

THE GLOBALISING EFFECTS OF SOLAR ENERGY ACCESS ON FAMILY AND GENDER RELATIONS IN RURAL INDIA

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ASIA IN FOCUS

This paper discusses the effects of energy access, in the form of newly implemented solar energy, on the dynamics of gender and family in rural Uttar Pradesh and Jharkhand. India has seen a remarkable transformation into an emerging economic power in recent years which has brought change also to political, cultural and social relations in society, thus bringing India ‘closer’ to the rest of the world. These globalising effects often related through media and communication are contingent on access to energy. The global access provided by the implementation of electricity provides challenges to local norms and hierarchies of community, family and gender. Still, India’s institution of family is depicted by counter discourses, as being made of a ‘different fabric’ upholding traditional Hindu gendered culture and values. By exploring the everyday life of three informants—a young *bahu* (daughter-in-law), a young educated bachelor, and a self-help group leader in her 40s—this article illustrates that access to energy provided many important benefits, but at the same times the outcomes are not equally distributed and reinforce existing inequalities.

Keywords: family, gender relations, rural India, globalisation, energy access, solar energy

India is changing as a result of increasing economic liberalisation, urbanisation and socio-economic polarisation (Costa 2012). Several of these transformations are welcomed as means for economic growth and development, and also for challenging and hopefully eradicating, old conceptions of power and inequality based on gender, religion and caste. One of the major aspects of a transforming India is linked to the electrification of the country. These globalising effects often related through media and communication are contingent on access to energy and the aim of this paper is to explore the effects of energy access, in the form of newly implemented solar energy, on the dynamics of gender and family in rural Uttar Pradesh (UP) and Jharkhand. Exposure to the global world (through electricity access) challenges local norms and hierarchies of community, family and gender. As Nye shows in his account of the electrification of America, the absorption of technological innovations also entail social and cultural process, “an extension of human lives” (Nye 1991, p ix). Previous studies have shown that energy access creates new opportunities for women, by simplifying care work responsibilities, and by providing resources for income generation and access to information. In an Indian study, access to cable TV was found to have changed perceptions on women’s abilities, domestic violence and son preference (Jensen and Oster 2009), while a study of rural electrification in Afghanistan indicated that access to Iranian TV allowed women to argue for their rights within an accepted Muslim discourse (Standal 2008). Further, access to Mobile phones has been found to provide

security for women in rural India by allowing for better contact with their natal family (Tenhunen 2014).

Despite the continuing expansion of globalisation, there are counter discourses that invoke religious and nationalist ideals to assert “traditional” Hindu ways of life, particularly in connection to gender relations. I put the term traditional in brackets, as it is based on a selective construct of Hindu traditions and scripts biased towards curtailment and control of women’s sexuality and mobility (see also Oldenberg 2007). Western influence and women’s transgressions of moral boundaries (often referred to as ‘crossing the Lakshman rekha’) are seen as dissolving traditional family values and the protection of women within the sanctity of the (patriarchal) family. 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 relation to wide-spread publicity on recent incidents of sexual violence in the country (Brown and Agrawal 2014).

Electrifying rural India

One of post-independence India’s grand projects was the electrification of the country (Kale 2014). Jawaharlal Nehru envisaged that electrification would transform both the process of unification and modernisation: “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” (Nehru, in Kale, 2014, p. 1). Despite Nehru’s ambitions, India’s electrification has until recent years not significantly extended to rural areas. As a result India has seen a growth in de-cen-

tralised energy systems that take a variety of forms, such as solar, hydro and bio. In reality this means that ever more villages experience electricity for the first time in contemporary India, an experience that differs considerably depending on the type of intervention, technology and contextual community factors. Several such energy interventions come as a result of NGO implementation with foreign ownership of the energy system.

Energy projects initiated through foreign interventions are in themselves globalising as they build on particular ideas of beneficiaries, which also frequently see the energy technology as men's domain in terms of expertise and ownership, whereas women are seen as being benefited as consumers within their role as the family care-workers or running micro-enterprises in the vicinity of their homes (Standal and Winther 2016).

This article draws on interviews and observations carried out over about four and a half months in two villages in UP and one village in Jharkhand, which had implemented a solar rural electrification project (for more details see Standal forthcoming 2016). The project was initiated by a Norwegian solar energy company in partnership with Norwegian Agency for Development Cooperation (Norad), the Indian Ministry of New and Renewable Energy (MNRE) and the Indian Renewable Energy Development Agency (IREDA). In the UP villages, the implementation of Community Solar Power Plants (CSPP) provided villagers with household electricity for lightbulbs, and sockets in the house. One of the villages also had a solar driven water supply to the households provided by the project. In Jharkhand the CSPPs were implemented to electrify silk-reeling centres where women self-help groups worked. The electrification of the silk-reeling process meant higher quality of yarn, more efficiency and reduced physical labour for the women, and as a result significantly increased their income opportunities. Men were given the primary role in maintenance and ownership as the local positions as Village Operators (VO) and Village Energy Committee (VEC)

President, where held only by men. As I will elaborate on, despite providing important resources and new opportunities through the implementation of modern energy solutions, these benefits were not equally distributed but rather were contextualised within the social markers of gender, age, socio-economic status and, to some extent, caste.

Conceptualising the North Indian family and gender relations

The institution of marriage, though with great variations, is a strong cultural norm in India. Divorce and alternative set ups for couples' relationships are rare, especially in rural areas (Béteille, 1999). With the notable exception of many Adivasi (and partly Muslim) communities, the predominant family ideal in rural North India is the joint Hindu family where fathers live with their sons and their wives, and unmarried daughters. The joint Hindu family is founded on the systems of patriarchy and patrilineality. Family power is divided along gender and age hierarchies with male control over women's sexual behaviour and fertility to secure the male lineage. Further, women marry out of their kin and into their husband's family where their basic role is to provide service to their parents-in-law and produce sons (Lamb 2000, Wadley 1994). Male power in the patriarchal system is upheld through mechanisms of control. Women are expected to conform to *Purdah*, meaning that women are secluded from public sphere (often through their clothing and restrictions on mobility) and women should never speak in public and only in whispers to male affines (Wadley 1994). Patriarchy is also denoted as the sexual division of labour, where men have confiscated the modes of production in society, so women work in the home under economic dependence of men for survival (Fox 2001).

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 center-periphery to explain the hierarchy of gender and age in terms

of social position in the family in West Bengal: The principal married couple of a house whose sons were not yet married were 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 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 less 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 mother-in-law (Lamb 2000). Women’s age and position in the family therefore matters greatly for their power and agency.

In the rural communities in question the intersection of women’s identities adhere to their class and caste status as well as their position in the household. The villages included in the project were quite homogenous, constituting only Hindus and with few caste groups. In the UP villages there were on the other hand clear distinctions in socio-economic divisions where Yadavs in general seemed more affluent than others. In Jharkhand the differences in caste and class were less obvious and the villagers were all on the “upper” ladder of the caste system. Interestingly in UP, it was households from all castes and socio-economic positions that chose to have an electricity connection (costing 2000Rps and purchase of expensive CFL bulbs). There were also few differences in households’ assets (beyond housing standard and ownership of land) such as mobile phones, TVs, fans and coolers. This may have been because objects were often acquired through the practice of dowry, another important feature in the Indian institution of family. The expenses for a daughters’ marriage are a perpetual concern for Indian families as the social and material costs drive many into poverty (Krishna 2011). This

also has detrimental effects on family relations as fertility is enclosed in an economic and social reality that increases the rate of sex-selection abortions and produce skewed sex ratios (John 2011).

In the next sections, I focus the analysis on two women and one man: Leelah, a young mother and *bahu* from a SC (Scheduled Caste) household; Daarun, a young educated bachelor from a more affluent Yadav family; and Anita, a self-help group leader with adult children (all names are pseudonyms). Their narratives capture three views on the impact of energy access from different gender, social position and economic situation.

Leelah

Leelah is a young mother in her early 20s living in a large joint household with her husband’s family in a village in the Bundelkhand region in UP. The family belongs to Ahirwar, the only Scheduled Caste (SC) group in the village (about 18 % of the village population). The rest of the village consists of mainly Yadavs and Kushwahas, both Other Backward Castes (OBC) and two Brahmin families. The village is small with 100 households and therefore the village has not been viewed as relevant for central grid extension. Instead, the village was electrified through CSPP in autumn 2011. The village has a sex ratio of 899 women to 1000 men, a lower average than UP and India as a whole. Though school enrollment rates of girls were improving in the village, families with sufficient financial means sent their sons to private schools or tutoring, further widening the gendered educational and socio-economic divide in the village.

Despite reporting low income from their agricultural output (5 bighas), by 2015 all adult members of Leelah’s household, including the women, had their own mobile phones. The family also owned bicycles, tractor, motorbike, TV, fan and a cooler, which with the exception of the TV, were all acquired as dowry gifts.

When I first met Leelah in 2012, she had a 2 year-old child and a 5 month old baby. In line with

the customs in her village she was in *purdah*, and would not leave the house alone and was always veiled in front male affines. The practices of *purdah* in her community was gradually lifted when women had borne two or more children and become affiliated members of their households. Then a *bahu* would also receive new responsibilities such as fetching water or firewood, which Leelah's mother-in-law or husband's sister did.

Leelah exemplified the typical *bahu*, who is described by Lamb and Wadley as subservient, with modest gentle appearance and balancing her voice and words out of respect for her in-laws. In many ways the implementation of the CSPP benefited Leelah to a great extent. The provision of solar driven water supply meant that a water tap was installed in their house, thus relieving the women 4 hours a day for fetching water. Light and fans were placed inside their home, which reduced the problems of heat and mosquitos. Cooking was also easier in a well-lit kitchen. Leelah also felt the electricity had benefitted her family and community socially and psychologically. In her words life was literally brighter and included more socialising among family members in the evenings (with light, fans and TV). According to her, electricity had changed life from a more depressing mood (*dukhi*) to happiness in the village. Taking care of her children was also easier when her home was electrified some months after the birth of her second child. The change to simply flicking a switch for light helped soothe the children and she could nurse them easier:

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 (cited in Standal forthcoming 2016).

Leelah's work as the village seamstress had also profited from electricity. Before she had children she could work during the day and earn about 700-800 Rs a month. However, with light in the evening, her working hours were more flexible and she could work in the evenings. In 2012 she was earning about 1600 Rs monthly, which she used for herself and her children, but at times she was asked to help the joint family with her income. 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. Every morning she would wake at 5 am to start preparing food and throughout her day she had regular chores.

In 2012 the family's TV was not working so the family did not have access to news and information other than via mobile phones. When I returned in 2015 this had changed and they had grown accustomed to adapting their lives to more socialising and watching TV in the evenings. In some families restrictions were put on a *bahu's* access to TV programs, which limited their access to information. Unfortunately, the energy provision was severely hampered by 2015 due to equipment failure and there was resentment against the energy project both in Leelah's family and the village in general. They now felt compelled to go to bed early, and there were fewer opportunities for the children to do homework.

As shown, Leelah and her family experienced several benefits from household electricity: increased income, easier everyday life and new ways of socialising, to name a few. As mentioned, for Leelah the light brought both happiness and means to fulfill the (practical) expectations of family. Leelah was also exceptional in the fact that she was the only woman in her village who was earning an independent income. However, despite the benefits of energy access, Leelah was still not able to make decisions about her fertility or what Kabeer (1999) refers to as strategic life choices. She had, upon instruction by her father-in-law, given birth in the local

hospital which earned her 1400Rs with the National Rural Health Mission scheme. It was also common knowledge that young mothers in her village underwent sex-selection abortions upon 'request' by their parents-in-law. These issues were not deemed as matters where a *bahu* was free to voice her opinion; doing so would be gravely disrespectful.

In spite of facilitating an easier everyday life and a higher income, the narrow focus on women as only end-users in the energy project in Leelah's community reinforced values that see women's main accomplishment in life as the provision of care work for the family (Standal forthcoming 2016).

Daarun

Daarun is a young man in his early 20s with a college degree, who comes from another Bundelkhand village in UP. He lives in a nuclear household with his parents and younger brother. They belong to the Yadav community and are among the more affluent in his village with income from selling buffalo milk and farming. The household was among the first houses to connect with the CSPP, and had installed light in most rooms. They owned a tractor, a motorcycle, fans, a cooler and an electric iron. His father, younger brother and Daarun also had mobile phones that his mother was free to use.

Daarun's village has 69 households and about 90% of the villagers are SC, but households from all caste groups and social-economic status had connected to the CSPP despite the costs of the 2000 Rs connection fee. The sex ratio of the village is even lower than Leelah's village with a meagre 883 women to 1000 men, and a child sex ratio of an alarming 667 girls to 1000 boys. In this village as well, anyone who has the possibility sends their sons to private schools in the nearby town a few kilometers away. Nevertheless, the perception of the government village school was that the quality had improved, partly because the electricity also made it possible for the children to use computers in their education and do homework in the evenings in electrified households.

In many ways Daarun and his family were in a position to enjoy all the benefits of energy access. As Daarun has a college education and proficiency in English, he used his mobile phone to connect with friends on social media, read news and acquire information. His family also used the mobile phone to connect with people to find out about prices for agriculture in the market, which is not possible if one does not have a robust economy. In a conversation with Daarun and my research assistant, he phrased it in this way:

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 go low he stocks, when the price goes high he sells (cited in Standal forthcoming 2016).

Daarun benefits from the electrification of his village in other ways as well. He has a position in the village energy committee, and, when we met in 2015, he was eligible for marriage and therefore his family received many guests who scrutinised his home and family. Before the village was electrified, it was more difficult for men to find a wife as many would be hesitant to marry their daughter into an un-electrified household. If he marries, Daarun and his family can expect a considerable dowry including 'modern' appliances that run on electricity. Receiving dowry might also alleviate some of the costs the family had when marrying off Daarun's sister when they gave; "... motorcycle, fan, TV, iron, washing machine... We also gave 4-5 lakhs [Rs]" (cited in Standal forthcoming 2016). As according to custom, all these items were loaded onto a car when his sister was taken to her new home.

With his higher education and socio-economic status Daarun is not representative of the majority of young men in his village, but he is a good illustration of the benefits of electrification on those of his generation and gender that have the ability to make the most of having access to energy. Daarun

plans to join the Police Academy or take a Master's degree in natural science, when he settles with a wife in the nearby town. Nuclear households were not unique Daarun's village, but said to be dependent on whether parents wished their household to consist of one or more sons. As the oldest son and educated with prospects of steady income, Daarun has the privilege of choosing his family script and either live in a joint family or establish a separate family. Despite his young age, the moral boundaries of the traditional Hindu family values do not apply to him in the same way as Leelah or other women in his community. This does not free him from moral obligations to his near and extended family such as covering the cost of energy consumption (by paying electricity bills and acquiring dowries for female relatives), but he has the capacity to challenge these norms in a different way to Leelah, as education and being of the male gender provide him some prerogatives. When he marries, Daarun will also have the opportunity and freedom to live both the traditional family life and be "modern" as he will most likely have a wife at his side that will dutifully uphold the ideals of home and motherhood, while he can continue his education and hopefully take a well-paid job in the city.

Anita

Anita, who is in her 40s with grown-up children, comes from a small village in Jharkhand that have implemented CSPP to electrify the women's silk-reeling production in the local self-help groups. The village has about 39 households and all villagers belong to the Kshatriya or Vaishya group, which means that there are no SC or OBC families in the village. Anita's village generally has considerably lower housing standard in comparison to the villages in UP, but the village is connected to the central electricity grid. Also, the women enjoyed somewhat freer mobility and did not veil in public as was expected in Leelah and Daarun's village.

Despite son preference and dowry customs it was claimed that sex-selection abortion was un-

common.

Anita has freedom in her elevated status as a mother-in-law, now constituting what Lamb (2000) terms 'the center of the household', which meant she had less care work responsibilities and more autonomy than a young *bahu*. She also enjoyed a higher status in her position as a self-help group leader in her village. The self-help group's involvement and support from the CSPP project elevated this position considerably. The electrification of the silk reeling process had enabled the women to greatly increase their income as the quality of yarn was better, and they could work longer hours since the physical labour was reduced. Anita worked long hours with the silk reeling and earned about 2000-3000 Rs a month. Several of the other women, especially mothers with young children worked much less, and earned about 1000-2000 Rs a month.

Anita's income gave her more independence regarding economic priorities in the home. Women's access to "independent" income is often heralded as one of the more empowering effects of energy access in development discourse by institutions such as the World Bank and ENERGIA. Like Leelah, Anita and many of the other women in the self-help group, the income was theirs to dispose of as they saw fit. However, the income would also frequently comply with the husbands' wishes or for dowry savings, which supports the value of son preference. The families' dependence on agriculture in Anita's community meant that during harvesting seasons 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.

Anita is a very outgoing person with a strong charisma and authority. As a self-help group leader she has considerable power and some of the other women feared her. The network of the women self-help groups in the district area provided an important arena for solidarity and a challenge to gender discrimination. An incident in one of the meetings showed how the group provided support in cases

of discrimination: Allegedly, a man in one of the villages had, for many years, harassed women while they were asleep in their homes. The women had reported the incidents to the police to no avail. The self-help group women had beaten the man as punishment, which had caused outrage by the (male) village elders, on the grounds that this crossed the moral boundaries of women's acceptable behavior. The women did not want to challenge the elders, so instead they set up a mock tribunal near his house, ordering him to attend. The meeting ended in the joint decision that the man had to pay a fine of 5000 Rs and obey curfew regulations. This decision was acknowledged by the man in question and the elders.

As a result of long-time NGO support and the CSPP project, the women in the self-help group, with Anita at the forefront, actively challenged discriminatory gender norms in this case and others. This involved negotiation of the moral boundaries they ideally should have adhered to, where the men, in this case the police and the village elders had the last say. Anita shares the same benefits and challenges as the other self-help group women in terms of poverty and women's inferior status in society (as illustrated by their futile attempts at stopping the sexual harassment), but she also stands out, as her personality and relative freedom in her position in the household enable her to earn an independent income and raise her voice publicly about issues that concern her and her community. For the younger generation of *bahus* in the self-help group, this would be a more challenging position to maneuver.

The three narratives described above represent different perspectives of positions in the family and illustrate how the potential benefits of energy access are subject to their relative gender and position in family and community. These informants have different social profiles and life situations and this impacts on how energy access can transform their lives.

Conclusion

As exemplified in the cases of Leelah, Daarun and Anita, energy access "globalises" the family in many ways; for instance, it provides more efficient ways to provide income, do household chores, socialise and communicate. However, as illustrated with Leelah, it is also evident that the provision of energy may undermine women's agency by upholding and perhaps even strengthening subversive structures such as patriarchy and dowry, even though she became empowered by being a 'consumer' of electricity. By contrast, in Jharkhand the energy project enhanced the self-help group model and thereby contributed to a women's network that actively challenged some forms of gender discrimination. The opportunities of income and networking did not alter the value put on the traditional status of family and marriage in the local contexts. Daarun stands out as the star example of being able to utilise the benefits of the newly implemented electricity in his more advanced use of Internet and communication, and now being able to attract a partner as his household has an electrified status. As Nordfelt (in this issue) points out the 'class within the household' determines each household member's access to resources such as education, income, decision-making and mobile phones, TV, restricting women's ability to fully benefit from these opportunities in accordance with traditional family values.

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