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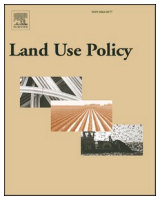

Geographies of knowledge creation in forest rights claims-making processes among Indigenous communities in Central India

Tikli Loivaranta

University of Turku, Department of Geography and Geology, 20014 Turun Yliopisto, Turku, Finland

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ABSTRACT

This qualitative study explores the geographies of knowledge creation in forest rights claims-making processes in three Indigenous communities in Madhya Pradesh, India. In two of the villages, the process is described from the point where *the Forest Rights Act* is introduced to communities, to the lodging of claims and beyond. One of the villages had not been able to secure their community forest rights. The challenges to knowledge creation, and success factors to overcome the challenges, are explored through the analytical lens of space and the dynamics of distances in material and cognitive space. The main challenges include difficulties in understanding the legal language of the Forest Rights Act, difficulties in bridging the cognitive distance to the forest bureaucracy, and the geographical distance to the town where the offices are. The co-presence of a non-governmental organisation was necessary in bridging the geographical and cognitive distance. During the process, the residents developed a shared understanding of the concept of Community Forest Rights. The notion that the residents are the most skilled in protecting the forests where they live is one of the most commonly shared conceptual anchors to this understanding. In terms of tenure security, the development of shared understanding of forest rights helps in maintaining the perceptions of secure tenure and acts as a protective shield against violations to the forest rights in the future.

1. Introduction

Indigenous land rights – important both for local livelihood security (Vijayan et al., 2020) and global biodiversity conservation (Garnett et al., 2018) - remain understudied in one crucial aspect. There is not much research on the local processes of knowledge creation concerning land rights, although difficulties in claiming, preparing and lodging claims are often characterised by various obstacles related to knowledge. This paper addresses the gap by examining the geographies of knowledge creation in claiming *community forest rights* (CFR) in three Indigenous (Adivasi) villages in Eastern Madhya Pradesh in India, and focuses on the practical challenges in land rights claims-making before, during and after the process of lodging claims.

The Forest Rights Act (FRA) (The Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act, 2006) enables 'scheduled tribes, that is, those Indian communities classified as tribal in the Indian constitution, and 'other traditional forest dwellers', to secure their titles to individual farming lands and community forests. The challenges in the process of claiming forest rights by Indian forest dwellers have become topical, especially after the Supreme Court in 2019 ordered an eviction of those Adivasis who had not secured their FRA titles. After an outcry from protestors across the country, the eviction order was put on hold until there was reliable information as to whether the rejected claims had been a result of correct implementation of the FRA. According to the present study, the process had not been followed properly in all of the study villages. Even in the successful villages, the registration of community forest right titles had required rounds of re-application by the residents, or requests to correct mistakes in the gained titles. In some cases, minor violations to those rights had occurred post-registration. Overall, the claims-lodging process required concerted effort to overcome certain knowledge-related challenges.

To understand better why some land right claims making processes fail and some succeed, attention should be given to processes of knowledge creation. Moreover, *geographies* of knowledge creation illuminate the spatial aspect of knowledge, which is crucial in processes concerning land use and land rights. Firstly, most of the knowledge required for lodging land right claims is formed in relation to a particular place and its material space. Secondly, socially and cognitively constructed knowledge is built on shared meanings, which may, in an illuminating way, be explored through the concept of cognitive space.

E-mail address: tkmloi@utu.fi.

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Distances and proximities in these interrelated spaces affect the formation of particular kinds of shared understandings. This study focuses on the effect of material and cognitive distances and proximities on forming a 'cognitive locus', which refers to 'socially shared individual interpretations in a knowledge creation framework' (Hautala, 2018). This locus forms in a dynamic and changing cognitive space around individually interpreted and socially shared conceptual anchors (Hautala, 2018; Bechky, 2003). In the context of forest rights, the dynamics that foster and those that hinder the development of this shared understanding are studied.

2. Registering Indigenous community forest rights according to the Forest Rights Act

The legal registration of Indigenous land rights has been championed by many development organisations (Segura Warnholtz et al., 2017). Most importantly, registration contributes to tenure security and thus protects local livelihoods from the threat of eviction or loss of access, which are vital for communities that prefer to depend on natural forests for sustenance (Vijayan et al., 2020). There are various ways to recognise land rights, ranging from their recognition according to local courts or international standards to official registration of property rights according to state law (Gilbert, 2006; Fitzpatrick, 2005). In this study, the process of preparing and lodging claims for land title registration according to the Indian statutory legislation is studied.

The Forest Rights Act is a progressive law guaranteeing a mandate towards regularising lands in forest areas inhabited by Scheduled Tribes and Other Traditional Forest Dwellers. India's tribal population is approximately 105 million (Census on India, 2011). They are referred to as Adivasis ('first inhabitants'), and under this general term, they identify to a variety of different Indigenous groups. Before the FRA, the forest laws in India had mostly excluded these communities from access rights to resources in the forests they inhabit (Sen and Pattanaik, 2019). Since the foundation of the Indian Forest Department in 1864, the state control over forests continued during post-colonial, independent India (Bose et al., 2012), excluding local communities from decision making and restricting their access to resources in the forests. These oft-cited 'historical injustices' culminated in 2002, when the Supreme Court enabled the eviction of millions of Adivasis from the forests (Kumar et al., 2015, p. 4) – a decision that is echoed in the similar Supreme Court ruling of 2019 which directed state governments to evict those not having secured FRA rights. After the 2002 eviction order, widespread political mobilisations by networks of Indian indigenous rights NGOs finally led to the formulation of the FRA in 2006 (Kumar et al., 2015, 4). The FRA was notified for operation in 2008, and rules to clarify the process were notified in 2008 and amended in 2012 (Ministry of Tribal Affairs, 2014).

Adivasis may claim individual forest rights (IFR), covering the farming and residence areas of the household, and Community Forest Rights for the whole community, covering the forests the communities depend on for subsistence. This study focuses on CFR. The individual and collective rights secured by the FRA include, among others: living in the forest land and practicing subsistence farming; the right to own, collect, use and sell minor forest produce; rights to fishing, grazing and foraging; rights to convert previous leases to regularised legal titles; rights of conserving community forest resources; rights of access to biodiversity and Indigenous Knowledge, and in fact 'any other right customarily enjoyed' excluding hunting, trapping or taking the body parts of animals.(The Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act, 2006, 3). The law is rather open for interpretation as it grants "access to. Indigenous Knowledge. and any other right customarily enjoyed", so it remains for the communities to decide what are those traditional practices that are exemplified in the application. The FRA rules (Ministry of Tribal Affairs (2014) provide a long list of examples for the evidence that may be included in the claim form. The applications in the study cases include some of the items in the list, such as voter ID records, but not every item (no satellite imagery, for instance). A map of the village, however, is a requirement in the FRA text (The Scheduled Tribes…, 2006, 4).

The FRA gives potentially broad powers to local, decentralised decision making. With the community forest right provided by the FRA, the management of the forests is in the hands of the village assembly. Furthermore, CFR are linked with the mandate of conserving the forests (The Scheduled Tribes…, 2006, 3(i), 5). However, not all of these rights are automatically enforced in all cases and violations to rights may continue after registration. As Schoneveld and German (2014) state, tenure security, i.e. the degree of certainty that a community's land rights will be protected or enforced by law and recognised by members of society (Abdulai and Ochieng, 2017; Honoré, 1961) depends on a community's capacity to ensure the enforcement of land rights.

Tenure security often refers to legal security, but it may also be discussed in terms of the shared perception of security – that is, the belief that rights are protected (Van Gelder, 2010). According to Roth and Haase cited in Abdulai and Ochieng (1998, 2017); p.30), ownership security can be seen as a *'perception* held by individuals regarding their ability to exercise land rights both now and in the future in a manner that is devoid of interferences from others'. In the studied case, the development of such shared perception is a result of a process whereby a situated, shared understanding concerning forest rights forms through a spatiotemporal process of knowledge creation, and this shared perception may strengthen *de facto* security.

3. Geographies of knowledge creation in land rights processes

Lodging collective land rights claims is an information intensive process involving different kinds of actors and different types of knowledge, including knowledge that has developed *with* the local landscape. In the context of collective land management, social learning theories have been applied to describe these knowledge processes (Eastwood et al., 2022; Reed and Abernethy, 2018; Tengö et al., 2014; Berkes, 2008). However, social learning theories do not engage with conceptualisations of space, despite some consideration of scales (Reed and Abernethy, 2018; Berkes, 2008). Thus, I suggest that *geographies of knowledge creation* (Ibert et al., 2015; Hautala and Jauhiainen, 2014; Bathelt et al., 2011) provide a useful angle to knowledge processes that are closely connected to space and place. Knowledge creation and social learning originate from different fields but are parallel concepts that could in most cases be used interchangeably (for a comparison, see Jakubik, 2011).

Knowledge creation is defined as "[T]he process of making available and amplifying knowledge created by individuals as well as crystallizing and connecting it to an organization's knowledge system" (Nonaka & von Krogh, 2009, p. 635; Nonaka et al., 2006). New knowledge is created in the process of sharing and interpreting information, and consequently, knowledge is information that is socially shared and individually interpreted (Hautala, 2018). An essential element in creating new, socially shared and individually interpreted knowledge is *knowledge conversion*: a movement in a continuum between explicit and tacit forms of knowledge (Nonaka & Von Krogh, 2009). Explicit knowledge is information that is captured in writing or drawing. Tacit knowledge is unarticulated, sensual, bodily information. When an individual interprets codified information, it is termed *internalizing explicit knowledge*, and it entails making explicit knowledge tacit. Conversely, when tacit knowledge is made explicit, this is called *externalizing tacit knowledge*.

Knowledge creation theories have focused on organisations (e.g. Nonaka, von Korgh, 2009; Nonaka et al., 2006; Orlikowski, 2002), and less on local or Indigenous communities (although for Indigenous knowledge and innovation systems, see Hooli and Jauhiainen, 2018). However, insights from these theories can be exported to research that is interested in the role of knowledge, and especially, knowledge as a process, in any given context, group or community. In a process view of

knowledge creation, knowledge does not exist independently from practical contexts, times and spaces– it is contextually situated (Ibert et al., 2015; Livingstone, 2003). Thus, it cannot be transferred through space and time as an unchanging entity (Hautala, 2018; Ibert et al., 2015): as a relational effect, knowledge exists as distributed among several actors (Ibert et al., 2015; Bathelt and Glückler, 2005). Both social context and individual interpretation are essential: for instance, explicit, codified information, such as the FRA in this study, becomes knowledge only when it is individually interpreted in a certain social context (Hautala, 2018).

The geographical research on knowledge creation has recently developed towards a process-oriented view of knowledge creation, where space is used as an analytical lens (Ibert et al., 2015; Hautala and Jauhiainen, 2014; Bathelt, Glückler, 2003). The process-based approach to knowledge creation, emphasising that any seeming stability is always precarious and in a constant state of flux and that no idea is ever stable or completed (Ibert et al., 2015), fits particularly well into research on building shared interpretations of land rights. When no idea is stable of completed, a fixed "end product" for knowledge creation may not be defined. The knowledge that is created may then be – and in the studied case is – an "enhanced capacity to act" (Nonaka & Von Krogh, 2009).

In geographies of knowledge creation, knowledge processes are seen through the analytical lens of space, and usually the dynamics of proximities and distances are considered (e.g. Ojala and Hautala, 2019; Nguyen-Duc et al., 2015). In this study, I focus on proximities and distances in material and cognitive spaces. Material space entails the physical space of the forest, and geographical proximity or distance. Cognitive space entails the interpretations and mental models of individuals and shared interpretations and mental models of groups (Hautala and Jauhiainen, 2014). For example, in cognitive space, mental models of what constitutes CFR rights emerge. One may become cognitively closer or more distant in a cognitive space depending on how similar the interpretations of individuals are. In a typology by Hautala and Jauhiainen (2014), these are termed cognitive and object space, but I prefer the term 'material space' to convey better the agency of non-human actors that also affect understandings of forest rights (Loivaranta, 2020). Relationally speaking, these spaces are intertwined, overlapping and even co-constitutive.

Proximities and distances in material space are most clearly felt in terms of geographical distances. Remoteness brings certain challenges, but sometimes also advantages in knowledge creation. Empirical research on knowledge creation processes in peripheral sites has emerged recently (Ojala and Hautala, 2019; Hautala, 2015; Gibson, 2012). This line of research focuses mostly on well-connected individuals in a peripheral setting, and it is assumed that there are many ways to bridge the distances, either by traveling or by telecommunications. In the present study, the setting is peripheral in all senses of the word – distances to the nearest town are approximately 30–35 kilometres and there is barely any network coverage in the villages. At the same time, the residents describe intricate familial relations to the more-than-human community of the local forest (Loivaranta, 2020), implying a close interaction between particular material and cognitive spaces locally.

The dynamics of the presence and absence of actors that possess information vital to knowledge creation become emphasised in these peripheral locations. While the residents rarely move out of the villages, the NGO actors who have introduced the FRA to them live in the nearest town and visit the villages occasionally. Knowledge creation is thus somewhat dependent on the regular presence of the NGO workers. While the process-oriented knowledge creation research has moved beyond the fixation on proximity, co-location and copresence as the central aspects of successful knowledge creation (Rutten, 2017; Ibert et al., 2015), it remains undisputed that co-present groups with face-to-face communication are more successful in knowledge creation than dispersed ones, and that geographical dispersion hinders knowledge creation by creating risks of misunderstandings and coordination problems (Ojala and Hautala, 2019; Nguyen-Duc et al., 2015).

According to Hautala (2018), a 'cognitive locus, which means socially shared individual interpretations', allows the creation of knowledge during the geographical dispersion of project members (Vuori and Huy, 2016; Seidel and O'Mahony, 2014). When individual interpretations are shared, the cognitive locus forms out of shared key concepts in cognitive space (Hautala, 2018; Bechky, 2003). Cognitive locus is 'dynamic and changing cognitive space where members attach, detach and re-interpret concepts during the knowledge creation process' (Hautala, 2018, p.6) and can thus become more cognitively close or distant during the process. In the forest-rights claim processes, increasing cognitive proximity means that the actors' interpretations related to the concept of CFR become more similar. Co-presence enables the development of a shared understanding of the focus of a knowledge creation project, which sustains knowledge creation during dispersion – and affects outcomes even beyond project timelines (Hautala, 2018).

Previously, the theorists of shared understandings and cognitive locus (Hautala, 2018; Seidel and O'Mahony, 2014; Bechky, 2003) have explored the dynamics of knowledge creation between different individuals and groups aiming for a shared goal. These actors, which might be initially cognitively distant, aim to integrate their understandings, or become cognitively closer, to reach the goal. In the current study, the studied communities of forest-dwelling Adivasis develop understandings towards the goal of gaining CFR rights with the assistance of an NGO that brings new concepts and information about the FRA to the villages. While many interpretations are shared initially – such as perceptions of local communities' skill in conserving the forest – these actors bring along different knowledge to strengthen the cognitive locus. The NGO brings information of the legal framework of the FRA, while the residents map what is specific in their community. Inside the communities, there was no dissent about CFR being a commonly shared goal. However, in this contested context, competing representations (Seidel and O'Mahony, 2014) and divergent discourses (Sareen and Oskarsson, 2017) originate from outside this project and its goal – from the established forest bureaucracy. They are initially cognitively distant and do not seem to share the goal of granting CFR rights to the communities.

Thus, the paper also adds a fresh contribution to geographies of knowledge creation by studying a contested land rights context. In the forest rights context, it is expected that not all actors desire a smooth knowledge creation process. In India, asymmetric information and lack of transparency are frequent challenges in decision making (Mathew and Umesh, 2019; Oskarsson, 2013), and this is reflected in the situation of implementing the FRA. In Madhya Pradesh, of the total 624 097 FRA claims made by November 2018, only 41% were distributed (Ministry of tribal affairs and United Nations Development Program, India, 2018). Various empirical studies from India have shown that, overall, there is room for improvement in implementing the FRA (Sen and Pattanaik, 2019; Sahu et al., 2017; Kashwan, 2016; Bandi, 2012; Sarin, 2014; Sarker, 2011; Sarin and Springate Baginski, 2010; Mathew and Umesh, 2019). Sahu et al. (2017); p. 44 cited in Sen and Pattanaik, 2019; p (2360) distil the hindrances to implementing the act down to three factors: 'limitations of the state agencies, obstruction from the forest department and the pressures from non-state actors'.

4. Methods and study area

4.1. Study areas

In the three villages studied in Eastern Madhya Pradesh, nearly all the residents and all of the respondents identify either as Baiga or Gond Adivasis. Due to the villages' small population sizes, the identification of respondents might be possible. Thus I have pseudonymised the entire villages, and the NGO assisting in the claims-lodging process is just referred to as 'the NGO'. In 'Jharanapur', there are around 125 households,and they have approximately 3800 acres of CFR area, covering the

forest and also cultivated fields. 'Kundpur' is home to around 110 households, and the village and fields are surrounded by a hilly CFR area of approximately 4500 acres. 'Ghaaspur' is a 40-household hamlet of a larger village, and there is no CFR title in the village. The criteria for selecting the case villages included that they should be rather proximate to each other and that two villages should have a CFR title and one village should be without a CFR title at the time of the field work. The villages were identified by a local NGO, without which it would have been impossible for me to find the villages. I had already visited one of the villages in 2015 during an evaluation trip of a development cooperation project.

4.2. Data collection

The results are based on 38 interviews (33 audio-recorded, 2 video-recorded, and notes taken for 3 short, single-topic interviews) and observation diaries. I worked with three interpreters. The field work was conducted during three visits, in April and August–September 2017, and in October–November 2019. On these visits, my translator(s) and I stayed in each of the three villages, each stretch lasting from two to six days, altogether staying in the field work areas for seven weeks. In each village, the host family members became key informants with whom I was able to have two to four in-depth interviews and several informal discussions. They also introduced other interviewees to us. We also walked around the villages with the interpreters to contact more interviewees randomly, acknowledging the limitations of snowball sampling. Not all of the residents could be contacted, but an even distribution of age and gender was maintained in all villages. Consent for participating in the interviews was asked from all respondents, including in group discussions. Of all persons contacted, only one refrained from participating in the research. Some group discussions reflect mostly the views of a few vocal participants, while the others were agreeing and some stayed silent, which may have led to a failure to capture dissenting views. Most of the interviews either started as a single-person interview, transforming into a group discussion of 2–17 persons, or vice versa. Six group discussions had five or more participants (2 female groups, 2 male groups, and 2 mixed). The interviewees ranged from 15 to 80 years in age although many do not know how old they are exactly. All respondents' livelihoods consist of subsistence farming and collecting forest produce, and additionally, some work occasionally in a government employment guarantee scheme. It needs to be noted that I study the respondents' understandings of their knowledge-creation processes during claims-making. Thus, interviewing the officers in the forest bureaucracy is outside the scope of this study. In addition to the village interviews, discussions with the local NGO workers provided information about the work of the NGO in the studied villages.

There are inevitable power dynamics in research conducted by a Western scholar in an Indigenous setting (Smith, 1999). I was transparent regarding how the data provide material for publications, and that I am also a volunteer in networks advocating for Indigenous rights. I could not promise any practical benefits from participating in the study, but I promised to deliver the results back to the villages (I did this with another manuscript in October 2019, accompanied by a list of international rights granted to Indigenous peoples). On the second and third trips, I also engaged in reflexive dialogues to discuss the preliminary findings to correct any misunderstandings. According to the comments I received in village meetings, I had reached a correct understanding of the respondents' views.

Ibert et al. (2015) have noted that although interviews can tap into the tacit and active natures of knowledge, they have their challenges when studying processes. The risks are 'ex-post rationalisation, selective memory and time-bound interpretations of the past' (Ibert et al., 2015, 359; Golden, 1992). In Kundpur and Jharanapur, the main process of claims-making had been completed a long time ago, and time may have affected the interpretations. However, all of the study villages were still in some ways mid-process as they were making corrections to the titles (and Ghaaspur was applying the title). Furthermore, the state of the CFR title is not 'fixed' in practice but depends on the rights-holders' capacity to enforce them (Schoneveld and German, 2014). The understandings of the content of CFR may also change over time.

4.3. Analysis

The transcribed interviews were analysed by qualitative content analysis using NVivo 12 software. Each study area was analysed separately. First, the data were coded into analytical codes representing the studied themes (Cope, 2008). These themes formed iteratively, first based on theory as well as preliminary field observations (first trip to field area as a NGO volunteer in 2015), then during data collection and further elaborated during analysis. The final categories (process of preparing and lodging claims, the effect of rights, and challenges as well as ways to overcome them) were then analysed separately. Detailed descriptions of the application process are based on reflections of three respondents, who were more involved in the process. The other categories (perceived effect of CFR rights, challenges in the claims process and ways to overcome them) include responses from a wider range of respondents, and from these, the most prominent themes were synthesised and compared with exceptional responses. Mind maps were used to examine the relations between different actors and processes to find the core conceptual anchor of the cognitive locus. Finally, the results were analysed through the lens of material and cognitive space to grasp the spectrum of factors that affect the formation of, and disruptions to, the cognitive locus.

5. The process of preparing and lodging claims for Community Forest Rights

5.1. Two out of three study villages secured their Community Forest Rights

Of the three studied villages, two (Kundpur and Jharanapur) had been able to secure their collective CFR and one (Ghaaspur) had not. In Ghaaspur, the Forest Department had delivered IFR titles to some residents, apparently without telling them that they were part of the FRA and without the residents applying for the titles. Many residents were aware of the FRA after hearing about it from the NGO. However, when they had tried to discuss CFR with the forest guard, the guard had ridiculed them and told them that the act does not concern them. On a results dissemination trip in 2019, I heard that the residents had finally lodged the CFR claim with the help of the NGO.

5.2. The process of preparing the claim forms in Kundpur and Jharanapur: internalizing FRA, externalizing traditional knowledge

In Kundpur and Jharanapur, the district forest administration was not initially in favour of supporting the claims-making process and did not provide information nor application forms. Instead, they were received from the NGO. To start the process of preparing forest right claims, the NGO arranged awareness events for residents of the villages of nearby districts in 2008. The NGO's efforts in creating awareness and explaining the law were invaluable – in the adult generation, men are literate but not in the legal language. As a member of a forest protection committee in Jharanapur described: 'I have not seen the book of the law – I don't know how it looks like'. Despite initial nervousness due to unfamiliarity with legal processes, hearing about the FRA made the residents motivated as the FRA could, according to a male respondent, 'help us save our forest, our land and our water'. This realisation initiated the process of converting tacit knowledge about traditional practices into explicit form in the claim forms, and internalizing explicit FRA -related knowledge towards a skill to prepare the claims.

The FRA claims preparation in Kundpur and Jharanapur started with individual forest rights. As soon as those were lodged, they proceeded to

community forest rights in 2009. In the process, the NGO staff came to facilitate weekly meetings to gather all the information required for the claim forms. As the FRA secures rights to traditional practices in a certain area, the process entailed the externalisation of this traditional, tacit knowledge into a map of traditional resource use within the area of community forest. A map of the village, which is also a requirement for the application, was made with all willing village residents present. On the map, they marked the land uses relevant for traditional practices, for instance, waterbodies, resources and sacred places. They also recorded the village history in the application. The residents mapped the community forest area by walking around the traditional boundary with a GPS device provided by the NGO. The traditional boundary location was clear – the existing official compartment numbers are also resolved along the old traditional boundaries with the intention to prevent disputes with nearby villages. In this phase, they also requested and received the numbers and acreages of forest compartments from the forest department. In the mapping exercises, the material space was an active participant. The forest and its landmarks informed where the boundaries are, and the map was both the result of, and a platform for, interaction and interpretation in a shared cognitive space.

5.3. Towards the cognitive locus: convergence of views despite slight ambiguities in participation

The meetings were mutual learning experiences for the residents. Both in Kudpur and Jharanapur, it was noted that during the claims preparation process there was convergence in views about protecting and managing the forest as well as about the traditional knowledge in the village. In both villages, it was reflected that a sense of unity and togetherness developed during the process of internalizing FRA and externalizing and sharing the tacit knowledges of each participant. This increased sense of unity was anchored around the developing, shared understanding that the residents are not only skilled, but also legally entitled to rights to manage and protect their forest. In all of the study villages, the respondents emphasised that as they live with and are familiar with the forest, continuously monitoring it, nobody else can know better how to conserve it. Consequently, the mandate to conserve the forest was one of the main motivations to apply for the CFR title. According to the key informant in Jharanapur, it seems to have been crucial for attaining the forest rights that the residents were able to also convince the forest department officers that the community is well equipped to protect the forest.

The elderly people contributed significantly by sharing their traditional knowledge about folk culture and sacred places, which was new information for some of the younger residents. Women were involved slightly less, but they added what the men were missing. Particularly, they had knowledge about roots and herbs that grow in the forest. However, in both villages, the women's overall participation in the process seemed less involved. They were not too keen to speak about the process and insisted that they have little to contribute due to their illiteracy. In Jharanapur, the women were seemingly confused when we discussed CFR although, according to the male respondents, the women had participated in the process. In Kundpur, the women reflected more on the *effects* of CFR although they were not keen on discussing the technical process of claims preparation, either.

5.4. Lodging the claims and receiving the Community Forest Right titles

According to the FRA, the claims are passed from the village assembly on to the Sub-Division Level Committee (SDLC), which includes members of the state's Forest, Revenue and Tribal Departments as well as from the Adivasis (The Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act, 2006, 6). In Jharanapur, the filled-in claim form was submitted to the SDLC, but they did not respond, so the residents had to go to the SDLC office in the town to demand action. The president of the SDLC then came to the village and organised a meeting about CFR. According to the respondents, the SDLC president initially questioned the residents' reasons of submitting the application. The residents replied using their newly-amplified knowledge that the FRA empowers the residents to protect the forest, which they as locals know best how to protect. According to the respondents, the appearance was that the forest department staff did start to understand better the role of the community in protecting the forest as the reason for CFR, but that they also seemed to think that the residents are so persistent that it was wiser to just let the residents have their CFR title. About three to four months after lodging the CFR claim, Jharanapur got its CFR title in December 2009. Yet at that time, they only got 205 ha, which was significantly less than they initially applied for as some of the compartments were missing. They sent the title back for correction, and finally in September 2015 they got the title with the full area, approximately 3800 acres. In 2017, there were still ongoing initiatives to add the local names of the forest to the title papers.

In Kundpur, the residents invited a forest department officer to the village to sign the application. A male respondent reflected on the importance of a bigger group interacting with the forest department: 'if one or two people go, then the forest department would just shoo (us) away. It is important that (we) go in larger groups and get this done'. In Kundpur, they had to re-apply for the rights two times after the initial application. The first and second applications were dismissed. The third time they personally handed the application to the district collector, which was the time the application was finally successful. In December 2009, Kundpur officially got the CFR title for 4500 acres although they did not receive the physical title papers until 2011. Moreover, there were still errors in the title papers as the same compartment numbers had been marked to different villages' CFR titles. The correction process was still ongoing when I last visited the field in 2019.

6. Knowledge outcome as an enhanced capacity to act: the perceived effect of Community Forest Rights

The cognitive locus containing the understanding: "residents are skilled and legally entitled to the rights to save their forest, land and water" was the product of amplifying knowledges together. It brought confidence to be persistent during claims-making process. Moreover, gaining the CFR enhanced the communities' capacities to live according to the customary traditions in the forest. Before CFR, the residents of Kundpur and Jharanapur had faced difficulties and harassment while collecting minor forest produce and building materials in the forest. For example, a temple where a sage was residing, was demolished in Jharanapur forest. After obtaining the rights, the harassment ceased. The women in Kundpur explained that nowadays they no longer feel scared while roaming in the forest. In Ghaaspur, which had not yet obtained the CFR title, most of the respondents reported quite little harassment. Unofficial arrangements appear to maintain a sufficiently satisfying status quo. However, the residents of Ghaaspur lamented that they have no say when outsiders come to cut timber. They feel they are the ones who protect the forest, but others reap the benefits.

After receiving CFR, the residents have more control over the forest resources. If someone cuts timber without permission, the fine is decided in the village assembly. Also, the operations of the forest department, such as timber felling and tree planting, nowadays have to be first accepted by the village assembly and compensations for the timber be distributed in the village. However, even though the rights had been set in place, there has been some misunderstandings in forest management. For example, in 2017, the forest department felled certain trees in Kundpur, which went against the decisions of the village assembly. Although it was noted by respondents that the forest department might not always respect the village assembly's decisions, the respondents also explained that now the residents are more aware of their rights and will not easily let projects move forward without consent. In Jharanapur, the forest department has left the responsibility of the management of the forest mostly to the residents, which means that they barely visit the

village. Specifically, the process has brought confidence that the residents can be 'the government' in the forest and take more responsibility. The title paper is seen as a promise that guarantees this self-governance, while the cognitive locus produces this capacity in the everyday life of the communities.

In Kundpur and Jharanapur, the NGO actors still follow up to ensure assistance if there were to be any major violations of CFR. Additionally, the residents can call a government helpline number. These dispute settlement systems enhance their capacity to demand that the rights be implemented correctly (Abdulai and Ochieng, 2017; Schoneveld and German, 2014).

7. Strengthening the cognitive locus by overcoming the main challenges in the knowledge creation process

Certain processes have made the cognitive locus – the shared interpretations of forest rights – stronger, while others have disrupted it (Table 1.).

Table 1
The factors that destabilise and stabilise the cognitive locus.

Destabilising factor	Stabilising factor	Formation of cognitive locus
Lack of information about FRA from the forest or tribal departments; application forms were not made available	NGO's efforts to make the claim forms available and build awareness of the act and its technical details	NGO bridging distance in material space and building awareness in shared cognitive space
Forest department's lack of trust in the residents' abilities to protect and manage the forest and lack of interest in the CFR process	Sense of togetherness among the residents; confidence in own abilities to protect the forest; Strategies to meet forest officers in a bigger group; gradually improving relations with the forest department as they understood the residents' abilities in forest management	Cognitive distance to forest bureaucracy initially notable; Cognitive locus is built in the village and gradually also between village and forest bureaucracy especially in Jharanapur. Locus is anchored around views of protecting the forest.
Mishandling of claims in the SDLC; not responding to the claims; wrong compartment numbers	Persistence; also contacts to people living in the town were helpful	Bridging geographical distance via helpful allies; maintaining motivation; co-presence of the NGO
Illiteracy, especially difficulties in understanding the language of law and filling in the claim form	NGO's efforts in interpreting the FRA into a language that the residents understand and can relate to in their everyday life; residents'motivation to claim their rights	Bridging distance in cognitive space, sharing interpretations of the codified information of the FRA; resulting in local shared interpretations of the law and how to apply it
Low self-esteem resulting from illiteracy (especially of women) and from continued marginalisation	Getting more informed about being entitled to forest rights, positive emotions of being in the process together	Self-esteem and hope strengthening the cognitive locus
Initially not enough timely resources with the NGO to commit to the process in Ghaaspur	There was motivation to protect the forest with the help of a CFR title, but the NGO did not initially have resources to enable the mobilisation of this motivation	Feeling of powerlessness, waiting for help from outside; strong cognitive locus did not initially have a chance to form due to the lack of sufficient information about the technicalities of the law

8. Discussion

8.1. Knowledge created in the CFR claiming process

In the CFR process, explicit knowledge was converted to tacit knowledge when the FRA text was interpreted and discussed in the community meetings. Tacit knowledge was converted to explicit knowledge, when the residents mapped their situated traditional practices in the claim form. In this two-way knowledge conversion process (Nonaka & Von Krogh, 2009), new local, shared and individually interpreted knowledge about the residents' role and position in protecting and managing the forest was created. While the residents tacitly knew that their traditional practices and norms make them skillful in conserving forests, they were lacking an experience that such 'environmental subjectivity' (Agrawal, 2005; Bose et al., 2012; Sen and Pattanaik, 2019) matters in wider governance. Conversely, it seems that the established practices of forest management have contributed to producing environmental subjectivities that would rather see forests in the control of the forest department than trust the village residents with the mandate of conserving their forests. The differences between the conservation narratives of the forest bureaucracy and of the residents have been discussed elsewhere by, for instance, Sen and Pattnaik (2019) and Barbora (2017), among many others, and also observed during the field work of this study. The knowledge that was created within the communities was an amplified sense of self-esteem, and a crystallised cognitive locus, anchored in an understanding of their newly-explicit environmental-govenrmental subjectivity which gives a legal justification to the skilled management of their areas. It is knowledge that enhances the capacities of individuals to act and coordinate actions together, and shape reality (Nonaka and Von Krogh, 2009) in forest management. The cognitive locus capacitates the communities to tackle new challenges. This knowledge outcome is itself a process, not a fixed end-product. Next, I will discuss the obstacles for knowledge conversion and knowledge creation in terms of distances in cognitive and material space.

8.2. Cognitive distance between the residents and forest bureaucracy

Among all the factors that make claiming forest rights challenging for local communities, perhaps the most crucial is the difficulty of collaborating with the forest bureaucracy, which had been limiting the residents' access to the claims preparation process. The forest bureaucracy was not completely unhelpful, but it did not provide information about the act, it downplayed or denied the entitlement of residents to forest rights, and it mismanaged the claim forms. In practice, it is the NGOs that have provided the information on the FRA to the villages and helped in claims-preparation. This has been the case in the studied villages and apparently also elsewhere, according to testimonies at various in meetings in Central India that I have attended between 2015 and 2019. Sen and Pattanaik (2019, p. 2368) note that 'the mechanisms of the forest bureaucracy reshape perceptions of individuals on forest rights and conservation in a local context'. Legal frameworks, as with any knowledge, are interpreted differently in particular contexts and by different actors, and this can manifest in notable cognitive distances between different actors. It is possible that there is not enough expertise concerning the FRA within the forest bureaucracy. However, Sen and Pattanaik (2019) also note that the implementation of the FRA might not

be in the interests of the forest department as it dislodges the authority of the forest bureaucracy by conferring the rights in the forest areas to the residents. It seems that initially there had been no effort to bridge this cognitive distance. In Jharanapur, however, relations with the forest department gradually improved during the process as the interpretations of the forest department came closer to those of the residents. In this case, the forest department also came to a shared interpretation that the residents are the best actors to manage their forest, for which they should have their CFR and conservation mandate.

8.3. Increasing cognitive proximity and sense of togetherness within the communities

In the face of irregularity from the state bureaucracy in terms of implementing the FRA, it becomes evident that the crucial factor is the residents' 'capacity to claim' and contest infringements upon their rights (Schoneveld and German, 2014). This is important especially during the application process, but it also makes the perception of rights stronger, inhibiting non-consensual operations in the future. A clear cognitive locus of shared interpretations concerning forest rights seems to be key to achieving this capacity.

According to key respondents, even more important than having rights on paper is to have a common understanding about the rights among the residents:

> *"(R)ights on paper are important, but more important than that is people coming together as a collective and as a group. To really get those rights implemented. And – otherwise paper can actually get lost or paper doesn't mean anything unless it is backed by people's collective kind of movement or people's collective understanding of what those rights are and how they should be executed." (Male respondent, Kundpur)*

Being together in the process was also seen as key to attaining the titles in both of the villages that were finally able to secure their forest rights. It was noted that nobody alone could successfully claim the rights – both in the sense that it requires the participation of the whole community and in the sense that there is more power to negotiate with forest officers when there are more people. Shared emotions played a crucial role in building the cognitive locus (Hautala, 2018; Vuori and Hyu, 2016). Initially, low levels of trust towards the forest bureaucracy, the long history of having overall marginalised status, and the low education levels of the Adivasis were among the reasons for less-than-hopeful attitude towards participating in legal processes. Conversely, building hope, unity and self-esteem was key in achieving a strong cognitive locus that anchored the claims preparation and lodging process. While the cognitive locus was conceptually anchored in notions of forest protection, the related emotions of attachment to the forest and self-esteem to claim the rights were crucial motivators. Unfortunately, during my fieldwork, women remained reluctant to engage in even slightly 'technical' conversations of forest rights. The reluctance was explained by an insistence that men know these things better, since they are more literate. This implies that a lack of confidence still produces cognitive distance when it comes to the more technical side of the CFR. To ensure a more inclusive claims-preparation process, it would be important to integrate a strong emphasis on valuing women's participation in every step of the process. However, such transformation may require more than the efforts of single NGO projects.

The development of this empowerment requires not only co-location but a good quality co-presence (Hautala, 2018) by the NGO actors, who often are the first people to inform the residents about any rights that they enjoy. In terms of good quality co-presence, it is important to have the NGO engaging with the communities long enough to be able to ensure the forming of the cognitive locus concerning CFR. In Kundpur and Jharanapur, the efforts and co-presence (Hautala, 2018) of the NGO were crucial in building awareness and the motivation to claim the rights. In 2017 in Ghaaspur, there was generally a more helpless shared emotion and a feeling of waiting for someone to put things forward. In Ghaaspur, the NGO had not yet been able to commit to the process with as much effort since the interventions there started later than the FRA campaigns elsewhere. The community was not able to tackle the technical difficulties alone despite initial motivation. However, in 2019, they finally received the legal assistance to proceed with the claims-making.

If the communities were to be very heterogeneous, it might be challenging to implement the act that is 'framed under the pretext that all the people residing in a particular forest-dependent village are equally reliant on the forest for livelihoods' (Sen and Pattanaik, 2019, p. 2373). However, all the respondents encountered in the studied villages practised the same forest-dependent livelihoods. This relatively strong homogeneity likely assists in reaching sufficient shared understanding. There were differences in how keen each resident was to participate in the practical process of claims preparation, but it seemed that all residents were willing to apply for CFR. Furthermore, in contrast to Sen and Pattanaik (2019), no one reported any difficulties resulting from non-collaborating actors in the village administration or 'local elites'. However, it needs to be noted that not all understandings of the forest and its sustainable management are completely similar among every resident.

8.4. Distances and proximities in material space

The local, particular material space and the residents' close relation with it affected the formation of the cognitive locus. Intertwinement of material and cognitive spaces between human and non-human actors entails a unique, local assemblage rich with information about the local forest, resulting in tacit knowledges how to live with it. The residents' role in protecting the forest stems from their love for and familiarity with the forest as the 'being there' fosters emotions of attachment (Loivaranta, 2020). This shared understanding about both abilities and motivation to protect the forest is a key factor to become motivated to claim for the CFR. Simultaneously, it is one of the ways to show the rationale for claiming the rights, as the FRA particularly mentions the mandate of local communities to protect the forests.

Conversely, the peripheral location itself might have been a hindrance for knowledge creation. In a village with minimal network coverage and minimal resources to travel, the distance to offices, photocopying or printing services is not easily bridged. Thus, the mobility of individuals who can facilitate knowledge creation (NGO actors) becomes important, and here a key factor in localised knowledge creation (c.f. Ibert et al., 2015). These efforts in bringing resources have been invaluable. Otherwise, the costs of political action (travel and communication) hinder the political participation of peripheral communities (Johnson, 2001, 525 cited in Sen and Pattanaik, 2019). While Rutten (2017) argues that geographical distance in the context of knowledge creation is a 'trade-off between effort, preference and dependency', in a very peripheral setting, the bridging of this distance is conditional on actors with the resources to do so.

9. Conclusion

In this paper, knowledge-creation processes have been studied in the politically contested context of land-rights claims-making in peripheral locations, bringing geographies of knowledge creation outside of their original comfort zone. Simultaneously, geographies of knowledge creation have enabled novel viewpoints about discussions on land rights claims-making processes, especially the application of a spatial lens in a context that clearly deserves spatial theorizing. Dynamics of distances and proximities were studied in material and cognitive spaces, and they were shown to affect the formation of a cognitive locus - a shared understanding about being skilled and legally entitled to conserve and manage the community forest. Since knowledge is individually interpreted, the cognitive locus is always subject to change as people change and interpretations transform. Cognitive locus is a process with 'no end point': no idea or interpretation is ever stable or completed (Ibert et al.,

2015). In terms of tenure security, the development of a strong cognitive locus where core interpretations of land rights are shared within the community and with other actors as well helps in maintaining the perceptions of secure tenure and acts as a protective shield against disturbances to this locus in the future.

The main challenges in the knowledge creation process existed in cognitive space. The co-presence of the NGO was necessary for bridging the cognitive distance by building awareness and confidence to claim the rights. The NGO interpreted the law for the residents and convinced them of their entitlement to the forest rights. It seems that what the forest bureaucracy did was just the opposite: they tried to dismiss the FRA as nonsense. The shared cognitive locus and the dedicated work of the NGO were crucial to push the process through these challenges and eventually bridge the cognitive distance to forest bureaucracy as well. In this regard, the mobility and 'being there' of the NGO actors were immensely important. Without these civic actors, the process probably would not have been initiated, since the forest department actors were rather unwilling to share information, and the remote communities with no internet do not stumble upon legislations by accident. Long history of internalised marginalisation further hinders the absorbtion of ideas about land rights. Thus, NGOs or other actors are often crucial in building rights-awareness. While India has a unique history of overlapping caste and class systems, resulting in marginalisation of Adivasis, similar knowledge-related challenges might emerge in other remote localities where vulnerable communities' traditional livelihoods are protected by national or international law, but in discord with the environmental subjectivities and practices of the established forest bureaucracies. Bridging these kinds of cognitive distances would require, in addition to capacitating local communities, knowledge sharing among the actors in the forest bureaucracies about the local communities' traditional, sustainable practices, and the communities' legal rights to these practices. However, in some cases, the challenges might lie elsewhere than mere lack of awareness. In India, scrutiny towards the local FRA processes is necessary, in order to prevent any unjustified evictions and to secure Adivasi forest rights now and in the future.

CRediT authorship contribution statement

Loivaranta Tikli: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

I wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Data availability

The data that has been used is confidential.

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