Expertise, Legitimacy and Subjectivity: three techniques for a will to govern low carbon energy projects in India

This paper advances the understanding of the politics of governing energy for development projects by non-state actors. Building on Tania Murray Li's work on trusteeship, and drawing on governmentality studies, along with ethnographic insights from two low carbon energy projects, this paper illuminates two less examined aspects of politics of energy projects. First, the designs of these projects embed particular imagined subjects, and specific techniques, to afford governance. In particular, trustees use techniques of expertise, techniques of legitimacy, and techniques of subjectivity. Second, trusteeship is a contingent phenomenon as a clear line between trustees and subjects is often missing. Many actors, simultaneously trustees and subjects, also carry socio-cultural subjectivities of class, caste and gender, which complicates the conduct of conduct. Some trustees look for benefiting people, some for profits, some to make a political career and, yet others, to support their social groups. By engaging with trusteeship, the paper flags that the governance techniques do not always benefit the 'beneficiaries' and are often counterproductive.

The article emerges from nine-month ethnographic research done in 2012-13 in five villages in India using participant observations, interviews and group discussion, in addition to analysis of project websites and documentary materials.

Keywords

1   Introduction

India faces two main energy problems. First, a large part of its population, still to be connected to the national electricity grid, lacks access to energy. In addition, many people connected to the national grid suffer from bad quality, inadequate quantity, and erratic nature of electricity supply. Second, large hydroelectric dams and coal power stations have created spaces of environmental degradation. Low carbon decentralised energy, with its promise of efficiency, reliability and eco-friendliness, has emerged as a solution to these problems (Jolly et al., 2012).

Until the late twentieth century in India, the provision of energy services was the state's domain. Many actors beyond the state have now come to occupy this domain. Although it is difficult to say what percentage of energy provisioning in India is done by non-state actors, CLEAN, a prominent

energy access industry association, reports having 104 members[1]. During 2016-17, data from 40% of these members showed sales of about 4.5 million solar products. Such a turn toward non-state actors in the delivery of basic services is evident in other parts of the world too (Davies, 2018; McEwan, 2017).

Building on case studies of two energy projects in India, this paper advances the understanding of the politics of governing of energy for development projects by actors beyond the state. This is critical because the way these projects are governed determines winners and losers. However, the losing sides often do not have recourse to mechanisms like "political society" as they have in the state's domain (Chatterjee, 2004). These actors often demand a domain of operation exclusive of the state's electricity grid (Comello et al., 2017) which threatens some communities with limited access to energy through small-scale projects while others enjoy the full might of the state grid[2]. In addition, as Li (2005:384) reminds us, experts involved often govern "without a democratic mandate".

Tania Murray Li's (2007c) work on trusteeship is useful for understanding how actors beyond the state govern. Li (2007c:4) explains trusteeship as the commitment by an actor to improve another's capabilities. Building on Li's (2007c), work on trusteeship and drawing on governmentality studies (Li, 2005; Rose, 1999), this paper follows the techniques of governing low carbon energy projects. A lens of trusteeship helps illuminate two less examined aspects of energy for development projects: First, it illustrates how the designs of these projects embed particular imagined subjects, and specific techniques, for governance to take place. Second, trusteeship is a contingent phenomenon. Many actors move between being trustees and subjects at the same time because a clear line between trustees and subjects is often missing. Also, people's socio-cultural subjectivities complicate trusteeship. Trusteeship provides an alternate understanding of governance of energy for development projects. One that departs from an ordered institutional account and embraces a more messy process driven by a will to improve (Bulkeley and Castán Broto, 2013).

Section 2 explicates the theoretical background of trusteeship and presents a conceptual outline for the paper. Section 3 outlines the methodology, research sites and case studies. Section 4, 5 and 6 use empirical material to explain why and how trustees use particular techniques to govern projects. Section 7 extends Li's (2007c) trusteeship to explain how, due to their contingent positionings,

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[1] http://thecleannetwork.org/downloads/115-State-of-the-Sector-Report.pdf

[2] For example: https://www.indiatoday.in/india/east/story/bihar-village-dharnai-nitish-kumar-clamours-for-real-electricity-202984-2014-08-06#close-overlay

within the project and the local socio-cultural milieu, actors' positions as trustees and subjects are unstable and resisted. Section 8 outlines concluding arguments and key contributions.

2   Trusteeship

Geographers and Anthropologists have used the idea of trusteeship to reveal the politics of colonial powers, post-colonial states and, increasingly of development projects and organisations. Bendix (2016:236) explains how imagining subjects as "passive and unambitious" helped German colonisers position themselves as trustees for educating and enlightening East Africans (see also Allsobrook and Boisen, 2017). Disguised as emancipation and empowerment, trusteeship, therefore, legitimised the "social order of empire" (Boisen, 2017:330; see also Cavanagh, 2017). Power (2009:15) reveals how the UK positioned itself as a trustee and a leader for the "global project of managing development and globalisation" in the post-colonial world (see also, Hart, 2006). Continuing with the colonial trope, Power (2009:15) argues that UK's Department for International Development has placed itself as a trustee by developing an image of Africa "as perpetually deficient and lacking in some way" and DFID's interventions as the only solution. Domosh (2018:313) argues that a belief in trusteeship, the inadequacy of the 'other' and, therefore, a need for expertise, have been widely critiqued by development geographers, and a sustained enquiry of the sites of production and concretisation of these imaginaries is central to the "epistemological de-colonising of development knowledges and practices".

In post-colonial spaces and the non-state domain, Ruwanpura and Hollenbach (2014:246) demonstrate how local Sri Lankan elites assume trusteeship backed by a claim of 'authenticity', "'insider's' legitimacy" and lack of 'external' interference, despite differences of socio-economic standings between those positioning themselves as trustees and 'their subjects'. Similarly, Jazeel (2006) explains that members of the Sri Lankan diaspora in London thought of 'helping' and 'giving back' to Ceylon through volunteer and unpaid work as their trusteeship. A postcolonial development context has led to trusteeship being reimagined (compared to the colonial context) as a creator of an enabling environment for the subject's development (da Costa, 2010:505).

Trusteeship is rooted in Saint Simonsians' arguments for the society's resources to be handed over to trustees with a "capacity' to decide" their appropriate use (Cowen and Shenton, 1996:23). Those with a "capacity to utilise" resources in larger social interest, and the capability to decide, should be entrusted with the 'good of the people' (Cowen and Shenton, 1996:23). This understanding emerged in the colonial era with an underlying assumption that the colonisers held the right and the duty to act on behalf of the colonised (Harris, 2008). On the other hand, Sharma (2008:14) explains the

presence of trusteeship in Gandhi's idea of self-governance (*swaraj*) expressed by his understanding that not everyone was capable of acting and thinking morally and that "certain individuals could guide this process of self- and social change through their acts and knowledge". As opposed to the western trusteeship rooted in a presumed superior rational and scientific reason, Gandhi's trusteeship was rooted in local moralities (Sharma, 2008).

In postcolonial India, the state emerged as the trustee for people. However, when the state is seen as failing to utilise resources properly and improve people's lives, actors other than the state claim the capacity to decide through their "will to improve" (Li, 2007c). A will to improve, Li (2007c) explains, is a persistent and stubborn determination to improve people's conditions and conducts. It also represents a distinct gap between what schemes attempt and what they achieve (Li, 2007c), i.e., the *will* and the *outcome*. Due to their power, resources, and knowledge, and based on a claim to know what people need and what the ideal ways to fulfil these are, particular actors position themselves as trustees for people's development (Li, 2007c). For many actors involved in energy access, claiming the spaces left open by the state and its national electricity grid is claiming trusteeship. Scott (1998:89) suggests that actors positioning themselves as trustees are backed by a criticism of the status quo and a mandate to change it. The actors assembling low carbon projects position themselves as 'trustees' who have stepped in due to various failures of the state. These include an absent state evidenced by an absense of the electricity grid or stable electricity supply from the grid, and a state whose erross are evidenced by an overwhlming dependence on energy from high carbon and polluting sources and the resulting climate crisis.

The 'capacity to decide' translates into a will to govern (Li, 2007b:267). Governing here refers to the techniques for conducting the conduct of individuals and groups. This capacity to decide, in addition to the perception that communities do not behave responsibly, enables trustees sustain their central role in creating rules and plans (Li, 2007b). While improvement of conditions is a main aim of trusteeship, driven by the assumption that people do not know how to use resources properly, improvement of conducts becomes central to improvement of conditions. In addition, even insofar as trustees do not aim to dominate, their claims of expertise are attempts to claim power over others (Li, 2007c). Their claim is "the claim to know how others should live, to know what is best for them, to know what they need" (Li, 2007c:4). Trustees attempt to change people's habits, life patterns, conducts and worldviews to produce "desired effects" and avoid "undesired events" (Rose, 1999:52). To facilitate these changes, trustees develop and put in place, technologies, policies, plans, definitions, command chains and controlling strategies within the low carbon projects (Li, 2005; Rose, 1999). These help attain specific conducts from the governed, which also needs those who

govern to act in specific ways (see also Naylor, 2017). As discussed earlier, trusteeship (and indeed development) is deeply rooted in colonial ideologies. While, colonisation came/comes in the garb of improvement, its central aim was/is governance. Equating the small projects of energy access discussed in this paper with the violence of colonisation might be unfair. Nevertheless, they are another step in the colonisation, development and improvement activities that aim to govern people's lives. The techniques of governance embedded in the projects discussed in this paper aim to foster freedoms while also attempting to regulate the "non-self-regulating individuals" (Legg, 2007:11).

From the study of government, Li (2007b) identifies six practices for governing development projects. The first practice, "forging alignments" is the effort of connecting the goals of different actors (Li, 2007b:265). The second practice, "rendering technical", is about simplifying problems and presenting solutions. Rendering technical establishes expertise and delineates experts from those that need to be governed. Through their governance practices, trustees attempt to bring local people and expert prescriptions together into what Li (2007b:270-273) calls, "a plausible, if awkward, alignment". The expert prescription manifests as training for people. Training happens by sharing of knowledge, but at the same time experts maintain control over what count as legitimate knowledge; two characteristics of Li's (2007b:265-276) third practice, "authorising knowledge". The fourth practice, "managing failures and contradictions" is about rendering failures technical and underplaying them (Li, 2007b:277). The fifth practice, anti-politics, is about ignoring socio-cultural politics and privileging techniques, therefore framing political questions as technical and using various techniques to keep the projects governmental (Li, 2007b). The sixth practice, "Reassembling" is about adding new solutions and modifying old ones (Li, 2007b:284-285).

Building on these practices, this paper opens up three particular kinds of techniques for governing low carbon projects (table 1): techniques of expertise, techniques of legitimacy and techniques of subjectivity. Techniques of expertise consist of training procedures, manuals, and schools to train experts and establish them as local trustees. Techniques of legitimacy establish clear relationships of power for 'smooth functioning' of the projects. These legitimise trustees at different levels for certain activities, and delegitimise others, to create local autonomy while maintaining central control. Trustees use techniques of subjectivity to foster 'proper' and 'authorised' conducts among people with an aim to shape standard subjects that match the projects. Neither of these techniques aim to dominate people. Rather they aim to improve people's ability to carry out certain action. They direct people so they only do what is good for them and not do what is not good for them – good and bad understood from the trustee's standpoint. Even though the intentions of the trustees

is largely good, as Li (2007c:5) reminds us, "the claim to expertise in optimising the lives of others is a claim to power, one that merits careful scrutiny".

Table 1: Techniques of governing (drawing upon Li's (2007b) six practices of governing)

Practices of governing (Li, 2007b)	Techniques of governing
Forging alignments	Expertise
Rendering technical	Subjectivity
Authorizing knowledge	Expertise, Legitimacy
Managing failures and contradictions	Subjectivity
Anti-politics	Subjectivity
Reassembling	All

Li's (2007c) distinction and the three techniques of governing create a clear boundary between trustees and subjects. However, Li (2007c:24 citing Hall 1990) notes that identities are not fixed, rather positionings. Stuart Hall (1990:225) explains that identities are "a matter of 'becoming' as well as 'being'". That is, identities are formed and constantly change through a "continuous 'play' of history, culture and power" (Hall, 1990:225). Both, how others position us and how we position ourselves, contribute to identity formation. As Grove and Pugh (2015:7) put it, "subjectivity is a relational effect" and develops in "relations to other people, things, signs and images, discourses". Therefore, for Hall (1990), the politics of identity is a politics of positionings. These *positionings* make the boundary between trustees and subjects fuzzy and porous. This porous boundary makes trusteeship "something more than mere intermediation between two 'wholes'" (Leynseele, 2018:871). Rather it becomes a socio-material assemblage in which relationships overlap and interchange. The porosity and fuzziness complicate trusteeship-subject politics. As section 7 elucidates, in this paper porosity and fuzziness of trustee-subject relationship results from two types of positionings: first, how many actors are positioned both as trustees and subjects within the project governance structure; second, how various actors owing to their caste or gender are positioned vis-a-vis each other within the socio-cultural milieu of the places where the projects are situated.

3   Methods and case studies

This paper is part of a larger research on energy access in rural India for which fieldwork was conducted in 2012-13 in five villages in Bihar, the Indian State with the highest percentage of people

without energy access. The study enquired: How, and why, are energy for development projects designed in particular ways? How, and why, are their aims configured and reconfigured by everyday relationships of power? To achieve this, the study contrasted two low carbon energy for development case studies with existing energy systems like the national grid, kerosene oil and diesel generators which it considered as baseline as people without access to low carbon energy systems relied on them. This helped think why, through which methods, and to what consequences low carbon energy projects introduce new socio-political logics into these villages. This paper primarily draws on data from three villages where the low carbon projects were present. The understanding gained from the other two villages informs the analysis and findings of the larger research.

The first case study is Lighting a Billion Lives (LaBL). In 2007, The Energy and Resources Institute (TERI), a prominent Indian not-for-profit energy and environment educational and research institute, initiated LaBL. Although TERI and its LaBL team, work as not-for-profits, entrepreneurs run individual projects in the villages for profits. In an entrepreneur's house, LaBL sets up a solar lantern charging station with 50-60 lanterns for which villagers pay daily or monthly rentals. LaBL also uses micro-grids and solar home systems, but this paper focuses on its solar lantern programme. TERI, the central actor in LaBL, has brought together a complex assemblage of regulatory authorities, finance providers, technology providers, partner organisations, village entrepreneurs and users for the operation and maintenance of projects. TERI prioritises female entrepreneurs but does not make any distinctions based on caste or class. The projects are financed through donations from corporate social responsibility, government schemes and multilateral and bilateral organisations. LaBL has projects in 3,100 villages and impacts more than 890,000 households[3]. It was present in two research villages, Bijuriya and Sahariya.

As opposed to LaBL, the second case study, Husk Power System (HPS) is a for-profit private limited company that finances, operates and maintains biomass gasifier based micro-grids. For a set rental, customers are allotted fixed electricity wattages. HPS has assembled a network of regulatory authorities, technology manufacturers, finance providers and local entrepreneurs. It receives finance as government subsidies, loans from venture capital firms and philanthropic organisations and grants from multilateral and bilateral organisations. Its 75 plants impact 120,000 people[4]. The company's team manages and maintains its micro-grids. HPS draws team members and village

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[3] http://labl.teriin.org/about.php

[4] http://www.huskpowersystems.com/about-us/

entrepreneurs from all genders, castes and classes. A HPS micro-grid was functional in one research village, Hardiya, and had previously functioned in another, Bijuriya.

Table 2 summarises the roles played by various actors in the two case studies. It arranges them in a hierarchy (top to bottom), and shows that many actors simultaneously straddle the roles of trustees and subjects (see discussion in section 7).

Table 2: Multiple positionings, as trustees and subjects, of actors in LaBL and HPS

Actors	Trustee	Subject
Lighting a Billion Lives (LaBL)		
The Energy and Resources Institute (TERI)	Always	Never
Finance providers	Always	Never
Technology provider	• Develops and provides technology • Trains NGOs and TRCs for repair and maintenance	TERI gives market opportunity
Non-Governmental Organisations (NGOs) / Technology Resource Centres (TRCs)	Trains entrepreneurs to run, repair and maintain lanterns and charging station	• TERI and technology providers train them and provide equipment and spare parts • TERI facilitates entry into villages for other development activities
Entrepreneurs	• Rent lanterns to people • Train people in 'proper' use	• TERI, technology providers and NGOs/TRCs train them, provide equipment and maintenance services • Gain livelihood opportunities through LaBL
Users	Never	Always
Husk Power Systems (HPS)		
Founders	Always	Never
Financers	Always	Never
Managers and operators of village micro-grids	• Connect and disconnect people to micro-grids • Train people in 'authorised' use	• Receive training, equipment and spare parts through HPS • Gain livelihood opportunities through HPS
Users	Never	Always

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The baseline energy systems were in Rangpur, a village connected to India's central grid with irregular supply and, Berangpur, a second village that neither had the case study projects nor was connected to the central grid. In the second village, a diesel generator micro-grid provided light. People in all five villages used kerosene oil. Hardiya, Sahariya and Bijuriya were also connected to India's central grid, but due to disrepair of infrastructure, Bijuriya had no supply. Hardiya and Sahariya suffered from irregular supply.

As per the hierarchy of castes in Bihar, Bhumihars are considered as higher/upper/forward castes and Yadavs, Kurmis and Dalits considered as lower/backward castes (Witsoe, 2011). Yadavs and Kurmis carry a higher social status than Dalits. The Indian constitution categorises Bhumihars in the General category, Dalits under Scheduled Castes and Yadavs and Kurmis under Other Backward Castes. Although lower castes have the demographic advantage in Bihar, higher castes compensate this by their higher socio-economic power, skills and knowledge (Mitra, 2005). This has helped the higher castes continue their social, economic and political dominance and maintain the lower castes' dependence on them. The caste system also gives rise to intra-caste solidarities. In Bihari villages, most people from one caste trace their origins to the same ancestors creating a kinship. Table 3 outlines the social makeup of the villages.

Table 3: Social makeup of research villages[5]

Village	Social makeup
Rangpur	Hindus, an equal proportion of higher (mostly Bhumihar) and lower castes (Yadav and Dalits)
Berangpur	Hindus and Muslims, predominantly lower castes (Yadav and Dalits)
Bijuriya	Hindus, a larger population of lower castes (Yadav and Dalits), and a smaller proportion of higher castes (Bhumihar, some Brahmin)
Sahariya	Hindus, predominantly higher castes (Bhumihar) and some lower castes (Thakurs and Dalits)
Hardiya	Hindus, predominantly lower castes (Kurmi and Dalits)

[5] Interviews and observations form the basis of the descriptions of social makeups.

Bhumihars are the most educated and own most land. Many have jobs and run businesses. Yadavs and Kurmis are less educated than Bhumihars and are involved in agriculture and animal husbandry. Many rent or sharecrop Bhumihar owned fields. Dalits are the least educated and mostly landless. They work as agricultural or industrial labourers. Many men from this group are migrant labourers in various cities while the women manage households in the village.

The author spent three to six weeks in each of the five villages for a nine-month-long ethnographic study conducted during 2012-13. The fieldwork took a multi-methods route and involved 60 home tours and family interviews (34 higher caste and 26 lower caste), 10 group discussions and 24 elite interviews. Participant observations data was recorded in 580 diary pages and more than 1200 photographs and videos. The author conducted two higher caste, seven lower caste, and one mixed caste group discussions. Out of these, one was a mixed gender group and one female-only group. The elites interviewed included two HPS micro-grid managers and three LaBL entrepreneurs in the village who could provide a history of the projects and give insights into their functioning; village elders who could provide a historical context of the village; and village council leaders. One LaBL NGO director, one LaBL manager, one HPS deputy director and several electrification experts were also interviewed.

Data were also collected from project brochures, websites and reports for document analysis. Analysis followed a grounded theory approach (Crang and Cook, 2007) in which NVivo was used to code field notes, photographs, interviews, documents and website data. After going through the codes and transcribing relevant parts, specific 'code transcripts' were generated. With careful reading and re-reading, many further rounds of coding and re-coding, writing reflections on the margins and connecting various ideas was done to produce the final analysis. Pseudonyms are used for research participants and villages, rather than interview numbers to avoid dehumanising participants.

4   Techniques Of Expertise: Standardising Mentalities To Match Materialities

Techniques of expertise facilitate the relationships between materials and people. The solar lanterns and micro-grids need to be handled in specific ways. Experts create guidelines, 'good practices', and training modules to train local people, impart expert knowledge, and attempt to develop local experts who can conduct everyday operations and upkeep of projects. The expert prescription manifests as training, but also control; two enabling conditions for the upkeep of energy projects. This is a characteristic of Li's (2007b:265-276) third practice of governing, "authorising knowledge".

> The existing gap in implementation and sustenance of rural energy projects is that of a network of local-level institutions that facilitates micro-implementation of project deliverables, carry out training and capacity building and ensures after-sales services.
>
> [....]
>
> Apart from providing next-door and reliable after sales support, it also aids in imparting training and local capacity building for the execution of other energy access projects in the area.
>
> Description of Technology Resource Centres, LaBL Brochure collected during fieldwork

Funded by DFID, LaBL's Technology Resource Centres (TRCs) (also known as Energy Enterprises) train and 'authorise' people to handle the technology at the local level. TRCs "ensure effective after-sales supply and service, handholding, local training and capacity building" (LaBL brochure). LaBL envisages that, TRCs will develop into local centres of expertise for all kinds of solar projects – LaBL and non-LaBL (Palit and Singh, 2011). Through this, LaBL creates local experts but also establishes its leadership in energy access. This helps forge alignments with finance and policy actors by establishing LaBL's knowledge and expertise in this field.

LaBL has forged alignments with a number of NGOs responsible for locally handling the technology, training, and capacity building. LaBL and its technology partners train NGOs and TRCs to identify suitable villages and entrepreneurs. NGOs and TRCs train village entrepreneurs, who in turn 'train' users in 'proper' use of solar lanterns. Knowledge and expertise flow from the centre (LaBL managers) to the periphery (village entrepreneur) of the project and enable local experts for everyday management and maintenance of projects. However, as section 4.2 explains, the legitimacy of the knowledge and expertise reduces from the centre to peripheries.

To train and create local 'experts', HPS has set up a training facility called Husk Power University.

> HPU (Husk Power University) is a one-of-a-kind vocational programme that is being built *to train and groom* the thousands of technicians and entrepreneurs (along the lines of McDonald's University) needed to support growth of Husk Power Systems in a distributed manner. (Emphasis added)
>
> HPS Brochure collected during fieldwork

Operators running HPS micro-grids go through a standard training programme in operation, maintenance and management, organised through HPU. Ravi Kumar, the HPS manager interviewed during fieldwork, explains that most "ground-level employees are not highly *qualified*" or well-educated, and therefore, in addition to the technical training, financial, managerial, and social training are necessary to make them qualified enough to handle the micro-grids (emphasis added). Mr Kumar claims that employee improvements realised through training result in smoother operation and maintenance.

However, observations and discussions in the villages revealed high levels of unprofessionalism among HPS staff, with some indulging in the mismanagement of funds and misconduct with users. In Hardiya, research participants narrated stories of HPS staff drinking and misbehaving (user interviews, 2013). Bimlesh Gupta, who once managed the HPS micro-grid in Hardiya, informed that staff indulged in nepotism and financial corruption (interview, 2013). Mr Kumar agrees that professionalism is still a serious problem, and to instil good practices, HPS is further training its employees. These staff members are responsible for informing, sensitising and training users in 'good practices' and proper use of micro-grids. Like LaBL, the legitimacy, level of expertise, and control reduce from HPS top management to the ground-level staff.

Instilled with particular governing techniques through training, the local experts emerge as local trustees of the energy projects. This makes the projects locally autonomous. But what about centralised control? The next section shows how trustees are legitimised and delegitimised to establish centralised control.

5   Techniques Of Legitimacy: Legitimising And Delegitimising Experts

Although techniques of expertise create new experts, not all experts have the same level of legitimacy and control. Li (2007b:265) explains that in addition to training, authorising knowledge is also about specifying the legitimate knowledge and maintaining control over it. Control reduces with reducing legitimacy of knowledge and expertise. For example, only LaBL technology providers and the HPS top management can modify or change LaBL solar lanterns and HPS gasifiers because they hold proprietary over the material configurations.

Such control is key for creating large-scale "centralised and locally autonomous" projects (Scott, 1998:99). Central trustees legitimise and de-legitimise actors, divide responsibilities for various activities, put in place command and reporting structures, and establish clear relationships of power to make projects centrally controlled while giving certain functional autonomy to local/peripheral

experts. Legitimacy here does not exist without de-legitimation. If one person, action or space is legitimised, another is delegitimised at the same time.

The model in figure 1[6] outlines the relationships put in place for LaBL's 'smooth functioning'. The diagram and field research for this paper reveal three interconnected points about it. First, unequal relationships between experts and materials exist at different levels. Second, the autonomy of experts and their relationships with each other vary at different levels. Third, except for the top level, the flows of knowledges and materials are unidirectional.

Figure 1: LaBL model

At the top, LaBL's parent organisation, TERI, innovates and develops ideas. TERI has expertise in social and technological research, in fundraising for implementation, and developing implementation networks. It also has a lab for quality testing and certifying solar lanterns. TERI gives technology partners market access through LaBL. The technology partners are experts in solar lantern and panel development and large-scale production. Although the technology partners are on a level below TERI, they have a two-way relationship for the design and development of

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[6] Lighting a Billion Lives Presentation: http://www.sari-energy.org/PageFiles/What_We_Do/activities/SAWIE/wiser/WomenEnergyEntBuildingApr2011/Apr5/LaBL-Debajit.pdf

specifications, standards and products (interview with Gurpreet Bedi, LaBL manager). These two actors have a stronger relationship with the materials. They decide the material characteristics of the projects – shape, size, battery life, number of LEDs and the number of lanterns in each station.

TERI and technology partners' exclusive domains of expertise and capabilities make them dependent on each other and drive a two-way flow of knowledge and materials. However, while LaBL has multiple technology partners, there is only one TERI. This gives TERI the power to replace one technology partner with another and decide legitimate and illegitimate geographical areas for them.

The lower half of the model has a unidirectional flow of materials and knowledges. Partner organisations, typically NGOs or TRCs, identify villages and entrepreneurs to install solar charging stations. Although partner organisations are 'trained' to conduct systematic assessments, they often use their 'local knowledge' to decide the places and people (interview with Anand Jha, director of a LaBL network NGO in Bihar). Local experts – entrepreneurs – have the autonomy to decide who gets access to solar lanterns in the village and at what price[7]. The users are at the lowest level. Entrepreneurs tell users the 'rules of engagement' and train them in 'proper' use of solar lanterns. The model designates users as 'beneficiaries', passive recipients of solar lanterns who should be thankful to trustees for improving their conditions and conducts.

Even with their relative autonomy, entrepreneurs and partner organisations are dependent on TERI for materials and knowledges. Their lower level expertise legitimises them for operation and minor upkeep work and de-legitimises for serious maintenance work for which they depend on technology partners. This sometimes means that solar lanterns and charging stations stay in various states of disrepair for long periods, waiting for the legitimate experts (interviews with NGO director and LaBL entrepreneurs).

When a major disruption occurs, the technology partner sends its team to the local NGO, which directs it to village entrepreneurs. The primary responsibility of technology partners lies with village entrepreneurs, local NGO and TERI. Since TERI can legitimise and de-legitimise technology partners, actors in a position to express dissatisfaction to TERI about the technology partners' role become vital for them. Only NGOs, and occasionally village entrepreneurs, have direct and regular contact with TERI. Users occasionally come in contact, if, and when, a TERI team visits the village. This happens occasionally and cosmetically (interview with Brij Kumar, entrepreneur, Sahariya). Users are mostly unaware of TERI, how the solar lanterns are funded, and which organisations are responsible.

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[7] During the fieldwork I noted rentals ranging between INR3 to INR10 per day.

User knowledge is limited to the entrepreneurs', and occasionally, the NGO's roles. Thus, the technology partners prioritise the NGO's and the entrepreneur's necessities, rather than the users' requirements, which are often in conflict. For example, people want to make the most use of solar lanterns, even if for a limited period, while the entrepreneurs want to prolong the lantern life, even if their capacities are limited. Here, a LaBL entrepreneur explains how the technology partner helped her limit the light levels of the solar lanterns by cutting some internal wires to prolong the lantern battery backup.

> The repairperson [from the technology partner] suggested this [limiting the lanterns to low light] because most people use the lantern on high setting and then the battery does not last long. So, they had to cut the wires for the other light settings.

> Sandhya Devi, Bhumihar (higher caste), LaBL entrepreneur, Sahariya

Although the relationships in HPS are configured differently, they still balance centralisation with local autonomy. The key characteristics of the LaBL model apply to HPS – a two-way interaction between experts and materials at the top and unidirectional flows of knowledges and materials at the bottom. HPS has no technology partners or partner organisations. Although it has different teams dedicated to these jobs, HPS is the technology, research and implementation expert. It holds the proprietary for any changes or modifications in its micro-grids and decides their material characteristics – types of gasifiers, engines, wires, poles, bulbs and fuel. HPS sources these materials from different actors based on its criteria and standards.

The levels of local autonomy in HPS vary according to its three business models. In BOOM (Build Own Operate Maintain) model, HPS is responsible for the technology, its set up, and the everyday operation and maintenance of micro-grids. In BOM (Build Own Maintain), HPS withdraws from everyday operation of micro-grids and hands these over to a franchise, generally a village entrepreneur, like Sevak Gupta in Hardiya. In both these models, HPS, as the owner of the micro-grids, is concerned about profits. In BM (Build Maintain), it sells the micro-grid to an entrepreneur who takes care of the everyday operations and is the only actor concerned about the micro-grid's profits. HPS provides technical services and spare parts for the repair and upkeep. At the time of fieldwork, most HPS micro-grids were based on BOOM model. In this case, local experts – operators and managers of the micro-grids – are HPS employees. Although on a day-to-day basis, local staff members have the autonomy to enrol new people into the micro-grid or penalise them for irregularities, the HPS management decides rentals and the list of people to connect to the micro-

grid. These change in BOM and BM where the local entrepreneurs have autonomy over tariffs, connection and disconnection, but not over the material configurations of the micro-grids.

Training programmes create local trustees for low carbon projects. At the same time, due to the relationships between various trustees and the flows of knowledges and materials, local trustees are legitimised for specific purposes and de-legitimised for others. Li (2007c:7) explains that there is a boundary of expertise between trustees and subjects. In these low carbon projects, there are boundaries between various trustees too. Central trustees need to create reliable centralised solutions because they cannot entirely rely upon the actors on the fringes of the projects due to their lower levels of knowledge and expertise (Bridge et al., 2013). These boundaries between trustees create functional autonomy and at the same time keep central control, two essential conditions for large-scale projects (Scott, 1998:346).

6   Techniques Of Subjectivity: Imagining Particular Subjects

Techniques of subjectivity are trainings, best-practices and institutions developed by trustees to conduct people's conducts. They introduce new morals and behaviours and are based on specific identities presumed and promoted by trustees (Li, 2005:388). Since subjectification is at once "individualizing and collectivizing", trustees give subjects a *singular identity* that binds them in *one collective* – people without access to energy (Rose, 1999:43).

Trustees standardise the capacities of LaBL and HPS – levels of lights, backups of batteries, limits of individual connections from the micro-grid – to mobilise standard meanings. These standardisations tailor the flows of electricity and people's behaviours. With standardised settings, experts expect people to have standard uses. Brij Kumar, LaBL entrepreneur in Sahariya gives an example:

> If you need the high setting for an hour or two, and you use it for that, then that it is ok.
>
> [….]
>
> If you do not think of it [solar lantern] as *your own*, how long would it last? There will be complaints until you think of it as your own.
>
> [….]
>
> Those who are intelligent will use it in the middle [low] setting. They will get more benefits.

According to the LaBL NGO director and entrepreneurs, the lanterns last longer, and people reap more benefits if they religiously make their 'correct' use (Interviews, 2012). Those who conform to the standard limits of HPS theoretically get better and more regular electricity supply. However, a LaBL lantern battery lasting longer is not a simple technical matter of 'correct' usage. Rather this is a matter of how projects are assembled, and for what purposes. People need to modify their lives to fit the battery backup and HPS supply limits, rather than trustees designing the solar lamp or HPS generation capacities to fit people's lives. These aspects of low carbon projects are inherently socio-economic and political, but trustees attempt to remove them from the political realm and render them technical. Rendering technical, after all, is about simplifying social problems to align them to the technical solution at hand. This also helps manage failures and contradictions, for example, in the above case, by putting the responsibility of success and failure on the people rather than the project designs.

People who accommodate themselves within these standardisations and conform to the presupposed subjectivities get energy supply, and those who do not conform, get penalties and sometimes lose supply, i.e., standardisations benefit those who conform and punish those who disregard them. The penalties come as having to manage with reduced lantern backup (fewer hours), loss of HPS supply and monetary fines. As people need to modify their lives to fit the patterns of energy projects, these schemes attempt to mould a people and landscape that fit their techniques, materials, and values, rather than fitting the projects to local lives and landscapes.

However, the techniques of subjectivity used by trustees, attempt to, but do not entirely define people's subjectivities (Dean, 2010). Stuart Hall (1990:222) encourages us to think about identities as "a 'production' which is never complete, always in process, and always constituted within and not outside, representation". Following from these, the 'one collective' identity is an imaginary that bumps into, other, more stubborn identities. More than the fact that people lack access to energy, their caste, class, gender and age shape their identities. Projects choose to either ignore or actively, albeit unsuccessfully, attempt to dismantle such identities[8].

> The stubborn caste system is something that HPS is striving to challenge
> through their power as an employer as well as a supplier…. HPS insists that

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[8] Although these attempts are largely unsuccessful in bringing substantial change in the short term, many make small contributions to longer-term change in discriminatory socio-cultural processes. (Thanks to the reviewers for reminding this).

> all employees refer to each other respectfully, with the *ji* suffix to every name, but creating a sense of equality is a slow process.
>
> (Boyle and Krishnamurthy, 2010:15)

Li (2005:387) critiques schemes of improvement for intentionally attempting to separate people from their social contexts "to build on a clean slate". Although economic discrimination is implicit, because only those who can pay the rentals get energy, LaBL and HPS claim to be unbiased about people's socio-economic backgrounds. The evidence above suggests that HPS is actively trying to break social segregations like the caste system to build a clean slate where people, regardless of their socio-economic background, behave with each other respectfully. It employs people from all castes and classes, who work with each other and interact with consumers from various castes and classes. Sanyal and Ferris (2013) provide the case of a Brahmin HPS operator who, although took six months, ultimately addressed a lower caste electrician respectfully.

Similarly, LaBL 'gives' entrepreneurship to people from every section of the society and its entrepreneurs are intended to rent solar lanterns to 'beneficiaries' regardless of social background. Members of lower castes and women can operate and manage solar lantern rental business or the biomass micro-grids. A member of the higher caste now has to visit the home of someone from the lower caste to deposit and collect lanterns. Someone from the lower castes, working for HPS, can now enter a higher caste home to carry out checks and maintenance works.

> I did not like this. I left it [HPS]. Yadavs [lower caste][9] and other castes were able to open the doors to my house at night. I was not ready to suffer this.
>
> [….]
>
> A Yadav will come into my house, to check, at night time?! It would have been ok if it were daytime. This was not acceptable to me.
>
> Kedar Singh, Bhumihar (higher caste), Bijuriya

In line with Mr Singh's frustrations, these activities go against social structures and norms in many villages, where male members of higher castes invariably control important resources like energy. Trustees produce this idea of a society where technological and scientific necessities eliminate social conflict with the hope that they will lead to improved conduct (Scott, 1998:99). After all, Li's

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[9] Although the HPS manager in Bijuriya was a Bhumihar man, he employed a Yadav man to conduct checks.

(2007b:265) fifth practice of governance, anti-politics, is also about reframing "political questions as a matter of technique". Trustees expect people to move out of their existing relationships of power – caste, class, gender, age – that 'conduct their conduct', so their interactions with the low carbon projects will only be conducted by the technologies of governance.

As da Costa (2010:507) explains, trusteeship involves an *attempt* to discipline "multiple and complex histories" of subjects and communities. However, trusteeship becomes complex and problematic because both trustees and subject invariably juggle multiple identities. As the next section examines, many people are simultaneously trustees and subjects.

7   Plurality in trusteeship: many trustees, multiple identities

Central[10] trustees train other actors as local experts. This complicates things – who is a trustee and who a subject. While Li (2007c) rightly makes a distinction between trustees and subjects, it is essential to carefully examine the positionings of various trustees and understand their distinctions. This section argues two crucial points about these actors. First, trusteeship and trustees in a project or programme need to be seen as a plurality. Different trustees come together because they share a will to improve, but they also have varied identities, aims, goals and expectations. Second, it is essential to examine the different spatial, social and political positions of trustees. These different positions bring to light the plurality of trustees and trusteeship. They indicate a chain of trusteeship in which trustees have different levels of power and control depending on their location, social standing and political stance. Most actors are trustees and subjects, but also females, males, lower castes and higher castes at the same time. These multiple identities complicate trusteeship and the conduct of conduct.

Using techniques of expertise and legitimacy, trustees are placed at different positions with different levels of power and authority to establish a chain of trusteeship. Through this, knowledges, materials, and power flow from the centre to the periphery of the projects. Also, depending on their position, standing and politics in the projects, many are trustees and subjects at the same time.

In figure 1, actors at each level are subjects for the actors above them and trustee for the actors below them. In addition to lighting lives and saving the environment, LaBL aims to incubate markets for energy products, develop better lighting technologies, give NGOs a foothold in villages, develop

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[10] Central and peripheral trustees are like Latour's (2005) macro and micro actors. Macro does not embed the micro, it merely has a more connections, and more established connections which give more power to macro actors due to access to more resources (Rose 1999:5).

local repair and maintenance skills, and foster livelihood opportunities in the villages. Through these activities, companies developing energy technologies, NGOs, local entrepreneurs, and the beneficiaries of solar lanterns, become 'subjects' for TERI's expert direction. This is further evident on the LaBL website (18/07/2018):

> The initiative enables energy poor communities to transition from traditional and inefficient energy sources to modern, more efficient and sustainable energy solutions. Operating through an entrepreneurial model of energy service delivery, Lighting a Billion Lives© accelerates market development for clean energy technologies through knowledge sharing, capacity building and market seeding.

When technology partners join LaBL, they work as 'technology experts'. For them, NGOs and village entrepreneurs, whom they train in repair and maintenance, and the beneficiaries, are subjects. A technology partner's website expresses its trusteeship in creating entrepreneurs and helping villagers[11]. For the NGO director, Anand Jha (Brahmin, higher caste), his trusteeship goes beyond providing electricity. He recognises TERI's trusteeship and hopes that his LaBL activities will help establish him as a politician:

> I got an opportunity to connect with the public. It was a means to reach there. Today I can say that *I gave light* to 6-7000 homes in Bihar. I am thankful to TERI for that opportunity. I may get into politics in the future.

The village entrepreneur is a trustee (along with other central actors) for the beneficiaries of the lanterns. However, for actors higher up the chain, she is a subject for employment and empowerment through LaBL.

Similarly, the central actors in HPS, the higher management and funders, act as trustees for the micro-grid staff by providing them with training and employment and for the customers by providing energy. The peripheral actors, like the staff who work everyday in the village micro-grids, are subjects for the central actors but act as trustees for the customers. For example:

> At least some honour will come to the village that something like this, a company has come to Bijuriya. That I am getting this to work through *my leadership*.

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[11] http://www.gautamsolar.com/photo-gallery/

> Suresh Sharma[12], Bhumihar (higher caste), Manager and Operator, HPS,
>
> Bijuriya

In addition to the relationships of trustees and subjects, social and cultural relationships and subjectivities also bind various actors. An entrepreneur supposed to perform her role as a trustee equally towards all subjects does so differently based on her religion, caste, class and gender. Her performance becomes different for different people and contingent on the multiple socio-cultural identities she juggles. For example, Brij Kumar, the higher caste LaBL entrepreneur in Bijuriya took away a well performing solar lamp that a Thakur (lower caste) family was regularly renting, and thought of it as 'their own' (see Brij Kumar's quote in section 6), to give to his higher caste kin. In exchange, he gave the lower caste family a lantern performing at a lower capacity (Thakur household interview, 2012). Similarly, owing to their multiple identities, HPS staff members operating micro-grids everyday react differently or are reacted to differently (see Kedar Singh's quote in section 4.3).

Most actors in these projects have multiple, sometimes simultaneous, and at others, separated identities in relation to each other. Following Hall (1990:225), identities, and as a consequence, trusteeship and subjectivity, are tailored by the constant interactions of "history, culture and power". They have a bearing on how actors act and whose improvements concern them. Ordinary people, on the fringes of these governmental projects, like LaBL entrepreneurs, who are both trustees and subjects, often tweak and tinker the will to improve, and reinterpret it (Chatterjee, 2004). Studies of Indian state inform that the space between trustees and people consists of a number of intermediaries, including lower level state officials, community leaders and brokers. These actors are embedded in the milieu of everyday life consisting of relationships and subjectivities of religion, caste, class and gender. Their actions result from a combination of the ethos of the programmes they seek to implement and the ethos of their social relationships (Chatterjee, 2004). These brokers live in a morally ambiguous space as "double agents" (Leynseele, 2018:870). Identities are always intersectional. Here the socio-cultural identities – caste, gender, class – intersect with fluid identities of trustees and subjects further muddying the waters.

The boundary that Li (2007b:269) sees between trustees and people makes 'the trustees' seem like a singular entity, a monolith distinctive from 'the people'. Bebbington (2010:230) proposes that trustees, programmers and experts are not always singular and aligned with official targets. Li

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[12] Mr Sharma was an active member of one of India's main political parties and, like the LaBL NGO director, Mr Jha, expressed political ambitions.

(2007a:276) notes that forging alignment is a process of connecting the plural intentions or wills of different actors but stops short of following questions like, who is accepted at a trustee and by whom? Whom do various trustees see their responsibility towards? This section has demonstrated and argued that the authority of trustees and their responsibilities towards subjects are tailored by their social, political, cultural and economic positionings, in addition to their fluid position as trustees and subjects.

8 Conclusions

Working with the concept of trusteeship, this paper follows the techniques of governing energy for development projects by actors beyond the state. The paper makes two contributions for energy and development geographers and anthropologists interested in the politics of governing. First, the paper explains how and why trustees devise and put in place particular techniques to mould 'autonomous' local experts and subjects while maintaining central control. This challenges and nuances the idea of decentralised energy and its capabilities for democratising energy systems. Second, extending Li's (2007c) work, the paper see trusteeship as a contingent phenomenon. Many actors are trustees and subjects at the same time and are embedded in the milieu of everyday socio-cultural relationships, in addition to their relationships within the projects. This complicates the conduct of conduct, a primary aim of such projects.

This paper builds on the ideas of improving conducts embedded in trusteeship to illustrate how trustees attempt to improving poorer people's conducts for the 'proper' functioning of projects. These ideas often fail to work as imagined because different trustees within the projects have different motivations. Some look for benefiting people, some for profits, some to make a political career and, yet others, to support their social groups. The state's trusteeship is always entangled in, and complicated by, multiple subjectivities of those implementing its projects. Non-state actors do not escape this curse. Although they claim objectivity and use various techniques of conduct to progress this, the multiple subjectivities of project participants tailor their everyday effects. These projects are also rife with contradictions. After all, the schemes of improvements often do not start from a scratch but are built from a pre-existing bricolage of people and relationships of power, often through a process of reassembling (Li, 2007a).

This paper does not intend to discredit the development work of non-state actors. Rather, by engaging with trusteeship, it illuminates the specific techniques they use to govern their interventions. It flags that these techniques do not always benefit the 'beneficiaries' and are often counterproductive. It also reminds that completely ignoring or attempting to decimate in one fell

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swoop the relationships of power that govern people's everyday lives do not work. Long-term work is needed to chip away the prejudicial and persistent power relations of caste and gender that exist in these villages.

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