *bahus* in the household in return for favours such as childcare. As a result she could free time for more silk-reeling and it raised her position and respect in the family. The younger *bahus* were still among those who had the least time to work with the silk-reeling and their incomes was also substantially lower than the older self-help group members.

As also discussed in Ch. 6, children's education was another line of consumption mentioned frequently as enabled by the new income opportunities. Families in the self-help group also used their income to increase their own and their families' social and cultural capital by prioritising it for their children's education. The local school was a modern building at the outskirts of the village teaching children from 1<sup>st</sup> to 5<sup>th</sup> grade. Children could continue their primary education in another school near Reshamgaon teaching up to 8<sup>th</sup> grade. These schools were state-driven and free of charge, but parents had expenses for school uniforms, pencils, books etc. All the children in Reshamgaon were enrolled in primary education, but if children were to pursue secondary education they would need to do so outside of the village with the expenses that incur. Hasidiha town had state run school up to 10<sup>th</sup> grade, and colleges could be found in the cities of Dumka or Deoghar, which required school fees and boarding costs. Also in Reshamgaon there was a lack of trust towards the quality of state-run village schools and the teachers working there. Private schools near Reshamgaon cost about 5000 in admission and monthly fee of 2000-3000 Rupees. Despite the fact that education was perceived as important in Reshamgaon it was not common to send children, especially not girls for further education after primary education. Only a few families, such as the self-help group leader Anita (presented below), who had the financial means to do so sent their one or more of their sons for private schools or tutoring. Girls were excluded from private education and tutoring as they were seen as temporary residents of their households and the cost could not be justified as any gains would remain outside the family. As in Jyotipur and Ashapura this can in fact lead to a widening of the gender gap in terms of the distinction between girls and boys. Though education is empowering to both girls and boys, boys' education also provide the household with cultural capital as they remain in the household and they contribute to the economic resources of the household. Only, Anita, was considering also sending her daughter to school and was saving money for this. This was in line with Anita's belief in gender equality and her position as self-help group leader role model as an advocate of women's rights. However, it was obvious that to put such ideals out in practice was very difficult as household finances were not adequate for sending more than one child to private school.

The above mentioned study of PRADAN's self-help groups in Jharkhand (Kabeer and Noponen 2005, p. 12), showed a significant tendency of self-help group members to send their children to school. Nearly 60% of the self-help group members had sent their children (ages 5-16) to school compared to only nearly 20% of non-members. The difference was even more striking regarding education of daughters as about 44% of self-help group members sent their daughters to school compared to only 8% of non-members. This shows that PRADAN self-help group members' families can prioritise education, and exert less gender discrimination.

Some of the women also used their income on other long-term investments such as dowry savings for their daughters or insurance schemes. Different types of insurance of family members or crop insurance was mentioned. India has tried out several agricultural insurance schemes for rural farmers to provide economic security for farmers in the face of climate changes.<sup>123</sup> Others used their money on family needs such as food, medicines or household materials. Table 14 below, shows the variation of how the income was spent.<sup>124</sup>

**Table 14: Women's income use, Reshamgaon**

<b>Personal consumption</b>	<b>Family needs</b>	<b>Security Investments</b>	<b>Child expenses</b>
Clothes and jewellery	Food	Life insurance	Clothes
Transport to natal home	Household materials	Crop insurance	Education
	Medicines/treatment	Savings	Dowry savings

As mentioned, the self-help group members also gained economic opportunities from the micro-credit scheme available. Different self-help groups in different villages had developed their own versions of this system, but in common for all was that a monthly sum was saved by each member. After some time the saved amount was available for loan with low

<sup>123</sup> Several previous schemes such as National Agriculture Insurance Scheme (NAIS) and Farm Income Insurance Scheme (FIIS) has been abandoned, but the Pradhan Mantri Fasal Bima Yojana (Prime Minister's Crop Insurance Scheme) was launched by Prime Minister Narendra Modi on 18 February 2016,.

<sup>124</sup> The Mid-term Review of the Village Electrification Project report similar findings on income use by the women self-help group members such as land purchase, children's education or higher studies, domestic items, savings for daughter's dowry, general savings and clothes and food for children. Unfortunately, the beneficiaries statements are given verbatim for all villages, which leaves some confusion and lack of credibility towards the findings (Appx. 5, Mid-term Review 2011, pp 2-80).



interest to the members. Several groups had a system where the members took turn in who could borrow the money. Instances of members not repaying was negligent, as the ‘village is small and everyone knows everyone’. According to Parwati and the PRADAN staff, the microcredit element was perceived as important not just for the members of the self-help groups, but also their families. So if the women were unable to pay the monthly savings amount their husbands would provide the money.

The microcredit loans were spent on ‘unexpected expenses’. This frequently-mentioned term denoted everything from expenses for weddings or other life ceremonies, medical expenses or shortage of food and items during times when income was low or lacking. During talks with the women in Reshamgaon, issues of maternal health came up frequently, in part due to my own pregnancy. According to the women there could be large expenses in the event of birthing complications, especially if the birthing mother had to go to the state hospital. Though both state clinics (for normal deliveries) and state hospitals were free, the transport to state hospital was expensive. The women perceived this as corruption from the staff working the ambulances, but according to PRADAN staff it was expected that the patient’s family paid for gasoline. In India it is also customary that the patient’s family provide food and security for family members in the hospital, which put families in great economic stress (Krishna 2010). According to Geeta, one of the team leaders in PRADAN, transfers to state hospitals were minimal before the implementation of the NRHM in 2005, and families often were forced to pay about 30 000 Rupees for a caesarean delivery at private hospitals. In 2012, no one in Reshamgaon used private health facilities in relation to births, but this was common for lower middle class in Deoghar and Saraiyahat.

The utilisation of the income and microcredit reveals the empowering aspects of the Village Electrification Project and the self-help group model. When the women talked about their income a pattern emerged of how women as they were not being perceived as bread-winners could freely use the money for personal consumption. The younger *bahus* more often said the income was used on personal consumption than older self-help group members. According to my PRADAN helper Parwati, it would be seen as shameful if the parents-in-law appropriated the money of a *bahu* as they were meant to provide for her and not the other way around. However, the younger *bahus* were regularly asked to provide money for the family to cover expenses and one woman gave her income directly to her husband. For the older generation of the self-help group member such as Anita, who is presented in the narrative below, their money was spent on the family in line with their role as centre of the households.

However, both young and older self-help group members felt the income gave them a sense of economic independence as they could take decisions about personal consumption without consulting their husbands and asking them for money.

As shown above PRADAN's self-help group model combined with the component of electricity from the Village Electrification Project enhanced women's economic empowerment by providing economic capital. Further, the empowerment brought by increased consumption opportunities translates into other types of symbolic capital laden with intrinsic values. Being able to acquire appropriate clothes, jewellery, and a suitable dowry to secure a good match for one's daughters or good education of sons provide the women and their families' social and cultural capital and extends family networks. In the framework of Friedmann (1992) this expands the self-help group members' social and psychological empowerment.

It is important to note, however, that women's opportunities to make an income do not always result into full decision-making power in terms of how the money should be spent. Women might be inhibited from making strategic life choices concerning their own or their children's health regardless of income and access to electricity if there is no adequate healthcare available or traditional practices and norms inhibit their use. For the women in Reshamgaon, visits to doctors and health clinics needed the approval and accompaniment of family, which not only raises the costs, but also means that such decisions are taken by the head of the family. Most women gave birth in health clinics to get the 1400 Rupees provided from the NRHM, but going to extra check-ups or state hospital was experienced as more complicated.

My informants did not use the term empowerment explicitly, but described the increase in economic capital as the main benefit of the project, as it provided them not only material things, but also a higher degree of control in their lives (decision-making concerning consumption) and a sense of self (through the capability to buy things they desired and help their family). Depending upon the perspective of women's empowerment as an 'instrument for development priorities' or women's empowerment as a 'process of autonomy and self-determination' (Sardenberg 2016, p. 19) where power relations are a core issue, such findings reveal a mixed bag of results. On the one side access to economic capital translates into both social and psychological power, as well as symbolic capital, but structural impediments such as ownership of capital (land, savings), division of labour and perspectives on authoritative knowledge remain strongly gendered. The gendered division of labour in Reshamgaon and the other villages in the Village Electrification Project directly limited the project's economic

viability as the women's responsibilities towards their families meant they were not free to do silk-reeling whenever they wanted. Childcare, intense seasonal agricultural work, pregnancies and so on would limit many women's opportunity to make a living out of the silk-reeling even though this work ensured salaries in their own name and with less physical labour than agricultural work. Ironically, for the younger women it seems that since the income of a young *bahu* was seen as personal and additional to what her family should already be providing her, the silk-reeling could easily be under prioritised when allocating time and resources for childcare or relieving other tasks to free up time.

The next section focuses the analysis on Anita, one of the self-help group leaders in Reshamgoan. Her story illustrates how women's experiences with the Village Electrification Project (as an added component of PRADAN's self-help group model and silk-reeling activity) differ according to their position of class and age and how this effects how women in her community have acted or potentially could act to transform their subordinated position.

### ***Anita didi***

Anita was one of the more prominent self-help group leaders in Reshamgaon. Anita shared the same benefits and challenges as the other self-help group women in terms of poverty and women's inferior status in society, but she also stood out, as her personality and relative freedom in her position in the household enabled her to earn an independent income and raise her voice publicly about issues that concern her and her community. During my fieldwork she was in her 40s and her children were grown up and in their teens. Anyone who met Anita would be struck with her strong charisma and outgoing character and she filled her position as self-help group leader well. Anita also had a certain aura of authority and power. While her bossy style was admired by several of the women, some of them also feared her. As the other women in Reshamgaon she never veiled in public and was free to go to meetings in and outside of her community.

Not only had her position as self-help leader provided Anita with power. Anita had also acquired an elevated status in her household as a mother-in-law. Together with her husband she was now constituting what Lamb refers to as the 'warm reproductive the centre of the household' (Lamb 2000, p. 58). This meant she and her husband had the primary responsibility for dividing work and benefits in the running their household. This provided Anita with

autonomy, decision-making power and less domestic work responsibilities, as they now could be shared among her and her *bahus* in the household. Coincidentally, during my fieldwork she also cared for her married daughter and infant granddaughter, which was custom in Reshamgaon. In Jharkhand and West-Bengal women commonly return to their natal home during the last period of pregnancy and first post-partum period. Anita and her husband thus had the responsibility to care for the young mother and baby, including any medical expenses incurred, during the first weeks after delivery. There were no spoken complaints of, but Anita felt disappointment that the baby was a girl and that she had a dark complexion. Skin-color was seen as an important marker of beauty and social status in Reshamgaon and the fairer the better.

Anita's household was among the high middle class in the village, consisting of two small rooms, a backyard with a simple latrine solution and small vegetable garden. Their income allowed for sending one of their sons to private school and Anita was contemplating sending her youngest daughter to private school also. Anita worked hard both as a self-help group leader organising and participating in meetings, and long hours silk-reeling. Her income was around 2000-3000 Rupees a month, which was more than mothers with young children could manage to earn. Her income, especially after the implementation of CSPP, gave her more independence over economic priorities in the home. However, she contributed the majority of her income to the family and their needs. It was she who paid for and decided over the education of her children. As the other self-help group members, Anita's family's dependence on agriculture meant that during harvesting seasons the silk-reeling production (and income) had to be suspended for the greater good of the family, and her labour was diverted to their unpaid responsibilities in the family household.

The self-help group network, with herself as one of the most active and vocal members, showed a new 'wave' concerning gender roles. Not only did it provide new opportunities for livelihood and at least partial economic independence over financial priorities and decision-making in the family, but the network provided an arena for the women to give voice to their worries and experiences, as well as to take collective action. Anita was a good illustration of this trend; she vigorously debated issues of gender discrimination in the local self-help group meetings and cluster meetings. As a result of long-time PRADAN support and the CSPP project, the women in the self-help group, with Anita at the forefront, actively challenged discriminatory gender norms such as in the 'tribunal' case described later. This involved negotiation of the moral boundaries they ideally should have adhered to, as being so engaged as Anita was involves transgressing the boundaries of feminine/masculine and private/public.

Anita had a high degree of mobility and freedom, participated and spoke out in public meetings, and she saw herself as an equal contributor and decision-maker in her household. Anita and several of the very active self-help group women members had acquired a social significance that exceeded the social roles ascribed them in society. They were committed to changing themselves and their families and communities. For the younger generation of *bahus* in the self-help group, this would be a more challenging position to manoeuvre. Anita thus is an illustration of the makings of empowerment that the Village Electrification Project as an added component to a more holistic and gender sensitive intervention can induce. It is still noteworthy to comment that Anita still had prioritised her son over her daughter in relation to private education (so far), meaning that the makings of women's empowerment is not necessarily passed on to the next generation of women, but rather tied to individual women and their position in the self-help group.

### **The Power of Numbers: Women's Networking and 'Political' Influence**

A group that takes on a name and social identity gives women a greater sense of their collective selves. Equity is served because only the poorest become members of the groups and the development agenda remains grounded in their needs for social, political and individual safety, security and dignity (PRADAN Annual report 2014-15, p. 16).

The explicit objectives of PRADAN was not just to provide access to credit, livelihood and income generation, but to foster women's solidarity networks and new identities to promote social change. The women in the self-help group in Reshamgaon held regular meetings where PRADAN staff such as Parwati was present. These meetings were long, with group singing, gossiping and lively discussion. But they also included more formal agendas, where certain points were addressed with intention to solve issues or conflicts. These meetings can be understood as practicing the slogan of 'the personal is political'; where consciousness-raising (through access to finances, livelihood, women's networks and fostering of new identities) is a form of political action that produce discussion about topics like women's everyday life and burdens and its relation to gender discrimination and gendered power relations.

Most meetings I attended during fieldwork comprised of self-help groups clusters were self-help groups established by PRADAN in nearby villages came together. Observing these

meetings one understood how this activity was forming a very important part of the self-help group members' life and group existence. The long meetings and the accompanying rituals of singing and discussions were also building the women's capabilities and new identities both within and from the outside. From within, women based their solidarity on identities of sisterhood and poverty breaking social mores of age, caste and class identities. The women occasionally referred to each other as *didi* and their meetings was based on a modality of empowerment as a conception of 'joint effort, joint gain', where the women members of the respective self-help groups saw the 'development' of themselves, their family and community as a continuous struggle they all shared and should help each other to achieve.

But also from the outside the perception of these women's groups challenged ideas of gender characteristics such as men as powerful, financially responsible, wise and women as passive, in need of protection and financial support. This was related to the women working as a group entity and the significant number of them elicited respect and acknowledgment. According to Sanyaj they were feared in the area due to their share in number and the vigilant actions they took in protecting group members;

Karina: The women in the self-help groups does not seem intimidated from playing an active role in local conflicts such as the one in [...] concerning the sexual harassment case?

Sanjay: The women in the [self-help groups] are seen as very powerful. Nobody wants to have trouble with them. Because they can gather as many as 150 women very quickly. Even in the market no one wants to have a conflict with any of them.

This solidarity was anchored in values and meanings that expanded their traditional role as wives, *bahus* and mothers, which were roles attached to the explicit moral responsibility to serve their (affinal) families first. If one views political power broadly, such as Friedmann (1992, p. 71) does, then incorporating access to decision-making processes, the ability to give voice to opinions and to take collective action, the self-help group model does expand the members' political influence. According to the earlier mentioned study by Kabeer and Nojonen (2015, p. 24) the self-help group members of PRADAN in Jharkhand had a higher participation in 'public life' and political institutions as shown in Table 15:

**Table 15: Participation in Public Institutions, PRADAN self-help group members**

	<b>Non-Members</b>	<b>PRADAN Members</b>	<b>Total</b>
Attended <i>gram Sabha</i> meeting <sup>125</sup>	1.00%	11.00%	7.50%
Member of a village committee	0.00%	2.60%	1.70%
Approached a bank for individual loan	2.3%	15.3%	11.2%

Source: Kabeer and Noponen 2005, p.24

Though the survey above does not show a ‘revolution’ of political participation among self-help group members, it indicates that the self-help group model provides women with (some) access to political empowerment. A few of the active self-help group members related to PRADAN projects in Jharkhand had taken local political positions. One of PRADAN’s self-help group members in Bihar had been elected as *Pradhan* in her local Gram panchayat. According to the Sanjay PRADAN would refrain from directly advocating for self-help group members to enter local politics as not to be seen as invasive on democratic procedures, but in his mind PRADAN’s work was inherently political as it aimed to support and encourage women to be politically active and staff took up such issues explicitly in meetings. However, PRADAN’s work can also be seen as apolitical in an Indian context, as PRADAN does not engage in the ‘dirty politics’ of rural panchayat elections or caste and class markers of political identity.

As India has a long record of affirmative action to ensure women’s political participation in decentralised political governance (such as Gram Panchayat), it is interesting to link the self-help group model with an effect on the members’ political influence. Such knowledge can point to ways in which livelihood interventions (where energy plays a key part) and establishment of women’s networks can positively effect large-scale policies to ensure women’s political representation in political institutions. The aspects of political empowerment is rarely addressed in relation to energy development interventions, despite the fact that many such projects are

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<sup>125</sup> According to Kabeer and Noponene (2015, p. 24) the traditional panchayat system was not functioning in Jharkhand at the time of their study so village level gram sabha meetings were not being held resulting in low level of participation, though higher for PRADAN self-help group members (11%/1%).

being presented as empowering for women (Winther et. al 2017, p.2). Provision of economic capital can be understood as empowerment in a liberal sense as it might give women more control over their lives in terms of decision-making over how money should be spent. Nevertheless, this does not necessarily alter structures that reinforce uneven power relations, which is at the core of how empowerment is understood as liberating in a feminist perspective. Addressing the question of political empowerment is therefore useful, as gains in political power provide women a chance to influence distribution of resources, and ‘turning political claims into legitimate entitlements’. The expansion of women’s roles to include new skills and political influence is interesting in terms of political empowerment.

In the next section the analysis is focused on the story (below) of how one of the cluster self-help group meetings resulted in a ‘tribunal’ with the aim of bringing justice in a matter of sexual assault on women (including a self-help group member). The tribunal is especially illustrative of how the self-help group model, reinforced economically by the Village Electrification Project, has provided their women members a new platform to be politically active resulting in an expansion in gender roles as discussed above. As the story of the tribunal shows the most active and outspoken of the women in the self-help group meetings used the meetings as an opportunity to speak freely on matters otherwise seen as inappropriate within the joint family such as sexual harassment. As we see in the story of the tribunal below, But it does not significantly alter patriarchal structures and religious norms that marginalise women (and low caste status men) from decision-making processes.

### ***The Tribunal***

During my time in Reshamgaon I was invited to join and observe a cluster meeting where the women as a network used their power to bring justice for the women in their group and community, in the form of setting up an *ad hoc* tribunal. The story of the tribunal illustrates how the networks provided new consciousness about power and gender relations and the opportunity for the women to verbalise this consciousness and put into action claims to end perceived injustices and discrimination.



The tribunal started as a conventional meeting at the rooftop room of one of the PRADAN silk-reeling centres.<sup>126</sup> There were only a few women among the more active self-help group members, such as Anita, that showed up. Unlike most meetings that commence slowly with rituals and gossiping before turning to the agenda, the feeling of this meeting was different and more energetic. The topic of the day was raised immediately. Some days prior, one of the members of the self-help group cluster had woken in the night by a man in her room.<sup>127</sup> The situation at hand was related to an older story of previous harassment of women. Allegedly, a man in the victim's villages had over a period of many years snuck into the house of 4-5 women while they were sleeping. The incidents had stopped for some years, but had now happened again.

The word 'sexual' assault was never used and what exactly had happened after the intrusion was left unspoken, but in vague terms described as unwilling touching and stroking the women's face or hair. Though the description was vague, it was abundantly clear that the women saw these incidents as an assault on their body and personal integrity. Further, the women related these assaults to the gendered discrimination they felt in society in general, illustrated by how he as a man had been left free to do this for years while the women's protests had been silenced. The victims had reported the incidents to the police, but the case had been dismissed, because the police claimed the man had low cognitive function and therefore could not take responsibility of his actions. Other men in the community would not deal with the issue either, as a lot of stigma and shame was attached to both the victims and alleged perpetrator.

There was a public outcry by the women in the man's village, but since one of the victims was a self-help group member the self-help group cluster came to provide support as they saw the assault on one of their members as an assault on the group as a whole. The self-help group in the village was also one of the oldest and most experienced self-help groups established by PRADAN. Recently before the meeting, a group of women (including self-help group members from the village and cluster organisation) had publicly beaten the man as punishment in his village. This had caused outrage by the village elders who had warned the women of possible sanctions, because public use of violence by women on a man was deemed

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<sup>126</sup> The names of the villages involved in the tribunal are not mentioned to ensure the informants anonymity.

<sup>127</sup> The houses in Reshamgaon are simple and small, consisting usually of only a couple rooms and an adjoining garden at the back facing the fields whereas the front door was towards the narrow paths of the village. Men and women in the joint families usually sleep in separate rooms unless newly married.

inappropriate for women.<sup>128</sup> It was evident that the women did not want to challenge the village elders, but they were determined to find a way to bring the man to justice and stop him from repeating his offences. The dismissal of the women's complaints by the formal (police) and informal (village elders) justice systems was interpreted as stating that the sexual assaults were something they would have to endure because of their marginalised gender. As the women felt frustrated and powerless towards the police, and the men of their community who had done nothing; the women of the self-help group cluster had decided to take the matter into their own hands again by resolving the issue through a public meeting based on the ideas of an inclusive and democratic *ad hoc* tribunal. The 'accused', the village elders and the self-help group cluster were all informed and asked to participate in the meeting.

About 30 self-help group members, victims from the village, Parwati (from PRADAN) and the alleged perpetrator had been called to the meeting in the event of finding a solution to stop the assaults. Parwati came to the meeting to serve as a neutral facilitator and to provide support for the women in finding solution and justice to the problem. After some time of discussion, the women present decided to move the meeting because so few have showed up. The meeting place was shifted to one of the larger villages of the self-help groups in the cluster. As the meeting proceeded more women came and the atmosphere in the meeting was tense and aggressive. After some time the meeting had attracted many participants and by-standers. But men, including the accused were glaringly not present and this was discussed vigorously. The women felt betrayed again by the men's lack of presence in the meeting and the unwillingness to take action or even speak of such taboos. Again the location of the meeting was shifted, this time to a small grove adjacent to the man's house to give him no room to avoid the confrontation. In the shadow of the trees, the women set up blankets and chairs and the meeting continued. However, the only one home was the man's *bahu* as he was in the fields working. Word was sent to him again that his presence was required.

In the discussions that followed several solutions and actions were proposed. Most women favoured that the man should be forced to leave the village for good and not come back. Such a solution had precedence in the village in cases of improper sexual behaviour towards young unmarried women. One woman was upset because her nephew many years before had

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<sup>128</sup> Village elders refer to unformal village leadership of influential male elders. They do not constitute formal village councils, but gather *ad hoc* for social purposes or to discuss decision-making in their village. Their role is perhaps especially prevalent in reconciliation of village or family conflicts. For more information on village elders and new leadership structures in rural UP, see Wadley (1994).

been forced to flee the village after an alleged assault on a woman. She required that her nephew get redemption or the same punishment should be for any man doing the same. Other woman voiced similar experiences, and it was evident that the meeting brought up many feelings and traumatic memories of unresolved conflicts.

As the women became more and more agitated, a group of women went out into the fields and brought the man to the meeting. Eventually, five representatives of the village elders also came. The alleged perpetrator and the victim (from the self-help group) gave their explanations publicly in the meeting. It was subsequently decided that he had to pay 5000 Rupees as compensation, and was not allowed to enter into other people's homes after 6 p.m. if women were present. If he repeated his misdoings, he would have to leave the village permanently, but if he complied with the sanctions the matter would be seen as redeemed after six months. He accepted these terms and the meeting was terminated. The women, however, were disappointed, as they felt the issue was still unresolved because they were convinced he would repeat his behaviour after the six month period.

The story of the tribunal offers an insight into how the self-help groups in the rural communities in Jharkhand offered women economic, social and political participation. The networks provided women an opportunity for information and collective action. Women's new consciousness about power and gender relations and their problem-solving and action to end this discrimination were the result of yearlong engagement through the involvement of PRADAN. Nevertheless, the public beating and the tribunal was a new phenomenon of collective action within the self-help groups' communities and active negotiation with the 'men in charge' in the village leadership concerning the cultural norms of the category of women.

The Village Electrification Project's part in this was boosting the already existing activities of PRADAN, by offering women an important way to increase income in their own name and decrease negative health effects of their labour. Trying to measure the exact influence of this boost on the social networks of the women will only be speculative as (already discussed) there are numerous complicating factors who play in that limits women's full engagement and benefit from the project. However, the women's commitment to the self-help group is legitimised towards family as providing important financial resources to themselves or their family, and if the activity would not have this aspect it might quite likely have been put to a halt. It also shows how an energy intervention can boost women's empowerment qualitatively different, when the projects are working holistically to address practical gender needs (energy

resources, livelihood and credit) and strategic gender needs (social and political networks), which put women into focus as acting agents and provide new opportunities for challenging perceptions of gendered spaces of public/private and attributed gender roles and authoritative knowledge.

## **Man (still) in Charge? Gendered Spaces and Women's Exclusion**

The passage from “doxa” to discourse, a more critical consciousness, only becomes possible when competing ways of “being and doing” become available as material and cultural possibilities, so that “common sense” propositions of culture begin to lose their “naturalised” character, revealing the underlying arbitrariness of the given social order (Kabeer 2001, p. 25).

Despite the explicit gender focus of PRADAN self-help group model and added component of electricity from the Village Electrification Project, the gendered domains of technology described in Ch. 6 was not altered as men still held the position of leadership and ultimate decision-making power. Women's participation in the Village Electrification Project was not only limited by perceptions of gender norms and divisions of labour in their local communities, but also in the way gender was perceived in the implementation of the project. Despite the fact that energy is frequently a part of women's household responsibilities, the implementation of technology has been shown to be followed by a male domination of technological resources implemented (Standal and Winther 2016, p 33; Winther 2014, p. 51), and the Village Electrification Project was no exception. In the ten villages in the project in Jharkhand, the key position as VO was exclusively given to men, except Chukapani village where a SC woman had been appointed as VO.

In Reshamgaon, it was perceived as evident that men were most suitable for this position because they had a better knowledge of technology and management. The VO was supposed to keep accounts and maintenance of the CSPP and hence some education and literacy was needed for this. However, in reality it was the Masuta representative (who was also a man) that kept the records and used the computer for this purpose. Masuta also kept an eye on maintenance the technical infrastructure of the CSPP. In one of the self-help groups close to Reshamgaon the women still reeled on manual machines in their homes and the self-help group leader's husband were in charge of the preparation of the cocoons, though the task was mostly done by

her. Still, this managing position was formally associated with her husband. Pondering the question of why the VOs were men was difficult both among PRADAN staff and the self-help group members. It was one of those things not questioned or what according to Bourdieu (2000) cannot be said for a lack of an available counter discourse. The choice of men in charge as VO forms a *doxa* of symbolic capital made up of gendered divisions of labour and knowledge spaces; women perform home-based livelihood activities, while men have responsibility for the technology and resources. As the project so explicitly enlists women's participation the gender of the VO seemed a trivial detail to everyone involved.

The male dominance of technology was determined by the perception of the category of woman existing within PRADAN and society in general. PRADAN's silk-reeling activities was linked to activities in their forest-based livelihoods programme in Jharkhand. Through government supported programs PRADAN has linked about 5000 Adivasi to commercial silk cocoon rearing production with a 34.5 million Rupees profit (PRADAN Annual report 2012-2013 and 2014-2015). Originally, Tasar silk has been a traditional occupation involving Adivasi who collected the cocoons as a forest product alongside leaves, fruits and lac etc., which was later sold to 'patrons' – *mahajans* at markets.<sup>129</sup> The *mahajans*, who were always men, would later sell the cocoons to fabric traders who paid poor Hindu or Muslim rural communities in Jharkhand for preparing, reeling and weaving the silk, and the labour was generally carried out by women (Moulik and Purushotham 1983, p. 432). This process was marked by the *mahajans* and fabric traders' dominance in the market, with little profit for the poor Adivasi or Hindu weaving communities. As the process also was reliant on low cost equipment and processing the output was mostly of poor quality. PRADAN has engaged with the entire chain of production to increase the quality and profit in the production and empower Adivasi communities and poverty stricken Hindu communities by linking them directly in the production chain. As such, PRADAN has invested in extensive research and technological expertise for production of high quality cocoon seeds and cocoon preparations.<sup>130</sup>

In a 'tour' of several PRADAN project villages with a group of development practitioners learning from the project, the CEO Sanyaj demonstrated how the cocoon preparation had been technologically improved. The technical improvements had also resulted

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<sup>129</sup> According to Moulik and Purushotham this relationship was marked by a patron-client relation as the Adivasi families were reliant on the *mahajans* for cash loans in cases of emergency such as family members falling ill.

<sup>130</sup> <http://www.financialexpress.com/archive/jharkhand-to-get-2-elite-silk-seed-stations/602628/>

in a shift of gendered divisions of labour in the production chain. Traditionally women in the weaving communities would boil the cocoons in a cauldron (usually the one used for cooking) with soap and washing soda (Moulik and Purushotham 1983). This process would provide about 50 % of the cocoons usable for reeling. Today, the process involves men boiling the cocoons briefly in clean water and later steaming them in cooking chambers built for the purpose (small concrete houses), gradually reducing the pressure. Later the cocoons are soaked in a water and enzyme solution. After this process about 95 % of the cocoons are usable for reeling.

PRADAN took pride in how they had managed to organise the Tasar silk process from seed to reeling based on technological and scientific knowledge. The gendered aspect of the process meant that the technological components were regarded as an undertaking appropriate for men, such as the PRADAN engineers (developing the method) and the VOs, while women's (and Adivasi's) contribution were limited to manual labour. Though the project provided women access to livelihood and income generating activities, women were not in control of the resources that generate them. This follows the patterns of patriarchal structures where men have monopoly over the modes of production and the ownership of resources (Fox 2001, p. 320).

The view of women as beneficiaries and end-users of the solar electricity did not challenge perceptions of gendered spaces – such as technology as a male domain. The tale of the Village Electrification Project in Reshamgaon could be interpreted as a story of missed opportunities, as the women were excluded from playing a more decisive role in the implementation process and also were not deemed capable to be managers of the new technology. Hence, they were not in capacity to demonstrate their abilities beyond the traditional roles of women doing small-scale manual labour in the vicinity of their homes. The *doxa* of women and men's knowledge and suitability to be selected as a VO limited the women's equal access to obtain this work and income, but it also influenced the utilisation of the centre. As men are perceived as the main breadwinners of the family in Reshamgaon they are expected to gather sufficient income and therefore need to base their livelihood on several income resources, which could help explain why VOs have to prioritise land cultivation first.

## **The Empowered and NGO Organised Woman**

Women empowerment... Due to the enhanced productivity the overall burden on the silk reelers have been reduced freeing up more time for their families/children, and other necessary chores (Completion Report 2012, p. 25).

The makings of empowerment from the self-help group model and the added component of electricity through the Village Electrification Project provided a range of benefits to the members and their families. Being able to earn income, diversify family livelihood options, increase consumption of necessities, long term investment in children and family economy, and not least a platform for women to jointly verbalise their experiences and challenge gender discrimination through collective action, had put them in a position to increase their influence on use of income and altering gender relations to some extent. However, it is necessary to link the micro-processes, such as PRADAN's women activities, to the wider macro-processes of national and international processes (Moore 1988, p. 73). In many ways, the Village Electrification Project lived up to development ideals of transforming marginalised women into empowered and productive citizens working to increase the economic well-being of their families and who engaged community affairs through their women's networks (e.g. Chant and Sweetman 2012; Sharma 2008). Set in the backdrop of feminised poverty in Jharkhand, PRADAN's image of women as drivers of development is potent towards donors; it highlights the positive aspects of their development work and supports their view of women's ability for agency as vital for change:

Enabling tens of thousands of poor women decide and drive the changes they want is the promise on which PRADAN delivers every year (PRADAN, Annual Report 2014-2015).

Though the self-help group model incorporates much more than productivity, increasing profit and women's integration into productive (though on an informal basis) is a key element to social change in the PRADAN self-help group model. First, without some economic independence, the makings of empowerment exemplified by Sunita and Leelah (Ch. 7) will result in a specialisation of women's work within gendered divisions of labour that undermine women's access to economic, social and cultural capital (Elson 2005). Second, it is also easier

for women to negotiate time and space to engage in livelihood projects that transgress patriarchal structures of society when it brings in a significant profit for the family. According to Sanyal et al. (2015, unpagged), women in families that are well-off are more immune to change, because their families do not have the same economic necessity to participate in such interventions. In Reshamgaon, there were few families that felt that their financial situation was robust enough for women not earning an income if one was available. But as mentioned with the younger *bahus* their time and mobility are more restricted and their participation thus limited. This is also the relevance of understanding energy access as beneficial to women's empowerment. By increasing their access to energy new possibilities for income and livelihood for women can be established. But there is a need to view this holistically as there is no natural cause-effect relationship. Leelah (Ch.6), the only woman expanding her income from electricity in UP villages of the Village Electrification Project did so because she had established an income-generating activity before the electrification.

However, the makings of empowerment experienced by the women self-help group members in Reshamgaon seemed fragile and contingent on PRADAN's continued involvement and support. Despite the self-help members' agency and at times strong-minded and loud engagement, their performance as empowered and productive women can be labelled as an example of the 'NGO-organised woman'. Parwati and the other PRADAN staff working in the project villages explicitly worked to ensure the self-help groups worked independently and that the women had the courage to carry on their work of solidarity standing on their own two feet. But their experience was that when they paused their engagement the self-help group meetings eventually ceased, and the women's networks dwindled. As such projects mould women as citizens with duties and privileges outside their family, PRADAN functions as an extended arm of the state. NGOs' role as intermediates between state apparatus and rural beneficiaries is not new and the Indian state use NGOs as PRADAN and Haritika to deliver on social services. Understanding women's work in the context of capitalist production networks (e.g. Mies 1982's study of women lacemakers in India) has to take account of the relations of authority the work is organised by and the ownership of property that this authority realises and maintains. In Reshamgaon and the other silk-reeling PRADAN communities, PRADAN works as an authoritative centre. Through their intervention in these communities, they act as a form of village leadership, administrating meetings, negotiating conflicts as well as organising livelihoods on behalf of the state or international development institutions. In this process, they bring in ideas of desirable beneficiaries in their focus on certain groups (such as women or



Adivasi) and their non-recognition of caste and class relations. In their function as an authoritative centre, PRADAN's presence is in many ways necessary for the women to activate the social and cultural capital they have gained.

The PRADAN self-help group model emphasises new constructions of identities, which are set outside axis of oppression such as caste and religion, in the process of enabling women to become empowered citizens. The projection of unity and mutual experiences (based on gender and poverty/class) were not something that necessarily was shared among all the members, but rather an illusion of the desired category of woman conjured in the idealist development mind. The women in the three self-help groups in Reshamgaon were a heterogeneous group of women from different age and class status. Despite the emphasis on shared identities of poverty and sisterhood, the group reflected the divisions of status found in families in Reshamgaon in general, where older women exerted more agency than young. The example of Anita is illustrative. She was just as much an authoritative leader, as an engaged one, and not all members were as invested in the group meetings or identity-building as she. Especially the young *bahues* had more challenges in fulfilling the expected role of the hardworking (in silk-reeling) and solidaric (in the meetings) self-help group member. This was firstly due to their responsibilities within their family, but might also spring out of different interests in joining the group. According to the previously mentioned study of PRADAN's self-help group model in Jharkhand, what persuaded women to join a group was not necessarily what kept them together over time (Kabeer and Nojima 2005, p. 4711). A vast majority of new members, 93%, cited a safe place to keep their savings as their reason for joining a self-help group compared to 23% who mentioned access to emergency loans. Less than 1 per cent joined for group unity. However, among the longer standing members, only 63% mentioned secure savings and 69% mentioned access to emergency loans, while 17% mentioned group unity. This shows that group identity evolves over time to become more important to women in their everyday life.

The makings of empowerment in the combined Village electrification Project and self-help group model is also embedded in a framing 'relevant and desirable' empowerment of subaltern 'beneficiaries'. The symbolic power of such framings establish hierarchies of discrimination as some things are seen as better or more worthy than others. The idea of the NGO organised woman, such as Anita *didi*, is based on the assumption of empowerment of women as first and foremost set in an individual process of securing a livelihood as means for the women to build a better life for their families (as stated in Scatec's own statement in the

opening quote of this chapter). There has been raised important criticism against the self-help group model of development precisely on these grounds. As Pattenden (2010) states the self-help group model can be read as a tool for neoliberal policies that transfer the welfare responsibility from the state to individual women (see also Sharma 2001). GoI's neoliberal anti-poverty policies have reduced poor women into passive instruments who are meant to push themselves, their communities and the nation into a stage of modernity and development (Helland 2016; Sharma 2008). The language used to describe such projects, including the Village Electrification Project is increasingly within the economic jargon, using concepts like entrepreneurs, microenterprises and game-changers (Standal, Winther and Danielsen in press). This reveals how empowerment in such projects convey empowerment in the liberal sense (Sardenberg 2008); women's empowerment as instrumental for development in terms of growth set as an individual process benefitting the individuals household or family unit:

The women's political agency has been reduced to the privilege of being agents, consumers and beneficiaries of state-controlled credit and micro-enterprise programmes, with no other investment in improving the condition of their daily lives. There are no investments, for example, in providing cooking fuel, water close to the home, or day care for younger children, so that older daughters can go to school. Women are so preoccupied with earning income to repay loans that they have little time or energy to participate in other public affairs, or organise other issues (Batliwala and Dhanraj 2004, p. 13).

This allows for neoliberalism to exploit women by reproducing the conditions of patriarchal structures as self-help group women produce for the world market (like the lacemakers in Mies (1982) study, but within low paid and informal arrangements and with no other social security than their labour power or the patriarchal family. This was accentuated by, as discussed in detail in Ch. 6, the technical and management position were kept within men's domain. Women were never included in the project in such a way that they owned the means of production. Therefore the 'gendered divisions of labour' in the projects in Jharkhand also reproduced patriarchal structures of masculine hegemony (of technological skills and ownership). Batliwala and Dhanraj (2004, p. 12) surmise that self-help groups are not powerful enough institutions to tackle issues of gender discrimination in market prices, and swindling by middlemen (falsified weights and scales), like a union or cooperative could. For the women in Reshamgaon, the alternative to silk-reeling has been casual labour, or unpaid domestic work, not formal employment and union membership. But the opportunity to combine roles of

domestic work and paid work in open up opportunities for many women to have an income and profit from market economy integration (see also Waldrop 2018; Moore 1988, p. 85).

Ironically, it is the favouring of women as a unified group category in the PRADAN interventions that has led to the women's abilities as a group to question, challenge the category of woman that has been naturalised in their community through symbolic capital. As described by Sanyal et al. regarding a similar self-help group project in the adjoining state of Bihar:

Though sex categorization had been made even more salient by this and similar interventions by giving women exclusive access and formally excluding men, yet they did make a positive impression about women's worth by allowing them to engage in activities that were thought to be typically masculine and socially valued, because it brought some measure of financial relief to poor families (2015, unpagged).

The masculine activities referred to relates to working for an 'independent' income, handling money, speaking publicly and taking collective action such as illustrated in the story of the tribunal. When the women entered into masculine domains of handling money, they increased their capital in several ways. Naturally, their economic capital and social capital was increased, but through challenging the discourse of gendered identities as a women's network they were also in a position to negotiate future symbolic capital. However, the women self-help groups of PRADAN engage in manual labour, but they were not brought into the technological domain of planning, research and development (or even maintenance). A *doxa* of women's authoritative knowledge and gendered division of labour also exist within the organisational structures of PRADAN and the Village Electrification Project.

The *doxa* of patriarchal structures in Reshamgaon limited the makings of empowerment for the self-help group members. Not only were management positions retained by men in village leadership and concerning the CSPP infrastructure, but also the realisation of women's empowerment as a structural transformation. As Kabeer states (2012, p. 231), women gaining more control over their lives does not automatically lead to collective action for gender equality, and most likely their perception on gender equality is different from how international development policy agenda frame the concept. As the process of empowerment of the self-help group members was set in an individual and de-politicised process the outcomes are attached to the specific self-help group member and do not necessarily materialise in social change.

Especially one point is of illustrative here, namely the self-help group members focus on children's education. Education can enable 'membership' in social groups or class by providing cultural and social capital over time. As discussed in Ch. 6 good education is an important resource for families as it opens up for employment for men in 'the service', which offers steady income, good connections and alternatives to the toils of agriculture. However, the increased income and gender awareness in the project did not (so far) translate into the same educational opportunities for girls as boys. As daughters marry outside of their communities and natal family any gain in social and cultural capital will mainly be beneficial for her affinal family.<sup>131</sup>

### **Reflections: Empowerment and Productive Citizens**

Using a feminist political economy as a theoretical approach, this chapter has explored how the self-help group model and the added component of electricity through CSPP altered the framing and tasks of women's work and the effects on women's access to decision-making and public space. The analysis has highlighted how increasing the profit of women's already established livelihood, and the fostering of women's networks has made it possible for women in Reshamgaon to change (though in limited terms) their subordinated position in their family and community. This chapter has argued five points: First, the merger of the Village Electrification Project and PRADAN's self-help group model provided the women in self-help groups economic capital, which again translated into decision-making power over consumption in the household and sense of self in being an economic provider. Second, the forging of women's solidarity networks provided the women social and political capital that enabled them to challenge discriminatory structures and institutions' symbolic power. However, which raises the third argument, in the short term the project men still hold the ultimate decision-making power as the patriarchal structures of gendered divisions of labour and gendered domains of technology persists. Women were only included with their labour power in the 'business case' of the project, and with one exception were not deemed appropriate for being a VO of the CSPP. Fourthly: the makings of empowerment from the self-help group model and Village Electrification Project are situated in a discourse that sees empowerment primarily as an

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<sup>131</sup> Cecilie Norfeldt describes how education for daughters can provide them with different capital in their affinal family, and how this also can lead to decreased dowry expenses for her own family in the article; "The Daughters-in-law have become the Mothers-in-law": How New Forms of Capital Create Class Differences Within Households in North-Indian Households, in *Asia in Focus* 2016.

individual and de-politicised process. As such the empowerment women gained was still limited by lack of formal political and legal support that inhibits the women's ability to change gender relations in their communities. The self-help group activities were also contingent on public legitimisation and practical support of PRADAN. Further, and this serves as the last and fifth point, important gains were retained by certain individuals and groups, and not women in general, which does not necessarily induce social change for the next generation of women. Still, this merger, notwithstanding the limitations of the outcome in changing existing gender relations, illustrates well how a holistic energy development intervention can put women in a position to actively challenge gender norms and traditional perceptions of women's authoritative knowledge. This opens up for a change in discriminatory gender relations in the long run.

The merger of 'the village electrification project' and PRADAN's self-help group model provides an interesting array of perspectives and makings of women's empowerment. The 'NGO-organised' woman in the PRADAN self-help group model has increased the members' agency to challenge gender discriminating power relations through collective action, which can be seen as what Sardenberg (2008) denotes as liberating empowerment were women's increased autonomy and self-determination can challenge patriarchal structures by enabling women's transgression from subordinated role and isolation of rural Hindu women (as stated by PRADAN), to a dominant role both in organising their own livelihood and claiming public space through the self-help group network. The case of Reshamgaon shows how the Village Electrification Project strengthens PRADAN's activities and how access to electricity can be a complementary resource, which together with building women's livelihoods and networks can lead to challenging existing social relations and its hierarchies by expanding the space for individual and collective agency to be played out. This is illustrated by how electricity can be translated into women's economic and material capital, translating into other forms of capital. The provision of financial capital also legitimises women's participation in interventions that challenge existing gender relations. The Village Electrification Project has thus played an important part in strengthening PRADAN's activities and making them economically relevant in poverty-ridden contexts. This contrasts with the implementation of electricity in Jyotipur and Ashapura where, at least in the short term future; electrification reproduced social inequalities such as gender, class, and caste.

However, the focus of the women self-help groups in Reshamgaon does not translate into expansion of space for agency on behalf of all women in their community, only the ones

who are self-help group members. As such, the destabilising of certain social relations inevitably results in new social hierarchies. Further, the expansion of space for agency was, as described by Sharma (2008) primarily set in the process of producing productive citizens with the core objective of increasing the welfare of their family materially and not as a political action to change deep-rooted structures in society in the short term. The ‘making of the empowered woman’ in the Village Electrification Project and self-help group model seems to suggest the production of ‘compliant labour’ within informal and subsistence work, and this compliant labour seems to be seen as totally disassociated with the burdens of reproductive economy in the ‘development imagination’ (see also Kim et al. 2018). The self-help group model does not provide any safety-valve other than the credit and women’s network gained. Further, it entrenches the dichotomy of productive and unproductive spheres of women’s lives where the latter is devalued, while the other enables women to work, but only at the lower rung of the work hierarchy and without access to the means of the production other than their bodies labour power. Electricity brings many important benefits to women’s responsibilities, but the project’s primary material focus led to missed opportunities that reduce these benefits. This is illustrated in how the electricity was translated into consumption that increases families’ possibility to improve on social indicators such as education, health and financial security, but women are still partially excluded or disempowered from these opportunities as costly private education is prioritised for boys. Further, the self-help group members’ savings for dowry is important on an individual level, but reproduce the continuation of gender discrimination

## 9. Power to the People? Understandings of Empowerment in the PPP

Evidence from a large body of literature suggests that it is unlikely that women and men, especially the poorest, benefit equally from new or enhanced infrastructure services. Neither do they achieve equal access to employment or other economic opportunities created by an infrastructure project unless a gender perspective is included in all stages of the project (Gender Impact of Public Private Partnerships – Literature Review Synthesis Report.) Why is this true for something seemingly so “un-gendered” as an infrastructure project?<sup>132</sup>

In case the villagers after three years are not able or willing to pay the required revenues to sustain the operations in the long-term, there is high risk of failed development projects materialising (so-called “white elephants”) (Midterm Review 2011, p. 34).

The preceding chapters have introduced and discussed how empowerment as a stated focus in the Village Electrification Project has made a difference in women’s lives in the local communities in Jyotipur, Ashapura and Reshamgaon. This analysis has explored the imagined role of the women beneficiaries as housewives, consumers and productive citizens and how or if the makings of empowerment have provided the women beneficiaries new opportunities to transform their subordinated position. There is a vast geographical and contextual distance between the communities of the Village Electrification Project in UP and Jharkhand and the offices where the project was planned in Delhi and Oslo. It is therefore important to understand how the Village Electrification Project have been coordinated by institutional discourses (what Smith 2005, p. 225 refer to as ruling discourse) that provide categories and concepts that bring meaning to and influence the function of the project. Tracing such institutional discourses and how gender and women’s empowerment is understood and produced in them enables us to reveal how work in one place is coordinated to work done elsewhere at other times (Smith 2005, p. 166) and its significance on the outcome for the local women and the sustainability of the Village Electrification Project.

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<sup>132</sup> <http://blogs.worldbank.org/ppps/examining-public-private-partnership-projects-through-gender-lens>. Downloaded 15.01.17.

Using a feminist political economy approach this chapter explores the organisational aspects of the partnership that initiated the Village Electrification Project, and the institutional discourse that influenced how gender and women's empowerment was understood and produced in their work. Such an examination raises several questions addressed in this chapter: How is the concepts of gender and women's empowerment understood and produced in the ruling discourse of the PPP/Village Electrification Project? How has the merging of private business interests and state development institutions in the Village Electrification Project, and the subsequent distribution of power, ownership and responsibilities, affected the implementation of empowerment as a stated focus? Is there a link between the demise of the Village Electrification Project and how gender was incorporated in the project activities? And finally, is it justifiable or sensible to expect the implementing agencies in the Village Electrification Project to pay attention to gendered concerns?

The question of how the emerging trend of private sector-led development affects the ways in which gender is understood and produced, and subsequently impact gender relations 'on the ground', has been given little attention in research. As will be discussed in this chapter there was a tension among the different partners of the Village Electrification expectations concerning women's empowerment as stated focus and project outcome. Though Indian and Norwegian governments have pledged legally to incorporate gender concerns in all their activities, and Norad advocated for a more substantial inclusion of women in the project, the gender focus was eventually reduced to fit with narrow ambitions for entering new markets and scale-up of electricity distribution.

### **Where did all the Women Go? Gender Focus and Corporate Ambitions**

The primary focus on women's benefits and empowerment from the Village Electrification Project in UP and Jharkhand were on how women could benefit as end-users within the home and as productive citizens (and equal economic contributors in the family) made possible by electrified silk-reeling. As noted in Ch. 4, electricity's benefits for women were brought up during the planning phase and implementation period of the Village Electrification Project. Women's needs and unrealised economic potential were posed as drivers for instigating action in the form of the Village Electrification Project:



A CSPP can therefore significantly improve health conditions, especially for women and children, who typically are the ones spending time inside, next to Kerosene lamps... The establishment of self-help groups will be encouraged, in order for women to make use of the electricity. Electric lighting also enhances productivity as it allows for economic activity to continue after dark, something which often benefits women” (Proposal, undated, p. 15-16).

In the Completion Report (2012, p. 25) the concept of women’s empowerment is explicitly used for the first time in the documents produced in the Village Electrification Project:

Women empowerment... Due to the enhanced productivity the overall burden on the silk reelers have been reduced freeing up more time for their families/children, and other necessary chores (Completion Report 2012, p. 25).

The possibility for the women in the self-help group to increase their income and contribute to the family economy; their freed up time for family or other chores as a result of increased productivity of the silk-reeling process after electrification and how women have gained access to a voice and place within the running of self-help groups are listed as outcomes providing women empowerment. As discussed in Ch. 6-8 the makings of empowerment for the imagined women beneficiaries as housewives tied to the home, and the productive woman that could realise her economic potential through electricity limited the imagination as to how women could participate in the project in managerial and technical positions. It also conflated the complexity of gender to women as individual agents who are not bound up in gender relations or caste, class struggles.

Reviewing the archive of communication between Norad and Scatec Solar revealed that the understanding and production of gender in the Village Electrification Project was a debated issue. In internal communication with Scatec Solar, Norad expressed concern that gender should be addressed deeper and be integrated in all phases of the project and specifically included in training of VOs (email 7.5.2009). The question of women’s role in relation to technological capacity-building of local institutions, and operation and maintenance of the CSPPs, were also brought up as necessary in the Appropriation Document (2008, p.5), in order to make a more substantial impact on women in the project:

The project document has not sufficiently considered gender issues and it is suggested the project makes a more substantial effort to include women in the institutional structures for the operation of CSPPs... Women are assumed to be important beneficiaries of the improved life standards stemming from the project, as they often are closely tied to the home, with responsibility for children's schooling and often are engaged in home based production.

As discussed in Ch. 6, the Appropriation Document by Norad (2008, p. 5) goes on to refer to the Barefoot College and their cooperation with Norwegian Church Aid in Afghanistan,<sup>133</sup> to exemplify the possibility of women's participation in such projects in the South Asia region:

The (project document) states that: "The participation of women in the VEC will be encouraged. However, it is unlikely that women will be given the role of operator of the plants given the traditional social structures at village level". In ENA's perspective it is up to the project to decide whether to support the traditional structures or not. Rural electrification projects based on solar power have been carried out in the region with high degree of participation of women with successful outcomes (ref. Barefoot College in the region, Norwegian Church Aid in Afghanistan). The project should focus more on equal terms with regard to gender, and consider requiring appropriate gender mix in all activities including training, composition of VEC, as well as for assistance in setting up commercial activity.

The model of Barefoot College (which was implemented in Afghanistan) has a very different approach to women's participation in solar energy implementation in local communities than both Scatec Solar and their partnering NGOs in UP. Barefoot College has been involved in solar energy projects for rural electrification in Asia, Africa and Latin-America and a gender-sensitive approach has been an explicit focus at all levels and areas of their work. Women are specifically recruited for key positions in the installation and maintenance of the solar infrastructure. As illustrated below, issues of illiteracy or lack of technical insight are not

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<sup>133</sup> The reference to Barefoot College (in Tilonia, Rajasthan) and Norwegian Church Aid refers to the same development approach, as the Norwegian Church Aid cooperated with Barefoot College in the training of women and men as local Barefoot village operators. The Norwegian Church Aid project is described and quoted earlier in Standal 2008 and Standal and Winther 2016. Barefoot College and their approach of energy interventions has been carried out in many contexts in the global South.

perceived as an impediment; rather, women who are illiterate and rooted in their communities are seen as instrumental in the implementation process

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***Illustration 14: Barefoot College's 'Solar Mamas'***



Source: Barefoot College Facebook page. Downloaded 3.3.2017.

Women's lack of formal education and skills are understood as a benefit, as they are much more likely to stay in the village after their training as Barefoot Village Operators than a man with education (Standal and Winther 2016). In addition, women in the Afghan project were preferred over men as VOs as they could more easily enter households for maintenance and repairs when women are alone, which is common due to men's work migration.

As stated by Norad in the Appropriation Document (2008, p.5), they see the choice of not 'meddling' with 'social structures at village level' as a choice of supporting traditional structures that denies men and women equal terms in life. Initially, Norad's suggestions for gender focus in the Village Electrification Project had high ambitions; in addition to arguing

for ensuring an ‘appropriate gender mix in all activities’, they also wished to include the integration of gender in the ‘research and data’ part of the project. For the baseline report it was proposed to include issues such as girls’ school attendance, women’s time use and security (e.g. in relation to mobility in the dark) to provide a comprehensive understanding of how electricity could impact on gender equality (Notes by Norad Senior Advisor Tonni on Baseline and Reporting templates, February 2011).

Additionally, other involved institutions also took an interest in the Village Electrification Project and proposed a more extensive effort to include gender perspectives. In a summary of a meeting on the Village Electrification Project between representatives from Scatec Solar, Innovation Norway, Norwegian Indian Partnership Initiative (NIPI)<sup>134</sup> and the Norwegian embassy in Delhi, it was communicated that there was a strong interest from the NIPI program, who were supporting India’s attempts to reach targets of MDG#4 on child mortality and maternal health, to integrate data and overlap project villages. The Norwegian Embassy was given the responsibility to link the two programs (email between Norad and the Norwegian embassy in Delhi the third of March 2009). This issue was later taken up again, in a new email dated the seventh of May, 2009, but without being resolved and eventually dropped from the agenda. Such collaboration would have meant that the project would have had a very different understanding of gender by actually incorporating women’s access to resources into its core objective. Nevertheless, realising all the ambitions of the Village Electrification Project would also have been demanding in terms of consolidating and managing different institutions and purposes such as NIPI, the FAG and the PPP stakeholders.

Norad’s support and approval of the Village Electrification Project hence came with certain scepticism regarding how gender perspectives were integrated (or not). The wording in the Appropriation Document (2008) leaves no doubt on Norad’s position as viewing gender issues to entail something more than women as only end-users who will benefit in the confinement of their homes or small-scale production. The issues of gender and sustainability were noted as one of the major risk factors in the Contract of Agreement (2009). In the Completion Report (2012, p. 31) from Scatec Solar, the assessment of project risks does not mention gender. One possible explanation of why the comprehensive focus was dropped might

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<sup>134</sup> The Norway India Partnership Initiative (NIPI) was established in 2006 through a joint statement by the Prime Ministers of Norway and India. The vision of NIPI was to facilitate strategic support to the Indian health care system for improved maternal and child health to support the global achievement of the health related Millennium Development Goals.

be the division of responsibilities within different departments in Norad. According to Norad's Senior Advisor Tonni, who had worked extensively with the Village Electrification Project for several years, gender was not an integrated part of the project in the way that has become the norm for Norad's activities later. Previously, gender was perceived as a point to check off and then send the responsibility onward; 'it was raised in the right forums and documents, but not necessarily pursued by Norad further'. A more systematised and routinized integration of gender in Norad's present work has been the result of how Norad has gained greater knowledge and experience in terms of the dynamics of gender and energy in development cooperation, and the energy department of Norad has been strengthened in this aspect. According to Norad Senior Advisor Tonni, it also eventually became the norm to draw on the expertise from Norad's department for gender equality in energy related projects.

From Scatec Solar's perspective, according to their Business Developer Jone, they saw Norad as an important partner who was committed to mainstreaming gender issues in their projects. Consequently, women's benefits were articulated as an important focus in the Village Electrification Project Proposal (undated) produced by Scatec Solar. However, Jone expressed that they saw themselves as a commercial actor and therefore not bound by any specific focus on gender. In Scatec Solar's Application form (undated), there is no mention of gender issues or any reference to women or men. Women's empowerment and gender equality were not articulated as objective, outcome or output. Rather, Scatec Solar's rhetoric referred to the beneficiaries as 'neutral' market potential, a win-win situation for both them as private investors and the beneficiaries in rural communities. The outcomes and output were put in directly observable (gender) neutral and technical terms devoid of any reference to politicised issues of village inequalities. As discussed below, complicated issues of gender, caste and class were, as much as possible, left out of the equation in favour of an institutional discourse on business potential, rapid scale-up and replicability.

### ***Invisible Women and Re-centring the Growth Agenda***

The negotiation of how gender should be incorporated into the planning and implementation of the Village Electrification Project was also guided by the ruling discourse (Smith 2005) of global and national development policy agendas. Besides Scatec Solar itself, Norad contributed the main share of funding and had responsibility for evaluation and monitoring. Norad is a directorate under the Norwegian Ministry of Foreign Affairs and has the main responsibility to

support, advice and ensure quality in Norwegian development cooperation. Norad has a long history of engaging with gender focus in development, and has been guided by the *Action Plan for Women's Rights and Gender Equality in Development Cooperation 2007-2013* framework, which lays prescribes a commitment to support women's rights and gender equality, and acknowledges that development cooperation is not just about delivering services or help, but also has to tackle some of the discriminating structures that cause women's marginalisation. This document also incorporated issues of women and energy specifically.

Norway will be at the forefront of efforts to ensure that both women and men participate at all levels in the management of natural resources in partner countries... and promote the active participation of women in decision-making and implementation processes relating to the supply of water and energy to workplaces and households (2007-2013, p.32).

Gender was also an 'explicit focus' within Norway's commitments and strategies in the Clean Energy Initiative 2007-2015, promoting clean energy in development cooperation:

In view of this [gendered characteristics of energy poverty], gender has been an explicit focus for the Clean Energy Initiative (Norad Results report 2017, p. 140).

In addition to the specific frameworks and principles of the above-mentioned action plan and Clean Energy Initiative guiding Norwegian development cooperation, both India and Norway are signatory to international conventions (e.g. Declaration of Human Rights, CEDAW, the Dowry Prohibition Act etc.) that make gender equality compulsory in legislation and government activities. As Helland (2016) and Sharma (2008) notes, the developmental policy agenda in India has integrated the concept of gender and women's empowerment both as a means and an end. According to Sharma (2008, p. 34) the appropriation of women's empowerment by GoI can be read as a way to balance the 'unevenness and inequalities' those on the fringes of Indian society has suffered since the liberalisation of the economy in the 1990s. The aim is as discussed in the preceding chapter to mould productive citizens in the project of governance (Sharma 2008, p. 3).

Despite GoI's commitments towards gender concerns in development policy, the results in practice have been mixed. Women have been more substantially included in local governance

institutions such as Gram panchayat and forest community institutions (e.g. Agarwal 2010), but feminisation of poverty and women's exclusion from formal labour participation persists. Further, women's ownership and access to energy resources have only very recently been put on the agenda in India. The MNRE (established 1992) have been less focused on gender and more concentrated on poverty alleviation and national energy security in their work. As Parikh et al. (2009, p. x) states:

In India, the demand for energy is increasing to fuel a rapidly expanding economy, and large investments are being made in exploration, fuel production, the generation, transmission and distribution of power and in setting up grid infrastructure. These massive efforts in energy development do not consider the needs of women, their access to and control over energy resources or support a gender-based empowerment process.

According to Parikh et al., India was expected to invest more than 100 billion USD in the energy sector, including renewables, during their 11<sup>th</sup> five-year plan (2007-2012), but less than 2% of this would go towards alleviating the energy related drudgery suffered by women and children.

Notwithstanding the recent focus on the interlinkages between gender inequality and women's lack of energy access, other discourses, such as neoliberal approaches to development, are also high on the international development policy agenda. The move towards private sector-led development and public-private partnerships has resulted in a considerable shift of ideology and values in terms of how development has been perceived from previous 'bleeding hearts' to 'smart aid', with a re-centring on economic growth. Development as embedded in neoliberal values and the growth agenda is not new, but has rather taken a different form towards public-private partnerships and commercial investments (Mawdsley 2015, p 342). The partnership between private sector and development assistance does not align itself naturally with the ideas of gender and development. As noted by McEwan et al. (2017, p. 45), corporate interests might support conservative traditional agendas and interests in communities for the sake of business:

Gender is not the only axis of exclusion that becomes further entrenched by the activities of the private sector in Papua New Guinea, but it is in many respects the one that companies could do most to challenge. However, it is not in the interests of corporate agendas to engage with, let alone challenge, local politics, interests and cultural mores in these communities.

When private sector-led development does engage with gender in development activities, the rationale often is caught up in the logic that it makes good value to invest in women as they constitute untapped economic potential that provides well-being for others (e.g. game-changers and girl effect agenda, discussed in Ch. 2). Further, in the neoliberal reasoning, it makes even better value to invest in the private sector that invests in women. Eliminating poverty and providing development cooperation has become a matter of value for money and a seemingly win-win situation where helping ‘them’ helps ‘us’. In line with this rhetoric, Western development budgets have increasingly been allocated to the private sector. This mercantilist way of seeing development cooperation is forwarded in a language of economic jargon and colonial metaphors, such as ‘frontier markets’, that are seemingly ready to be tamed (Mawdsley 2015, p. 354). These issues are presented with few references to labour rights, transparency, protectionism or unfair advantages (ibid.).

The private sector’s involvement with community development in the South is not a new phenomenon but is ‘currently contextualised within a rapidly deepening normative discourse that positions the private sector as an active development agent’ (McEwan et al. 2017, p.29). This means that the normative discourse that finds its ideologies within New Public Management has involved a process where agency is more and more shifted towards the private sector. The ‘privatisation’ of development is also linked ‘NGOization’ where boundaries between NGOs (initially conceived as civil society critique of the state), private or corporate sector and the state are blurred (e.g. Leve and Karim 2001). NGOs in India have, to a large extent, entered into arenas of governance by providing social services in a range of fields such as forest management, agriculture, healthcare, credit and electrification, often with the private sector as development partners. Some scholars have seen this as an undermining of the state and production of a new form of imperialism ‘privileging alternative forms of identity such as gender’ (Leve and Karim 2001, p. 54, see also Sharma 2008).

A major criticism towards private sector-led development and re-centring on economic growth has been on ‘the lack of conceptual connection between “growth” and “development”’ (McEwan et al. 2017, p.33). Scatec Solar has presented the Village Electrification Project and modalities of empowerment in terms of poverty alleviation, but also referred to the beneficiaries as more than poor; they were presented as customers and end-users in a market economy world. This is certainly a refreshing perception of the beneficiaries as people with agency and potential, but it leaves little room for acknowledging women and low-caste and class people’s disadvantaged position in capitalist societies. It is assumed that this economic ideal does not



exclude anyone, but that providing electricity will provide local communities and families with a way to tag on to a capitalist development productive citizens (with energy as an input) and consumers of energy and energy-related products. According to Desai and Jain (1994), providing people entry into capitalist society has been argued by the World Bank as the most appropriate way to affect gender discrimination in India:

Governmental intervention in the private domain where gender relations are rooted is problematic. The most effective-and perhaps the only legitimate-means by which public policy can affect household processes and reduce women's dependency is to alter the economic environment. In a sense, this means that the market forces should be allowed to influence the boundaries of culturally acceptable women's activity (World Bank 1991 pp. xvi-xvii, in Desai and Jain 1994, p. 116).

The neoliberal economic ideology underscoring this assumption is based on a view that enabling women to be effective income earners will reduce their dependency and improve their status. The suggested changes in the economic context of women's lives are limited, as it obscures the hegemonies of masculinity in political economy power structures and implicates the family as 'the sole culprit' (Desai and Jain 1994). The assumption that economic liberalisation would diminish social inequalities, such as caste and gender, to that of economic factors, has not been realised in India. Rather, such social institutions are re-fashioned, but continue to structure economic behaviour (Harriss-White and Janakarajan 2004, p. 157) and for some groups increased social oppression and suffering (Sha et al. 2018). As discussed in Ch.6,7 and 8, the assigned social value of women's work both within family and production, and social axis of oppression such as religion, caste and class has not resulted in the Village Electrification Project and the distribution of electricity to work as a 'leveller' of social hierarchies, instead certain groups' power and affluence have become even more salient, as exemplified by the Yadav men VEC presidents and Daarun and his family.

As described above the 'ruling' discourse of the Village Electrification Project thus involved several understandings of women's empowerment, but one that favoured neoliberal assertions of empowerment as an instrumental concept that would enable economic growth to the stakeholders involved. The makings of empowerment was also defined by the distribution of power, ownership and responsibilities in the PPP organisation. This distribution, which is discussed next, also reveals how the limited imagination of the local beneficiary and lack of

taking gender substantially on board in the project was implicit in the demise of the Village Electrification Project.

## **The Organisation and Distributed Responsibilities of the PPP**

The Village Electrification Project is a good example of how agency in development interventions has been shifted towards the private sector. Scatec Solar was given full responsibility for the project's management and day to day running of the project, while state actors such as Norad, MNRE and IREDA have acted principally as donors and monitors. It is therefore necessary to explore what implications this organisational structure of the PPP had for women's empowerment as a stated focus in the Village Electrification Project. The aspects of this will be explained in detail below, but two significant consequences of this have been the gradual de-emphasising of gendered aspects in the Village Electrification Project as well as the discontinuation of the project in several villages after the 'completion date' was passed.

As described in the previous section, gender was, from the outset of the Village Electrification Project, conflated to women as housewives and consumers of household energy (reducing their drudgery), and women as untapped economic potential (waiting for electricity to increase productivity). As described earlier an analysis of the documents, and internal communication in Norad's archives, shows that Norad's suggested focus on gender in the Village Electrification Project gradually lost its momentum. Propositions in e-mail communication concerning women being trained as VOs, or alignment with NIPI villages to retrieve knowledge on energy and maternal health did not materialise. Norad's emphasis on women representatives in the VECs did stick however, and the VECs in Jyotipur and Ashapura had women representatives in the VECs in 2012 and 2015, though as discussed in Ch. 6, women's position in the VECs was challenging as cultural practices and norms effectuated their silence in public meetings.

When the CSPPs were implemented, activities were downscaled, and as the project's economic viability was unsuccessful, Scatec Solar downsized their staff in Scatec Solar India from 2011 and finally closed shop. Instead, they ran the project with expensive manpower from costly offices in Oslo. According to Norad's Senior Advisors Jo and Tonni, this was perceived as a step in a gradual withdrawal from the project and from the market in India completely. According to Scatec's Business Developer Jone, Scatec Solar had underestimated the

difficulties and also time-use of the project, and felt that a heavy toll had been put on their shoulders in terms of trying to manage a project that was slowly collapsing.

As mentioned, Norad's Section for Private Sector Development did not have the time or professional experience to follow up on issues regarding gender in their projects, beyond ensuring that gender was brought up in the planning phase. In addition, according to Norad's Senior Advisor Tonni, the integration of gender focus was also coupled with a concern to put 'yet another responsibility on the shoulders of a private corporation'. Such requirements might also exclude the private sector from contributing to the development sector, a highly undesirable result. There was a feeling that the burden on Scatec Solar had been too hard as they had taken on the role of the development actor in all aspects, from acquiring financing, implementation, management and operation.

The Scatec obligation to operate and maintain the systems was initially expected to end in December 2011, after six months implementation only. After significant delays, without the contractual documents being adjusted accordingly, this obligation is interpreted to last for three years following the commissioning of systems in each village (meaning ultimo 2014). This puts a significant (and unreasonable?) financial burden on Scatec, being merely one partner in the Project. The burden might be lightened by the other partners agreeing to cover Scatec's excess management costs, by reallocation within the project budget (Midterm Review 2011, p. iv).

For Scatec Solar this also later resulted in financial loss, both in terms of needing to invest more manpower and time than anticipated, but also because their place in the Indian market never materialised.

As the network DAWN<sup>135</sup> argues, while there is need for the private sector to contribute to development through economic growth, creating decent work and promoting innovation, the issue is controversial in a number of respects. Using the example of rights-based development, they put focus on how responsibilities for frameworks of human rights should be maintained in multi-stakeholder partnerships for development:

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<sup>135</sup> [http://www.dawnnet.org/feminist-resources/sites/default/files/articles/ffd3\\_julyppp.pdf](http://www.dawnnet.org/feminist-resources/sites/default/files/articles/ffd3_julyppp.pdf). Downloaded 15.01.15

First, because the role of the State as the principle duty-bearer of human rights obligations might be eroded through the introduction of multi-stakeholder partnerships that delegate State duties to other actors, including the private sector. Second, because the commitment is not strong enough in respect to the implementation of an appropriate regulatory framework that guarantees that private sector initiatives do not harm human rights obligations.

DAWN points to the connections of gender and development as something that should be paid particular attention to in multi-stakeholder partnerships for development:

Women are very in need of social services for which delivery PPPs are promoted as a preferred alternative. Evidence shows, however, that existing PPPs in the field of health do not contribute to alleviating fiscal pressure, and frequently fail to deliver health care and services needed by women, especially women living in poverty. PPPs in the agricultural sector, with high demands in terms of productivity and production outcomes, often exclude women farmers, who lack assets and time (Ibid.).

Commitment to gender focus in development interventions has been given much attention in development discourse and policies, but has proven difficult to pin down in routines and practices when development is carried out on the ground (Kabeer 1994)

The demise of the Village Electrification Project can be seen as a result of the same structures of distributed responsibilities in the public-private partnership, which have caused gender focus to lapse. As mentioned in Ch. 4, the denotation of people also has lapsed in the Village Electrification Project. From the start, the project was envisioned as a PPP where the project rationale was serving people, men, women, children and communities by providing electricity from environmentally friendly solar energy. But the idea of the people was focused on people as benevolent harmonic communities who, in the capacity of their needs for electricity and subsequent untapped economic potential, would become consumers of CSPP. This consumer relationship was meant to allow Scatec Solar, Norad and MNRE to scale up this project enough to significantly provide rural electricity for its population. However, as described by Scatec Solar's Business Developer Jone:

It quickly became difficult and complex and many different types of local communities to relate too. It was too difficult for Scatec Solar to sit on the outside and work with this. It became too

much anthropology for a company that lives by selling technical solutions. It also became too difficult to understand the customer that was buying the electricity.

The people have an important role in the Village Electrification Project, as they needed to act as a coherent unit to partake in the project, and they needed to form inclusive VECs to manage the CSPP and select locals to ensure operation and maintenance, as well as handle payments and accounting. Some documents even grant the people ownership of the CSPPs, though the question of future ownership was anything but clear. As discussed in Ch. 6, the Contract of Agreement placed the future ownership of the CSPPs with the VECs, which according to the Mid-term Review could pose threats to sustainability since it was given little thought and plan to how this would actually take place:

The VEC is taking over the CSPPs three years after commissioning to own and operate, and could in principles sell the systems when time comes for renewing the batteries (unless the Handing-over Contract does not cater for such situation, giving an incentive for them to keep the systems running). The last “p” in the PPP Partnership is the least significant one (Midterm Review 2011, p. 34)

Beyond pledging land area for the site of the CSPP, the people were not included in the legal framework of the project:

This means that the main target group, the villagers, are not *contractual* partners in the Project, as their ability and willingness to follow up their obligations are dependent on the prevalent economic situation (related to agriculture mainly) and political sentiments of the villagers (Midterm Review, p. 34)

As discussed above, Scatec Solar eventually found the notion of the people difficult to handle as they had not been able to understand the customer that was meant buy the electricity. The question of future ownership was still looming in 2015 as it became more and more clear that the VECs would not be able to take the intended responsibility. According to Scatec Solar they were finished with the project, but as expressed by Business Developer Jone they hoped Norad would find a solution:

The intention was that the villages were to take over the ownership and if there was any profit in the project Scatec would receive its share. In reality Scatec Solar has used three to four times as much time as stipulated. A new sponsor is necessary now and the budgets are there, but we need to find a solution. Who should really own the mini-grids [CSPPs], the villages themselves, the Indian government or a Norwegian owner?

In contrast, Norad's regarded the CSPPs as the legal property of the PPP and were negotiating over what should be the outcome of the Village Electrification Project and infrastructure with Scatec Solar and the Indian institutions in 2015. The failure to understand the people or the consumers, alongside the lack of a plan of responsibility and ownership if the project were to fail, has resulted in the demise of the Village Electrification Project in Ashapura and several other villages in the project.

The strength of Scatec Solar is the 'institutional work' that private sector is positioned to do such as; lobbying for regulatory change, building relationships and constructing normative discourses of how mini-grids fit with national electrification visions (see Ockwell et al. 2018).

### ***White Elephants in Ashapura?***

As the quote above illustrates, the term 'white elephant' as an allegory of failed development was already used in the Midterm review (2011, p.34). The Midterm review noted severe challenges in terms of economic viability, which if left unaddressed would lead to unsuccessful completion of the project. The allegory of white elephants denoting failed development projects has a historical background. White elephants were sacred animals in Thailand, and bestowed as gifts by the King to his subjects as a sign of honour. This gift hence entailed a double-edged sword, as these sacred animals required the utmost quality of care, but could not be used as labour.

As described in earlier chapters the fate of the CSPP in Ashapura remains in limbo as two of the inverters were broken in 2015 and batteries had been depleted, which resulted in the amount of electricity per day to be decreased to only a few hours. In the villages Manpura and Chingewara, the CSPPs were more or less non-functioning. In the rest of the villages the CSPPs worked adequately, but with some challenges. The failure of the CSPPs in Ashapura, Manpura and Chingewara had led to frustration among the villagers. One of the villages had repeatedly

made the working climate for Haritika difficult as they were located not far from their offices. They had also contacted media and news reports had been visible in the press. As Haritika had unsuccessfully tried to contact the Bergen Group, Scatec Solar and the MFA, they did not have any solutions to offer. They were trying to find a new donor to expand and repair the water provision in Ashapura and invest in a new solar micro-grid as well as smaller solar units for water pump provision for agricultural purposes, which they had good experience with in other villages.

So why did this project failed to live up to its promise? And how has this affected the women's opportunities? The last question has been discussed extensively in the previous chapters, but the answers to these questions are also interrelated. The main reasons given for the project's challenges were wrong dimensioning of the project size, and subsequent project economy (Completion Report 2012, p. 35). The villages chosen were too small to bring in enough revenues to sustain the systems cost over time. In addition the after-sale service were put to a halt when the Bergen Group exited the project (with the exception of their model village Jyotipur). The likelihood of good after-sale service agreements would probably also have been better if the project's villages were clustered geographically instead of four different states in different parts of India. According to Scatec Solar, the ownership and responsibility of the CSPPs should also have been with the NGOs from day one. These aspects have played a significant role in the failure of the project, but does not properly address the shortcomings of the organisation and the values behind it. The PPP is founded in the ideology and principles of market liberalisation and economic growth, and the core of this project's sustainability lies in the planning and execution of economic viability. The prioritisation reveals a view of electricity as a different service in development than for instance education or water supply. As the Midterm Review (2011, p. v) rhetorically ask:

With the undisputable social benefits of the installations, but the present lack of sustainability in the Project (funds to replace batteries), it is important to raise the question if such systems to poor villages really have to be financial sustainable (or is electricity for basic needs a "human right" like water supply?).

Notwithstanding the critique from the Midterm Review, the villagers were designated as consumers that should pay for the consumption, which would provide revenues that could bear the costs of future expenses for replacement of solar equipment such as batteries. However, the

projects in UP and Madhya Pradesh were targeted towards household electrification, which does not influence income in agricultural communities such as Jyotipur and Ashapura, beyond being able to communicate with market agents for better prices of their yields. The Village Electrification Project had plans for ‘electricity beyond the bulb’ (Proposal , p. 9) such as flour mills or other relevant agricultural machinery, but these never materialised. As Chaurey et al. (2012, p. 49) states:

The ability to pay for improved energy services in rural areas is a major challenge, where the population is predominantly engaged in agriculture and allied activities and the income streams are often seasonal and not steady throughout the year. Most of the population depending on subsistence level agriculture or other activities can barely meet the capital expenses of an electrification project... the only way to convert the “vicious” cycle into a “virtuous” cycle is to focus on productive uses in addition to basic uses such as lighting, cooking etc.

In addition, apart from in Jharkhand, none of the projects had concrete ideas on how women could tap the economic potential apart from assumptions that electricity would increase productivity by enabling ‘economic activity to continue after dark, something which often benefits women’ (Proposal, undated, p 15-16). Unfortunately few electrification projects are linked to livelihood schemes or other rural development programs even though there are strong linkages between provision of energy and other desirable development targets such as eradicating poverty, gender equality, health and education (Ibid.) Hence women were excluded from reaping the economic benefits and contributing economically into the system apart from their informal domestic work responsibilities. Further, the diminished capacity of the electricity provision in Ashapura was greatly felt by the women, as they lost the resources of easier everyday life work in the home and opportunities to socialise with light and television.

But the failure of the CSPP in Ashapura is also related to the nature of the public-private partnership as a development project, which in Minister Solheim’s words (see Ch. 4) was implemented in ‘record time’. When the economic viability proved challenging, and the willingness or ability to pay was not enough to provide the Scatec Solar revenues, or in all likelihood not even be sufficient to keep the infrastructure going, Scatec Solar withdrew from the project and the Indian market. With a completion date set at only three years, it is difficult to envision a stable future for a complicated socio-technical system such as the CSPP. In Scatec



Solar's defence, they saw this as an entry point into a market they intended to stay in and would therefore have been invested in the future of these projects in another way.

The term 'completion' became a point of negotiation and contestation between the contractual partners in the Village Electrification Project. In the Completion Report (2012, p. 4), Scatec Solar states that:

Scatec Solar has a contractual responsibility for operating and maintaining each of the installed village [sic] for 3 years post commissioning upon which responsibility and ownership of the respective power plant will be transferred to the village itself through its nominated Village Energy Committee.

This statement seems clear and unambiguous. In reality, the wording of the Contract Agreement is contradictory as the duration and completion is inconsistent; the first definition of completion is mentioned on p. 2:

Scatec Solar is responsible for operation and maintenance of the generation and electricity distribution system in a satisfactory manner until 31.12.12 at least or the VEC will take over the responsibility to operate in an institutionally and financially sustainable manner ("completion date").

However, in Annex I of the Contract Agreement (2009, p. 9) it is stated that Scatec Solar has the responsibility for operation and maintenance the first three years of the operation phase (which is estimated to a total of 20 years). In Ashapura the CSPP was commissioned in November 2011, which means that Scatec Solar's responsibility for the operation extends to November 2014. Scatec had downsized their engagement in India already in early 2012 and closed the office in Delhi in 2013.

The term completion also refers to the technically worded outcomes and outputs stated in the contract, which are presented in Ch. 4. But there is no articulation in the Contract Agreement of what should actually be the consequences and responsibilities of the contractual partners if the project does not deliver on these terms, other than a conventional contract formulation that states that Norad may claim repayment or withdraw funds if Scatec does not fulfil its obligations (Breach of contract, p. 6). When the project's outcome changed from

satisfactory to unsuccessful, the definition of completed and the original wording became a matter of dispute for Norad's legal section according to Senior Advisor Jo. In 2015, the parties were still negotiating what Scatec Solar's obligations and responsibility towards the Village Electrification Project would be, and what the future of the CSPPs would be. Funds were also not paid out fully pending negotiations of completion between the partners.

As the sustainability has been seen as a risk factor throughout the project and the result is known, the question of responsibility for after-sale service extends into more than legal definitions and contracts as the challenges have been understood to be all the way. The Bergen Group was one of the important 'silent partners' – stakeholders without formal recognition and responsibility in PPP, and their withdrawal from the project has perhaps given the most lethal blow. As without their technical support it is not possible to keep a CSPP functioning, even if there are revenues such as in Ashapura. In addition, as discussed above, the ownership of the infrastructure after 'completion' of the project was also not defined. The result is the presence of white elephants in Ashapura; one elephant symbolising the failed CSPP and one elephant symbolising the broken solar water provision. The 'relics' of the Village Electrification Project thus may very well turn out to be a token of Norwegian benevolence (with expected gratitude), but with no apparent purpose beyond its symbolism.

### **Symbolic Power and Gender Framing: Who Speaks and Who Listens?**

To understand hegemonies inherent in the framing of gender and women's empowerment in the Village Electrification Project and the significance on the outcome for the local women, it is fruitful to ask: Who speaks? And who listens? The question of who are the listeners points to the possibility for alternative perspectives to be presented to the dominating discourse of the speakers. The language used to frame problems and people, shape and constrain the way they can be engaged with (Listo 2018, p.16). As described above, there were competing perceptions and ambitions of how to incorporate gender concerns into the project. The category of women and the focus on women's empowerment in the Village Electrification Project were projected outwards in documents and presentations as housewives benefitting from reduced drudgery and productive citizens increasing their income through the provision of stable and renewable energy. Externally, gender was presented as legitimising the project's *raison d'être*, by pointing to the particular benefits to women and education as desirable and likely outcomes (Proposal

undated, p. 16). Internally, gender had been a debated issue as the institutional discourse favoured an approach concerning providing people and communities with technical solutions to end energy poverty and developing viable business models for rural electrification. The discussions of gender focus took place in internal and closed communications between the different stakeholders, and Norad's criticism against Scatec Solar for not paying substantial attention to women in all phases of the projects were never articulated publicly. However, as the project is initiated from Norway, it is the Norwegian institutions that primarily 'speak' and have the power to define and frame the institutional discourse and gender focus. Notwithstanding formal and legal commitments towards gender equality of both the government partners, Norad has extensive expertise and experience in the domain of gender and development, as it has developed the earlier mentioned frameworks such as the action plan for Women's Rights and Gender Equality in Development Cooperation, and have promoted gender equality in international development policy. Scatec Solar, on the other hand, is a private company and works from a different rationale where the main focus lies in finding a socio-technical solution that enables the generation of growth through return on their investment and enabling productivity for the local communities. The women's empowerment from electricity was seen as an added value to this and a value that contributed to the importance and attractiveness of the project for their main donor Norad. As the Village Electrification Project illustrates well, the emphasis on rural electrification as a business model is based on the underlying assumption that provision of energy is linked to modernity and hence delivers development in a predetermined way to poor rural communities. This technological determinism sees the introduction of new technological innovations as neutral and unthreatening (Abdelnour 2015; Crewe & Axelby 2013, p.150).

In the internal communication of the PPP, the conversation of gender sensitivity is not just a closed conversation between Scatec Solar and Norad. The Royal Norwegian Embassy in Delhi, MFA, MNRE, and IREDA were also 'listeners'. It is positive for the project to show commitment towards women, but a deeper and more progressive integration of women in line with liberating empowerment (Sardenberg 2008) or strategic gender needs (1989) was not the full focus. At that time the narratives of India's energy future and the MNRE was not focused towards gender, but providing energy to enable economic growth and rapid measures to electrify the rural population (Mohan and Topp 2018; Parikh et al. 2009). The Village Electrification Project also became a place (in Jyotipur) where high profile politicians and bureaucrats cemented political bonds and consolidated political and economic ambitions of a

large-scale roll-out of the project at the political gain of both India and Norway. This further accentuated an institutional discourse (Smith 2005) of neoliberal growth and technocratic elitism as described by Springer (2016), (see also Mawdsley 2015) that saw gender relations as belonging to the domains of the private and hence irrelevant to the project's main goals and outcomes. From the way gender was framed it is possible to read that more gender-focused and critical institutions such as UN Women or ENERGIA are not the intended audiences or partakers in the discourse. As illustrated in this chapter the Village Electrification Project was driven by ideals of private sector-led development characterised by neoliberal technocratic elitism. The emphasis on technology and business model over all other aspects has produced a project where decision-making is increasingly delegated to different institutions and bodies with technical expertise. As Springer (2016) argues, this entrenches the problems of the binaries of spatial economic geography where women, especially in the global South, are marginalised from the public domains of expertise through fewer options for education and skilled employment, and less freedom of mobility and decision-making. As a result, the experiences of women are excluded from interventions such as the Village Electrification Project.

Though women's experiences are excluded from the Village Electrification Project, the stated focus on women's empowerment was important. However, it was a narrow focus on the dutiful, efficient, able-bodied and worthy woman that can help her family by increasing her productivity in the home and capitalist production networks. Energy plays a key role in this 'myth' as energy assumingly provides the necessary resources to serve the practical gender needs for women to fulfil such a role as the 'Girl Effect' (Standal, Winther and Danielsen in press, see also Chant and Sweetman 2012). The underlying ideological current reflects values of a capitalist society marked by production and growth. Women become vessels to increase economic growth and development. This ideology does not relate to women's role in social reproduction where they are vessels for family wealth production through their capacity to produce the sons that ensure the continuity of the patrilineal line and resources. But the vision of women contributing to economic growth by becoming more productive or effective also requires transformations in other sectors to be empowering in the 'liberating' sense.

As discussed in this chapter and Chs. 6 and 8, the gendered relations that is rendered invisible in the ruling discourse (Smith 2005) of private sector-led development has significant bearings on the sustainability of the Village Electrification Project. The gendered division of labour in the Jharkhand case directly limited women's opportunities to do silk-reeling. This problem was most acute in the intense agricultural periods of the year, but also a general

challenge for mothers with young children or a disapproving mother-in-law. As a result, the CSPPs were not sufficiently used to generate a return on investment for Scatec Solar. Also in UP, the lack of electricity-related income-generating activities (only the seamstress Leelah) meant that poorer households had difficulties in paying for electricity consumption. There is a likelihood that a more holistic approach to combining energy for livelihood (such as solar driven water irrigation) might have increased 'willingness to pay'. Including women in this process would not only result in higher income production, which is at the core of liberal empowerment (Sardenberg 2008; Sharma 2008), but also might increase women's decision-making power over energy choices in the household. Last but not least, the failure to see the consumer as immersed in struggles of gender, caste and class also impinged on the returns on investment as it required much more time and effort for the Scatec Solar staff to manage the project than anticipated. In hindsight, one can conclude that the lack of engagement with power relations and the 'anthropology' (as stated by Business Developer Jone in Scatec Solar) had repercussions for the sustainability of the project. This links to the question if it is justifiable or sensible to expect the implementing agencies in the Village Electrification Project to pay attention to gendered concerns in the first place? It does not make sense to put the responsibility on ensuring equity and women's empowerment on a commercial company who specialises in setting up business models for solar energy implementation. However, the other partners such as Norad and MNRE represent government agencies that have committed to gender equality frameworks and law. Norad also has experience and prior commitment to gender equality within the field of energy and development. Anyone engaging in socio-technical systems of decentralised energy provision in rural India, that involves the community in the same sense as the Village Electrification Project, needs to take power relations between men and women, as well as caste and class into consideration to be successful.

The representation of women in institutional discourses has implication for views of women's role and abilities in energy development (Standal, Winther and Danielsen in press) and consequently their potential to transform their subordinated position. The presentation of women as end-users and not in technical and management positions is a result of a masculine hegemony that Peterson (2005) terms 'masculinist thinking', and top-down, decontextualized and over-reliant on growth. However, categories of women are not fixed; they are influenced by the changing of social norms linked to larger community or global changes. Energy development intervention can be such an influencing change, as it provides new ideas, responsibilities and material changes.

## Reflections: Lightbulbs and Women

This chapter has explored the process of how gender and women's empowerment as a stated focus was framed in the Village Electrification Project, and the implications this had on women's potential to change their subordinated position. It has argued three points: Firstly, the merger of the private sector and development institutions in the Village Electrification Project has privileged an institutional discourse that primarily sees women's empowerment in the liberal sense, where electricity provision constitute a practical need to transform women's productivity in the home and in production networks. Secondly, this institutional discourse has led to an exclusion of women in technical and management positions concerning the CSPP in the communities. Thirdly, by not taking into account the gender relations and patriarchal structures of the local communities, as well as other axes of social oppression such as caste and class, the 'business case' of the project and return on investment for Scatec Solar was limited. This was because the CSPP were not used to their full potential and the complex local communities became too difficult to relate to (as expressed by Scatec Solar's business developer Jone).

As shown in Chs. 6-8, the Village Electrification Project has provided women with several benefits. These benefits have primarily been within what Moser (1989) refers to as practical gender needs, meaning that by and large they are formulated within women's contexts in the gendered division of labour or basic resources for human survival. At the planning phase of the project, this was not a given, as the main donor Norad wanted the project to have a more substantial inclusion of women into technical and management positions that would challenge the gendered domains of technology. The Village Electrification Project was led by a commercial company that was seeking to expand its products into new markets, not a development actor committed towards long-term development targets. Income generation, health benefits and promoting gender equality was seen as desirable outcomes that could be realised through electricity access, but not goals in themselves. This perspective was also to some extent shared by Norad. Their criticism of Scatec Solar and the NGO's lack of 'substantial' effort to include women in the institutional structures for the operation of CSPPs (Appropriation Document 2008, p.5), was coupled with the reluctance to put more responsibility on a commercial company. Imposing gender requirements on commercial and private actors willing to work in 'unsafe' markets in the global South could deter them from participating in development assistance. This is a worrying prospect, as the private sector is

seen as paramount to fostering the innovation, technological expertise and viable business models needed to bridge the energy poverty gaps of the global South (Chaurey 2012, p. 48). As noted by Senior Advisor Tonni, gender focus and women's inclusion was an important issue, albeit one that should be crossed off and sent onwards. This led to a renunciation of ambitions towards broader social transformations, in favour of producing a more feasible and 'sellable' intervention.

Gender as a technocratic strategy of public management does not easily align itself with the complex power relations (of gender and other social relations) on the ground and therefore it failed to provide women with a substantial inclusion or empowerment to challenge old hierarchies that undermine their status and agency. Also, gender as a technic and instrumental public management strategy, as described by Sharma (2008) is easily simplified or even abandoned when other interrelated agendas come into play, such as integrating private sector, neoliberal economic integration and large-scale roll out to significantly address India's energy poverty. How should complex power relations on the ground be addressed, and how should multiple partners who have the 'big picture' in mind deal with such challenges? The answer, in this case, was a gradual reduction of gender focus and ambitions, including less emphasis on the 'people'. This led to a gradual withdrawal from the project communities and eventually from the Indian decentralised 'energy development market' entirely.

Would a more successful outcome of the Village Electrification project have been possible given different goals and interactions between government and private actors? If private sector-led development is going to remain an important strategy for development cooperation, it seems pertinent to ask if it would be advisable to ensure that the responsibilities were distributed in a more equal manner than in the Village Electrification Project, as this could have provided Scatec Solar with the support it needed to handle the complex challenges of community and family inequalities in Jyotipur, Ashapura, Reshamgaon and the other villages. This would also have ensured that the decades of experience and lessons learnt on gender and development in Norwegian development cooperation were put to use.





## 10. Conclusion

Along these lines, women need to be consulted as energy access projects are planned so that their needs are properly met. Development organizations, governments, and donors cannot assume that simply providing energy access to poor families will better the lives of women (Rewald 2017, p. 31).

This thesis monograph commenced by quoting Jawaharlal Nehru (in Kale, 2014 p.1) on his view of how electrification is fundamental to rural development: ‘Electricity is perhaps the most necessary and the most revolutionary thing which you can take into the rural areas... The whole life of people is changed’. This research shares the conviction that access to electricity is fundamental to human lives, and has focused on how one can bridge the energy poverty gap with environmentally-friendly solar energy. An important aspect to energy poverty is its relation to gender relations and feminised poverty. Whether in relation to development, climate change or disaster relief, gender is a lens that exposes both those who are vulnerable and those who have control and power. Although power relations are continuously reproduced through local, national and international processes, they can also be transformed. Development interventions need to take the inequalities of power into account, or their effects will be shallow and ineffective – and may even intensify and reproduce existing inequalities.

This thesis monograph has been organised in ten chapters. Ch. 2 presented a broad theoretical understanding of feminist political economy and how the spatial economic geography of public/private, masculine/feminine and productive/unproductive, as well as class and caste has influenced the ‘category of woman’ (as phrased by Moore 1988, p. 12). It focused on the local context of the women ‘beneficiaries’ within development policy agendas, and how women’s encounters with the Village Electrification Project have or potentially could transform their subordinated position. The production of categories of women and makings of empowerment in these domains, as well as the effect on women in the local communities where the Village Electrification Project was implemented, are guided by a qualitative methodological approach. An account of the different domains of a multi-sited approach and fieldwork done to ‘follow the thing’ (Marcus 1995), the implementation of the CSPP and the corresponding ‘idea’ of electrification is described in Ch. 3. The Chs. 4 and 5 have provided background information about the cycle of provision and consumers within the Village Electrification Project, with an

emphasis on the struggles and negotiations of everyday life and politics. Chs. 6-9 have analysed the Village Electrification Project structured thematically around key domains concerning i) how electricity interventions affect gender relations and women's needs; ii) women's role in the electrification process; iii) women's role in family domestic work; iv) women's participation in livelihood schemes and v) how gender and empowerment are understood and produced in the organisation of the energy provision in the Village Electrification Project.

In order to develop knowledge on how energy interventions can address inequalities and power relations, this PhD research has explored the case of the Village Electrification Project from the standpoint of the women 'beneficiaries' in the local communities of implementation. The aim of this research project has been to provide these women with an opportunity to 'feed back' into the system by taking their experiences as the point of departure. Combining women's first-hand experiences with insights from a feminist political economy approach, this research has focused on how electrification has made a difference in their lives in the local communities. Further, this research has brought attention to the role that the implementation of rural electricity through an international PPP has played in this process of change for the women. This included a deep and critical exploration of private sector-led development and its underlying ideological logic, particularly how it aligns with international (and national) development policy's emphasis on the integration of gender in development cooperation. To explore these issues this research has addressed the following overarching question: In what ways has the implementation of Village Electrification Project, and the projects' use of empowerment as a stated focus, made a difference for women's lives in the local communities? The summaries of empirical findings and theoretical linkages to this question is discussed below.

## **Gendered Spaces and Women's Exclusion**

In Ch. 6, the social processes of community electrification in Jyotipur and Ashapura were explored. The Village Electrification Project influenced village life in Jyotipur and Ashapura in a number of ways. With the aid of household electricity and electric street lights, the villages were perceived as safer and burglaries decreased. The local village primary schools were also electrified, which at least in Jyotipur had made parents more positive towards the quality of the village school. Perhaps most notably, the provision of electricity transformed how individuals

and the communities interacted with each other and the rest of the world, by enabling communication, entertainment and information through mobile phones, television and computers. Education, safety, mobility and access to communication, entertainment and information have great potential for empowerment. The access to communication serves as a useful example, where the poor 'will have immediate access to information that was once restricted to the industrial world and travelled only slowly, if at all, beyond it' (Cairncross 1997, p. 4). Electricity access and the diffusions of cheap Chinese smartphones in India has aided this development, which brings social empowerment (Friedmann 1992). The story of Daarun, in Ch. 6, is a good illustration of the bright hopes for the future when the next generation of rural Indians have new opportunities: For example, their villages get electrified; their access to communication enhances; they get better prices for their agricultural output; and they can send their children to private schools enabling them later employment and steady income 'in the service'. However, the example of communication also illustrates how the transformation of village life has not led to the same opportunities of capital and empowerment for all. Part of this story also reveals that Daarun is born into one of his village's affluent Yadav families. His caste and class background has provided him with the educational and financial privileges that allow him to take full advantage of the access to electricity by finding a wife and benefitting from her dowry, use his Smartphone to extend and maintain important networks and gather information. As also shown in this study, women do not reap the same benefits as men, as resilient structures and values of masculine hegemony inhibit women from taking part in the communication revolution. Firstly, women (including girls) are sometimes not allowed full access to ensure that their and their family's moral integrity is beyond reproach. Secondly, as a result of the patriarchal division of labour and attributed perspectives on women's authoritative knowledge, some women have been denied the education and knowledge that is needed to use this technology. Of course one will find exceptions where women do use the Internet or can call whomever they like, but the ideal and norms that people generally ascribe to in Jyotipur and Ashapura exclude many women from this opportunity. The older generation and young men of low socioeconomic status (i.e. low caste and class) are also partly excluded from taking part in the communication revolution, because they lack basic skills in literacy or English, or because they are financially constrained. But, many old or young men of low socioeconomic status at least have access to their own mobile phones and can use them freely. On the positive side, the number of women that have access to or even own their own mobile phones seems to be an increasing phenomenon. For women, this enables contact with important family members,

such as a husband away for work migration, or her parents home, which provides a safety net in difficult times in affinal homes.

The story of Daarun and the example of communication (enabled by electricity) relate to gender relations and spatial economic geography that are configured locally, based on women's position in a patriarchal setting and lack of opportunities in public space (good education and employment). However, development institutions are also involved in the reproduction of power (Resurrección, Doneys and Lund 2015, p.320) in ways that exclude women. Viewed through the lens of feminist political economy and the importance laid on gendered geography as an organising principle in Jyotipur, Ashapura, and Reshamgaon, women were never included in the implementation process on an equal basis as men. The question of how gender should be dealt with in the Village Electrification Project was a debated issue among the public-private partners of the project, but in the end the focus on the technical and economic aspects (i.e., smart and efficient development as noted by McEwan et al. 2017; Mawdsley 2015) of the project took privilege over a more substantial effort to secure women equal participation. Also, the implementing NGO's emphasis on women's role in the project reflected the local cultural norms of women as beneficiaries within their legitimate space in the home. Therefore, of the 28 villages in the Village Electrification Project (30 if you count the preliminary projects of Jyotipur and Gopalpura), there was only one woman appointed as VO, and there were no women VEC presidents. Women's lack of knowledge and 'interest' in technology was seen as too much of an impediment to their recruitment. Even in Reshamgaon, where the CSPP was primarily focused on women and their self-help groups (excluding men), positions of leadership and technological domains in the project were occupied by men. This resonates with patriarchal gendered divisions of labour (Fox 2001; Hartmann 1979) and the symbolic power of masculine dominance (Bourdieu 2000), where men's dominating position within certain domains of society have been naturalised. Women were recruited and appointed as representatives of the VECs to ensure their opportunity to voice their opinions and partake in the running of the VECs (Completion Report, 20012, p. 25). However, in reality, the women VEC representatives found this a challenging role to fulfil as local customs denied them the ability speak out in such public arenas (as also noted by Jewitt and Baker 2011; Agarwal 2010). The democratic and positive effects of women's inclusion were thus effectively cancelled by cultural norms on 'proper' feminine behaviour and lack of gender focus in the PPP.

## What to Buy? The Possibilities of Consumption

The analysis of the community electrification process in Jyotipur and Ashapura in Ch. 6 are interweaved with the focus on politics of access and consumption enabled by household electrification raised in Ch. 6 and women's domestic work in Ch. 7. The community and household electrification and the subsequent shift in how people and communities live their lives are interlinked with changes in consumption towards 'new modern things'. As already noted, such things, like mobile phones, can have fundamental impact on women's lives, as the home as a base of their domestic work and 'caring' for others also becomes a space of leisure, entertainment and connection to the outside world. Such transformations are not trivial, especially for newly married women in *purdah* who are on the lowest rung in the family and community hierarchy. This study has also touched on the potential of television to challenge and blur the distinctions of public/masculine and private/feminine through providing new information and new perspectives of women's role in their family and community. Still, none of my informants dwelled on such aspects of the television; instead their focus was tuned to how it provided a new space to come together, be relaxed and entertained. But access was politicised as in large joint families it was not appropriate for *bahus* to watch together with their father-in-law or married brothers-in-law, and some television shows were deemed unacceptable for women. Again resilient structures of power within patriarchal families ensure that women do not have ownership and only partial access to the new items consumed. Such structures also influence women's opportunity to exercise choice concerning family consumption. Consumption can be viewed as what Kabeer (2001) terms 'second-order choices', which may affect a person's well-being. Kabeer does not view such choices as empowerment because they are not equally as relevant to the exercise of power as first-order (strategic life) choices, but as this research shows, they still might be experienced as empowerment by women themselves as they provide well-being and control over parts of their lives.

As shown in the story of Sunita in and Leelah in Ch. 7, electricity and water provision had provided substantial and positive changes to women's domestic work responsibilities. Sunita could fulfil her duties as a wife despite severe health problems with the aid of 'a modern home' post-electrification. This naturally provided her psychological empowerment in terms of sense of self and self-efficacy. Similarly, Leelah felt that life had gone from a depressing state to become literally brighter. With the aid of light and water provision, everyday life struggles were lessened. As an example, she told of how she previously had beat her baby in the night in

utter frustration and sleep deprivation. After their home was electrified, the simple action of flicking a switch for light gave her a chance to feed and comfort them, aiding their return to sleep. As Kabeer (2010) contends, this makings of empowerment is not necessarily within the liberating domain, as despite Sunita and Leelah's acquired sense of self and feeling of control in their lives, they have no new avenues to challenge gender roles that discriminate them. Rather, electricity has aided them in fulfilling the expectations of women, produced within patriarchal relations and gendered work divisions. This reproduction of gendered stereotypes is not just a making of the local, but also how gender, and women's role, was perceived in the Village Electrification Project; the caring woman who through the benefits of electricity have gained energy and time she can spend on her children, her family and other necessary chores (Completion Report 2012, p. 25).

A material feminist perspective on economic ideologies and attention to individuals such as Leelah's position within a larger political economy allows us to see that the electrification of Leelah's household and care work activities can be seen to enable what Elson (2005) coins a 'subsiding of patriarchy' that reproduces structures that render Leelah in many ways an underprivileged person in her household and in society in general. The empowerment she experiences from self-efficacy as a mother has important implications for her life quality and the life quality of her children, but it does not provide lasting effects in the form of liberating empowerment that transform gender discriminating structures of patriarchy (Sardenberg 2008). It is, notwithstanding its overwhelming importance, a classic representation of serving women's practical, but not strategic needs (Moser 1989). However, it does illustrate the theoretical challenges of understanding the personal value of emotional labour within feminist political economy and its inherent dilemmas in how to ascribe value to women's social reproduction work and eradicate the structures of patriarchy. Feminist political economy has since Waring (1988) drawn attention the importance of the mundane work women do and the important contribution it has on the national economy also when it is invisible within the domains of the private (e.g. Bhattacharya et al. 2017; Enloe 2013; England 2005.). The stories of Sunita and Leelah reveals how electricity is linked to psychological and physical health. Here we see that issues of feminist political economy need perhaps to be broadened to capture such important processes in people's lives. For Leelah, taking care of the next generation is more than drudgery of unpaid work on the alter of her own repression. In 2015, Leelah had another baby and the electricity provision was reduced to 1-2 hrs a day, leaving her again to the struggles of the past.

## Negotiating Gender Relations through Productivity

The Village Electrification Project did not just concern itself with community and household electrification, and in Jharkhand, the implementation of CSPP was merged with PRADAN's women's self-help group model. By analysing the self-help group model and the added component of electricity, Ch. 9 explored how a more women-focused approach to development could use energy to give women empowerment. The implementation of CSPP provided the women self-help groups with an opportunity to enhance their productivity and income of silk-reeling. The income opportunities gave the women economic empowerment through increased opportunities for economic capital, resulting in more decision-making power over consumption and other economic priorities in their family. Though not explicitly mentioned, the increased income opportunities provide legitimisation of women's participation in PRADAN's activities as most families in Reshamgaon could not afford losing out on the income. The holistic approach of PRADAN also involved women in identity building, forging of women's solidarity networks, as well as extend their skills to handling money. As a result, many of the women set claim to masculine spaces that had traditionally been out of bounds. This was exemplified in the story the self-help group leader Anita (Ch. 9), who through her assertive role demanded respect in her family and among other self-help group members. The 'power' of the self-help groups and women like Anita did not go unnoticed among men and other women in the area and they had incurred a reputation in markets and the villages as they could 'gather as many as 150 women very quickly'. The self-help group model and the added component of electricity, had provided the participating women economic, social and partly political capital that enabled them to challenge discriminatory structures and institutions, and their symbolic power. The story of the tribunal (presented in Ch. 9) exemplifies well an incident where the women challenged men's privileged position of power and the negative effects this had on women's security. Through the solidarity and networks of the self-help group cluster organisation, the women in Reshamgaon confronted sexual harassment through public meetings, a police report and finally the set-up of a public tribunal. However, despite their efforts and empowerment, men were still in charge, holding the ultimate decision-making power both concerning the tribunal and through their positions as occupying technological domains (VOs) and leadership. This makings of empowerment in PRADAN self-help group model and the Village Electrification Project is situated in a discourse that as Sharma notes (2008) sees empowerment primarily as a de-politicised and individual process. As such the makings of empowerment

women still left the women severely limited by lack of formal political and legal support. Further, important gains were retained by certain individuals and groups, and not by women in general. The self-help group activities were also contingent on public legitimisation and practical support of PRADAN. Still, the merger of energy provision and the self-help group model illustrates well how a holistic energy development intervention can put women in a strategic position to (at least) actively challenge gender norms and traditional perceptions of women's authoritative knowledge, which in the long run might lead to changes in discriminatory gender relations. The above findings show how discourses of development are tied up with transforming women into productive citizens as described by Sharma (2008, see also Pattenden 2010). This enables women's access to economic capital, but it also opens up for exploitation of women as cheap unskilled and unorganised labour within capitalist production networks through continuing the spatial binaries of patriarchy private/feminine and masculine/public (see Raju 2011; Mies 1982).

### **The Production of Gender Relations in the PPP**

The effects of the Village Electrification Project felt on the ground are interlinked with the ambitions, priorities and approaches deemed by the provision side. Ch. 9 of this thesis monograph reverses the gaze to how gender was perceived and produced in the organisation of the PPP of the Village Electrification Project. Already from the planning phase of the project, there was a tension between how gender should be understood and implemented. Whereas Norwegian development policy and Norad promoted a 'substantial' effort to integrate women in all phases of the project, Scatec Solar and the Indian government institutions saw the Village Electrification Project as mainly a technical endeavour aimed at building viable business models that could be scaled up fast to a great number of unelectrified communities. This tension also has familiar roots in the different perspectives of gender existing in the development paradigms of GAD and private sector-led development. While international development policy for decades has been profoundly affected by feminist critiques and the need to address gendered inequalities to achieve social change, the neoliberal discourse has played an even more significant part in shaping development policy (Kabeer 2015). Ideas of market economy integration as a roadmap for development have also given faith in the ability and necessity to bring the private sector into development projects (Mawdsley 2015). The private sector undoubtedly possesses technical and economic qualities that can create long-term job



opportunities and innovation. It is difficult to imagine reaching SDG#7 of providing affordable and clean energy to all by 2030 if the private sector is not included in this process. But concerns to maintain development that also safeguards the knowledge and experiences derived from GAD is not well-developed within private sector-led development. As the Village Electrification Project illustrates, corporate ambitions align more easily with a view of development as de-politicised and gender-neutral (McEwan et al. 2017). In addition, the corporate ambitions are guided by an ideology that sees the productive and reproductive economy as clearly separated and devalues the first. Further, as shown, the distributed responsibilities within such partnerships make gender a checkpoint to send onwards and the support mechanisms for Scatec Solar was mainly focused on the planning phase, evaluation and monitoring, while the responsibility was put on their shoulders from execution to completion date (and possibly further).

## **What About Empowerment? Looking Beyond the Village Electrification Project**

I do not have solutions for women's empowerment – and I doubt anyone has – but I am interested in the various kinds of policy interventions that might contribute to it as well as in feminist strategies (Kabeer 2010, p. 17).

This research has shed light on the makings of women's empowerment in the Village Electrification Project to produce knowledge of how we can move forward with adoption of decentralised solar energy systems for rural electrification, while simultaneously enabling social changes that give men and women equal opportunities. Equal opportunities for both women and men are here understood as development that provides women (and men) a space to challenge the gender discriminating structures of patriarchy in all its forms in line with feminist assertions of liberating empowerment (Sardenberg 2008; Kabeer 2001) and Moser's (1989) framework of strategic gender needs. In this analysis, the Village Electrification Project and the specific research sites of Jyotipur, Ashapura and Reshamgaon have been valuable cases for learning. Answering the question of in what ways the implementation of Village Electrification Project, and the projects' use of empowerment as a stated focus, has made a difference for women's lives visualises how discourses of empowerment are intertwined with

the spatial gendered economic geography where women's role in the reproductive economy is seen as of less value (as described by Waring 1988 and others) and where women's economic empowerment is embedded in a de-politicised process of liberal empowerment (Pattenden 2010; Sardenberg 2008; Sharma 2008), which in fact enables capitalist exploitation. A feminist political economy approach highlights how the Village Electrification Project does not easily meet the standards of empowerment as an increase of power and decision-making in important domains. As Kabeer (2010, p. 17) writes: 'It is the increased capacity to exercise some degree of control over the issues that matter, that makes the exercise of choice empowering... And finally, for choice to be empowering, it needs to challenge rather than reproduce inequality'. Did Sunita, Leelah and Anita experience positive effects in this way? The short answer is no, but still Sunita, Anita and Leelah did experience empowerment in other dimensions of power as described by Friedmann (1992); psychological power through improved confidence and improved well-being, social power through information, networks and finances. However, in view of a women's work, social reproduction and decision-making, these findings also display deeper nuances of reinforced unequal gender relations. Women's role in the reproductive economy is, as Elson (2005) argues, part of subsidising patriarchy as it involves specialising in care work, undermining women's agency in a number of ways. Access to electricity as shown in the case of Leelah and Sunita can accentuate this specialisation when rural electrification is focused on women purely as end-users. This implies that electricity, in general, is not 'fully' empowering as it only caters to women's practical needs and not strategic interests that are needed for the process of liberating empowerment (Moser 1989).

The findings concerning electricity and women's care work is still ambiguous and theoretically challenging within a feminist political economy approach. According to Friedmann (1992), gains in social and psychological dimensions also aid the empowerment in other dimensions. The care work of Sunita and Leelah is a significant source of their sense of self-efficacy. Further, feminism has been occupied with bringing the 'tremendous' amount of familial work... that goes to sustain and reproduce the worker' from its naturalised nonexistence and into the public eye (Bhattacharya 2017, p. 2).

The makings of women's empowerment in the Village Electrification Project are fraught with tensions, not just between women on the ground and scholarly interpretations, but also between the public and private partners in the PPP. Scatec Solar's ambition with the Electrification Project was never a battle to change gender relations in the local communities to ensure that women had equal access to key roles in the project or would benefit in such a way

as they could exercise strategic life choices that challenged inequalities (of gender, caste and class). The emerging trend of private sector-led development has never articulated this as a goal, but views development as equal to market economy integration where such effects will ‘trickle down’, but still insist on a demarcation of public/private and productive/unproductive spheres of human lives. Integration of gender focus has nevertheless been on the international, Indian and Norwegian development policy agendas for decades and women’s empowerment has been embraced as a win-win situation where women become productive citizens, producing welfare for families and contributing to national economic growth and development (see Sharma 2008). This tension of ideologies and development policy agendas is resolved through an artificial separation between the domains of technology and economy on the one hand, and the domains of gender on the other. Electrification and private sector-led development belong to the former domain, perceived as neutral and unthreatening, while health, education and small-scale livelihood enterprises are common examples of the other. Even development institutions have been characterised by this separation of ideas and practices in the structure of their departments. This perception of gender and energy as two distinct concepts does not easily produce social change. As Rewald states (2017, p. 31):

These challenges and complexities highlight the need for energy access projects, policies, and advocacy to sit within a broader development context that aims to improve the lives of women and the poor. Energy access initiatives must be coupled with other development interventions such as access to credit and other resources, economic development, and interventions to increase women’s rights, agency, and economic empowerment.

So what knowledge can this research study offer? By following the ‘thing’ (Marcus 1995), the implementation of CSPPs in local communities and the idea of rural electrification within the PPP, this study has explored the mechanisms that affect how projects such as the Village Electrification Project can enable women’s empowerment and change unequal gender relations. The case of the Village Electrification Project is unique in many respects, but the tensions found in how gender is understood and produced and the effects on women in the local communities is not unique within development initiatives. The reluctance to address women’s marginalisation in the communities, and the consequences of it, has resulted in reinforcement of the patriarchal structures that form their lives. Further, the failure to understand the customer with all its complexities has played a significant part in the failure of the Village Electrification

Project. When implementing CSPP in North Indian communities, the social elements cannot be separated from the technical and economic aspects. As Nye (1991, p. 390) states; ‘people do not merely use electricity. Rather, the self and the electrified world are intertwined’. It is evident, to use a cliché, that more research into the socio-technical elements of energy systems is needed (such as contributed by Geirbo 2017; Ahlborg 2015; Ulsrud 2015). This research should also take notice of the power relations that assign values to people and their activities thereby privileging some and marginalising others.

The lack of attention to the politics of energy (Standal, Winther and Danielsen in press: Listo 2018; Marshall, Ockwell and Byrne 2017), and prioritisation of producing economically-viable models and rapid scale-up, has unfortunately led to the abandonment of the Village Electrification Project, both by Scatec Solar and Norad. The Village Electrification Project has been labelled as too difficult, due to challenges of mobilising communities to manage ownership and management of such systems in a democratic and financially viable way. If this perception is echoed by private sector and development institutions in general, it has serious ramifications for global efforts to bridge energy poverty. From this perspective, it does not make sense environmentally or financially to expand grid connection to all small and remote communities, and even when villages are integrated into national grids, the rate of household connections remain low (Chaurey et al. 2012). Also, it will have implications for global commitments towards gender equality as access to energy is not just a separate SDG#7, but fundamental to important aspects of life, such as gendered work divisions and gendered outcomes of education and health. Expanding our understanding of how energy access can bring positive effects on gender relations can help to bridge the energy gap and promote sustainable decentralised energy systems. To this end, this research study has explored the Village Electrification Project from the standpoint of the local women to produce knowledge that takes women’s perspectives and experiences seriously and can enable an energy future changing the whole life of *all* people.

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## Appendix

### List of Documents used from the Village Electrification Project<sup>136</sup>

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