Assessing the socio-psychological implications of Community Forest Resource (CFR) rights for forest-dwelling communities in Central India

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A R T I C L E   I N F O

A B S T R A C T

In India, the Forest Rights Act (2006) legally recognizes the land rights of forest-dependent and forest-dwelling communities by granting them decision-making power over the lands they have traditionally depended on. Through the Community Forest Resource (CFR) rights, a key provision under this Act, communities are entitled to protect biodiversity, manage forest produce, and participate in forest planning and decision-making in their customary lands. While CFR rights have been studied for their socio-economic and material outcomes, their socio-psychological implications remain relatively underexplored. We addressed this critical gap by using a combination of household interviews, focus group discussions, and narrative walks in three CFR-entitled villages in Vidarbha Maharashtra, India. Responses were transcribed and analyzed using value coding and descriptive statistics. An inductive approach guided the identification of key themes, followed by multiple rounds of interpretation situated within the context of CFR governance. The five key themes that emerged were satisfaction with CFR-based forest management, inclusion in decision-making, freedom to express opinions, values of environmental stewardship, and aspirations for empowered village futures. We found that CFR rights had positive socio-psychological implications for most respondents by fostering a greater sense of agency, belonging, inclusion, and empowerment in relation to forest governance. However, some respondents reported concerns about power asymmetries and limited representation. These findings suggest that policies need to move beyond procedural recognition of CFR rights to actively enable inclusive governance practices. Strengthening representation, supporting community-led stewardship, and addressing local power dynamics are essential for advancing both equity and effectiveness in CFR implementation.

1. Introduction

Countries in the Global South are home to some of the world's most biodiverse tropical and sub-tropical forests (Santoro et al., 2021). Colonial regimes across most of these countries had been characterized by governments that had seized complete control of many of these forests to exploit resources for profit, leading to ecosystem damage and conflicts between the erstwhile forest departments and displaced forest communities (Ghosal and Liu, 2018; Domínguez and Luoma, 2020). In the mid-twentieth century, most newly independent nations inherited these centralized forest governance systems (Mgaya, 2016; Roy and Fleischman, 2022; Chowdhury et al., 2024). The predominant strategy for forest conservation continued to be the establishment of protected areas, largely excluding local communities from accessing both land and resources (Rai et al., 2021; Bathija and Sylvander, 2023). However, by

the 1970s, there was widespread criticism regarding the failure of these systems to protect forests as well as support the local communities (Moeliono et al., 2012). Consequently, many countries started adopting decentralized forest governance, underlain by active community involvement in decision-making and benefit-sharing (Larson, 2003; Singh, 2008).

Fundamentally, forest decentralization involved transferring the forest tenure rights from the State to local communities (Moeliono and Dermawan, 2006). Initially, this devolution began with the partial granting of tenure rights through State-community alliances (Cronkleton et al., 2012). Often referred to as community-based forest management (CBFM), this approach has been executed in various forms worldwide: Joint Forest Management (JFM) in India (Bhattacharya et al., 2010), Kenya and Tanzania (Pfliegner, 2010); Ejido forestry in Mexico (Thoms and Betters, 1998); Social forestry in Indonesia

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(Moeliono et al., 2023); and Community forestry in Nepal (Devkota et al., 2017). However, these endeavours were and continue to be characterized by power asymmetry with the State retaining significant decision-making control and communities holding usufruct rights, often allowing land use but not ownership (Nayak, 2002).

Globally, around 1.6 billion people are estimated to live within a 5 km radius of forests, of which 64.5 % reside in the Global South (Newton et al., 2020). Community forest tenure (CFT) was introduced in the 1980s to address power imbalances and ensure fair land rights for a significant portion of the global population (Kusters et al., 2022). CFT granted full ownership and decision-making authority to local communities over the forest lands they have traditionally lived in and relied on (Sunderlin, 2012; Kusters and de Graaf, 2019). Over the past four decades, the transition in forest tenure has been particularly significant across Africa, Central and South America, and South and Southeast Asia, where numerous countries have amended land and forestry laws to provide Indigenous Peoples and Local Communities (IPLCs) with more formal and legally recognized rights to manage and use forest resources (Jhaveri, 2020).

India ranks 10th in forest area coverage worldwide (Press Information, 2018), with at least 22 % of its population being classified as forest-dependent and forest-dwelling (Forest Survey of India, 2019). CBFM has been in practice in India since the 1980s through different models such as JFM, Social Forestry, and Village Forests (Ghosal and Liu, 2018). In 2006, the Government of India approved the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act— also known as FRA 2006— legally recognizing the land rights of forest-dependent and forest-dwelling communities by granting them decision-making power over the lands they have traditionally depended on (Government of India, 2007). The FRA 2006 is a prominent example of CFT through Community Forest Resource (CFR) rights (Gupta et al., 2020; Lele, 2024)— a statutory entitlement that vests authority in communities to govern and conserve forests they have customarily accessed and cared for (Lele and Sahu, 2025). These rights include the authority to protect biodiversity, manage forest produce, and participate in forest planning and decision-making (Gupta et al., 2020). CFR rights also legitimize community ownership of forest lands for cultivation and habitation (Trivedi, 2020), and strengthen the role of the *Gram Sabha* (statutory village-level institutions comprising all adult residents) as the primary body responsible for overseeing forest governance (Sahu, 2020). In doing so, they recognize and uphold diverse local voices, perspectives, and knowledge systems (Vikalp Sangam and CFR-LA, 2020).

The process of allocating CFR rights begins with the *Gram Sabha* submitting a formal claim, accompanied by maps and relevant documents outlining their forest boundaries (Government of India, 2007). This claim undergoes an initial review by the Forest Rights Committee (FRC), a body constituted by the *Gram Sabha* specifically for this purpose. Upon review, the FRC forwards the claim to the Sub-Divisional Level Committee (SDLC) for verification. With representatives from the Revenue Department, Forest Department, and tribal communities, the SDLC is meant to ensure a multi-stakeholder evaluation (Government of India, 2007). Following verification, the claim is submitted to the District Level Committee (DLC), which conducts a final assessment before granting official approval. Upon approval, the community is formally recognized as the rightful authority over the specified forest area and its associated resources, thereby securing their CFR entitlements (Government of India, 2007).

Tangible aspects of forest rights such as ecological outcomes, material benefits, and livelihood impacts have been well studied (Owubah et al., 2001; Beauchamp and Ingram, 2011; Sikor and Tan, 2011; Lawry et al., 2012; Assembe-Mvondo, 2013; Kabir et al., 2021; Feurer et al., 2018; Mawa et al., 2021). However, their intangible socio-psychological dimensions remain relatively underexplored. There is growing scholarly consensus that these dimensions are not incidental, but central to the equity, effectiveness, and sustainability of community-driven conservation models (Enters and Anderson, 2000; Chhatre and Agrawal, 2009; Larson et al., 2010). Yet, empirical studies systematically examining socio-psychological impacts— especially in the aftermath of rights recognition— remain limited (Ives et al., 2017; Gould and Schultz, 2021). This constitutes a key knowledge gap, particularly given how such intangible aspects may underpin long-term outcomes like stewardship and intergenerational knowledge transfer— factors that are central to the overall well-being of rural communities (Ens et al., 2015; Berbés-Blázquez et al., 2016). We address this critical gap and examine the socio-psychological implications of CFR rights for communities. In this context, socio-psychological dimensions refer to the internal and relational aspects of well-being that are shaped through engagement in forest governance (also known as social psychological dimensions; Shin 1995; Sood and Mitchell 2004; Yasué et al. 2020; Odono et al. 2021; Ibrahim et al. 2022; Lang and Rabotyagov 2022); these attributes reflect how governance processes influence people's sense of identity, connection to place, and collective purpose (Kearney, 2001). In doing so, we document how communities themselves perceive and internalize the experience of recognition of CFR rights, offering a people-centred lens to understanding what it really means to participate in forest governance.

2. Methods

2.1. Study sites

In India, three states— Chhattisgarh, Maharashtra, and Odisha— have been the most active in granting CFR rights to thousands of villages each (Lele and Sahu, 2025). Our study sites were distributed in three districts of eastern Maharashtra— Amravati, Chandrapur, and Gondia— collectively called Vidarbha (Fig. 1). This central Indian region, which has about 53 % of the state's forest cover (Prateek and Gupta, 2024), includes around 6500 villages with CFR rights, supported by tribal- and forest rights activists and NGOs (Date and Lele, 2022). The forests here mainly have dry deciduous trees mixed with grasslands and scrub species, with fewer closed-canopy broadleaf evergreen trees (Gudadhe et al., 2020).

We conducted reconnaissance surveys across 15 villages in the Vidarbha region that hold CFR entitlements. From these, three villages were selected based on the availability of detailed records maintained by the respective *Gram Sabhas*, including documentation on village boundaries, CFR entitlement dates, forest parcel characteristics, land use data, and pre-CFR conditions. In addition, post-CFR developments, such as plantation efforts, fund allocations, and the enforcement of CFR-related regulations, were examined through the same set of locally maintained records. Notably, each of the selected villages received CFR rights in 2012— a uniformity not commonly found across other sites. This shared timeframe enabled an assessment of the decade-long impacts of CFR recognition, striking a balance between capturing both short- and longer-term outcomes, while ensuring that respondents could still clearly recall CFR-related changes. As White (2006) noted, policy evaluations are most effective when conducted five to ten years after implementation, as this allows sufficient time for outcomes to unfold and become observable.

To safeguard sensitive information and protect the privacy and integrity of the communities and other stakeholders involved in the study, including local NGO partners, here we refer to our study sites as Village 1 (Gondia district), Village 2 (Chandrapur district), and Village 3 (Amravati district) respectively (Fig. 1). Management practices varied considerably across the three villages, influenced by distinct local governance dynamics, institutional histories, and community priorities.

As per the 2022 *Gram Sabha* records, Village 1 consisted of 114 families, 83 % of which identified as Scheduled Tribes (ST; *Gond*), 10 % as Scheduled Castes (SC; *Mahar*), and 7 % as Other Backward Classes (OBC; *Goswavi* and *Kewat*) (*N* = 114). *The Gram Sabha* gained access to 295 ha of forest land following the recognition of its CFR rights. The
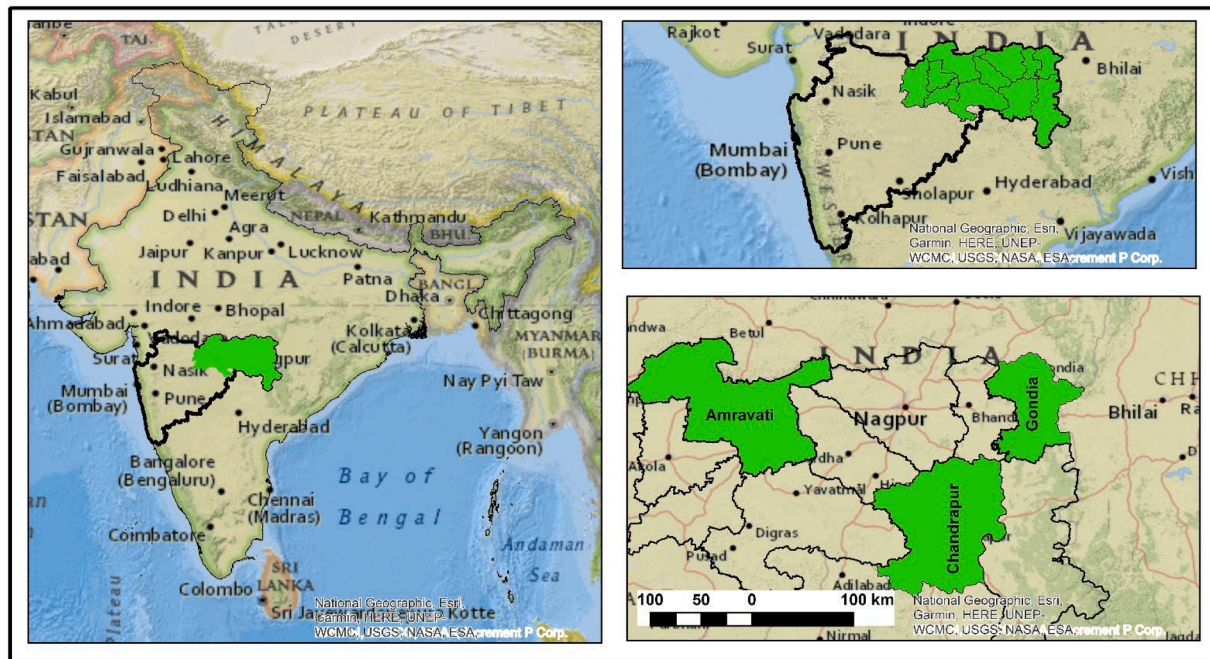
Fig. 1. Location of the study districts in the Vidarbha region of Maharashtra, India. The left panel shows the state of Maharashtra (outlined in black) and highlights the Vidarbha region in green. The top-right panel provides an enlarged view of Vidarbha with district boundaries. The bottom-right panel marks the three study districts.

forest is tropical dry deciduous in type, characterized by thorny vegetation, grassy undergrowth, and dominant tree species such as Indian laurel (*Terminalia tomentosa*), crepe myrtle (*Lagerstroemia parviflora*), Indian gum tree (*Terminalia anogeissiana*), East Indian ebony (*Diospyros melanoxylon*), Indian plum (*Syzygium cumini*), and lac tree (*Schleichera oleosa*) (local NGO report). The primary source of livelihood is agriculture, with nearly 80 % of households owning land and around half possessing cattle. Communities also depend heavily on forest resources for fuelwood, fodder, and non-timber forest products (NTFPs), including East Indian ebony leaves, Indian butter tree flowers (*Madhuca longifolia*), charoli nut (fruits) (*Buchanania lanzan*), and black myrobalan fruits (*Terminalia chebula*), which contribute to seasonal incomes. CFR rights have facilitated stricter forest protection and participatory governance— the *Gram Sabha* designated 58 ha of forest for bamboo (*Dendrocalamus strictus*) plantation and imposed grazing restrictions, annual meeting requirements, and fire-prevention rules with enforceable fines (local NGO report).

Drawing on the *Gram Sabha's* 2022 records, Village 2 is home to 62 families, 72 % of whom belong to the ST (*Gond*), with the remainder comprising OBC and Nomadic Tribes (*Lohar, Fulmari,* and *Beldar*). The village is allocated 1006.42 ha of forest land under CFR rights, which the *Gram Sabha* subsequently divided into four sections for management and monitoring. The forest is tropical dry deciduous in nature, with patchy grassy areas and a dominance of species such as bamboo (*Dendrocalamus strictus*), Indian kino (*Pterocarpus marsupium*), Indian laurel (*Terminalia tomentosa*), and teak (*Tectona grandis*). A 34-ha patch has been declared a *Devrai* (sacred grove) by the community and is managed as a critical habitat for wildlife— where even leaf collection is prohibited to keep it undisturbed (*Gram Sabha* report). Agriculture is the primary source of income, with about 85 % of households engaged in farming and roughly half owning cattle. Communities rely on the forest for fuelwood, fodder, and NTFPs, especially bamboo, which is also the main commercial species. The forest also holds cultural significance through the *Devrai*, reinforcing strong emotional and spiritual ties to the landscape (*Gram Sabha* report). Following the recognition of CFR rights, the *Gram Sabha* instituted 115 rules governing the sustainable use of forest resources for both community needs and commercial purposes (*Gram Sabha* report).

All decisions are made through consensus in the *Gram Sabha*, which meets frequently— at least four to five times a month or as needed. There is no separate forest management committee or designated leadership positions, which reflects a deliberate choice to uphold democracy, inclusivity, and transparency (*Gram Sabha* report).

According to the 2022 *Gram Sabha* records, Village 3 has 112 families: 85 % of them represented ST (*Korku*), 14 % SC (*Balai* and *Mahar*), and 1 % OBC (*Nai*) (*N* = 112). Agriculture and livestock rearing are the primary sources of livelihood, with roughly 75 % of households owning croplands— either inherited or purchased— and around 45 % owning cattle. The entitlement of CFR rights vested the *Gram Sabha* with authority over 192 ha of forest land, following which it introduced key management interventions— prohibiting grazing and fuelwood collection across 132 ha, and designating 60 ha for controlled resource use, where only grazing and the collection of deadwood are permitted. The forest is classified as tropical dry deciduous and is characterized by a dense cover of grasses such as *Apluda mutica, Heteropogon contortus*, and *Dichanthium annulatum*, alongside a dominance of key tree species like flame of the forest (*Butea monosperma*), Indian gooseberry (*Phyllanthus emblica*), and custard apple (*Annona squamosa*) (local NGO report). Communities rely on these forests not only for subsistence needs such as fuelwood and fodder but also for seasonal income through NTFPs, particularly custard apple and East Indian ebony leaves (local NGO report). From 2014 to 2016, over 52,000 saplings of economically and ecologically important local species were planted as part of a community-led afforestation initiative (local NGO report). The felling of live trees is strictly regulated, with penalties up to INR 5000, except in the case of overabundant species such as *Lantana* sp. and *Vitex negundo*. Additionally, regular biodiversity assessments are conducted to track changes in species composition and overall ecological condition, and targeted decisions are made accordingly (*Gram Sabha* report).

Although the forest area granted under CFR rights varied across villages, no analytical weight was assigned to entitlement size, as reconnaissance survey observations suggested it was not a primary factor shaping respondents' experiences. Instead, the study focused on examining how village-level forest management practices— defined by locally framed *Gram Sabha* rules— shaped perceived outcomes.

2.2. Data collection

We conducted three reconnaissance surveys— one in each village— to document the history of CFR rights, *Gram Sabha* rules in CFR-driven forest management, and to obtain approval from relevant stakeholders for the study. We also met key informants like directors and representatives of local NGOs in each village to gather information about the situation of the villages before they became CFR-entitled, which helped us frame our study questions/topics. Ethical clearance for this research was obtained from the Institutional Review Board.

Three methods were used in this study: interviews (Weller, 1998), focus group discussions (Parker and Tritter, 2006), and narrative walks (also known as walking/go-along interviews) (Moles, 2008). We conducted data collection in Gondi, Marathi and/or Hindi for all methods, with two field assistants- one man and one woman- present throughout. Respondents were not identified by name; instead, we used a coding system based on the data collection method (INT for in-depth interview (s), FGD for focus group discussion(s), NW for narrative walk(s)) followed by a number for each respondent. Overall, 265 respondents participated across the three methods (Table 1).

We obtained verbal and written consent from respondents before beginning the interviews, explaining the objectives of the study and their participation rights. Video recording was optional, but we requested for audio recording unless the respondent objected, in which case handwritten notes were taken. Respondents were informed that they could skip questions or stop the conversation at any point in time. They were assured of confidentiality and were apprised that the information would only be used for research. We conducted semi-structured household interviews ($N = 250$) across three CFR-entitled villages beginning in April 2023. Households were selected through random sampling from the complete list of village households maintained by the *Gram Sabha*. Within each household, one adult respondent was interviewed, based on availability and willingness to participate (convenience sampling; Edgar and Manz, 2017). Eligible respondents had to (1) be 18 years or older and (2) possess basic awareness of the CFR-related processes in their village. Since most villagers are farmers, interviews were held in the evenings. Interviews varied greatly in length, ranging from 8 to 30 min, with an average of 14 min. We applied the 'conversation with a purpose' technique (adapted from Yuliani et al., 2023) to explore how CFR rights affected respondents' socio-psychological well-being. This involved conversing around broad topics such as experiences with CFR-driven forest management practices, participation in *Gram Sabha* activities, feelings of empowerment after gaining CFR rights, and respondents' understanding of how CFR rights can affect forest growth and conservation (Table 2). The selection of topics was informed by reconnaissance surveys and key informant interviews conducted before the commencement of data collection. Depending on their responses, we asked follow-up questions to gain a clearer and more in-depth understanding of their perspectives.

We conducted six FGD (43 respondents) across 2022 and 2023. The discussions were focused on the aspirations and expectations of villagers regarding CFR rights and their potential role in forest conservation through the advantages provided by these rights (Table 2). While more specific and in-depth questions were asked during interviews, the FGD were designed to encourage broader, collective reflections on CFR rights. This approach helped ensure a comfortable and respectful group dynamic, allowing participants to express their views without the pressure of revealing personal or sensitive information in a shared setting (Wutich et al., 2010). This also enabled us to gather a broader range of perspectives and promote better group interaction through semi-structured questions drawn from reconnaissance surveys and key informant interviews. Respondents for FGD were opportunistically selected based on their willingness to participate. Verbal and written consent were obtained, following the same protocols as the interviews with regard to ensuring anonymity, recording responses, and allowing participants the option to withdraw. Each FGD lasted from 30 min to an hour, with the same eligibility criteria for respondents as the interviews. We tried to provide a supportive atmosphere to encourage respondents to freely express their opinions. Women, in particular, showed hesitance to openly speak in FGD that included men, prompting us to conduct one all-women FGD in each village. While the general FGD were largely dominated by middle-aged (40 years and above) and older men (above 60 years), the all-women FGD were primarily attended by younger women (aged 30–35 years). The 'Appreciative Inquiry' (AI) approach (adapted from Yuliani et al., 2023) was used to engage the respondents. We emphasized exploring their larger aspirations and expectations for the forest rather than current experiences, such as "***What would you like to do*** for the forest (if given the opportunity) and ***why***?" and "***How do you envision*** the forest in the next 10 years, and how ***will it differ*** from the pre-CFR era?" (Table 2). This approach allowed us to explore how CFR rights impact their relational values with the forest.

NW were largely conducted with men since most women did not consent to walk along with the data collection team. We conducted six NW (11 men) in late 2023, following the same eligibility criteria and research protocols as interviews. After obtaining verbal consent, we engaged respondents in walk-and-talk interviews using semi-structured questions about the socio-psychological implications of CFR rights. These walks were often done with older men strolling in the forest or middle-aged men grazing their cattle in the forest. During the NW, respondents could choose to walk in any direction in the forest, along the forest-village border, or to a destination important to them (Burns et al., 2019). Broad topics of discussion were similar to the interviews (Table 2). Audio recording was not practical due to background noise and movement. Hence, we relied on handwritten notes for this method (Carpiano, 2009; Rutakumwa et al., 2020). These respondents were purposively selected for forest walks because they had not participated in earlier interviews or FGD, either due to scheduling constraints or prior unavailability. This approach helped diversify the perspectives captured across the three methods and avoided overburdening participants already involved in previous components of the study. Each NW lasted about 90 min, as it included walking to a location and returning to the village with the respondent.

Table 1
Number of respondents for interviews, FGD, and NW in each village.

Villages	Interview(s) (INT)		Focus group discussion(s) (FGD)				Narrative walk(s) (NW)				Total Respondents
	Men	Women	Men		Women		Men		Women		
			1st FGD	2nd FGD	1st FGD	2nd FGD	1st NW	2nd NW	1st NW	2nd NW	
Village 1 N = 114 families	62	39	4*	–	1	4*	2	1	–	–	105
Village 2 N = 62 families	34	17	13*	–	5*	7*	2	–	–	1	54
Village 3 N = 112 families	68	30	5*	–	–	3	2	3	–	–	106
TOTAL											265

* 38 respondents participated in both interviews and focus group discussions across the three villages.

Table 2

Broad topics covered in interviews, focus group discussions, and narrative walks.

Interviews and Narrative Walks	
Topics discussed	Key inquiries
Experiences with CFR-driven forest management practices	What aspects of CFR-driven forest management in your village do you appreciate the most? What do you appreciate about the forest now that you could not before CFR rights? How was forest management before CFR entitlement? Have any beliefs related to forests changed after CFR rights? How do you feel about that? Are you aware of all the rules and penalties related to CFR-driven forest management? Do you think any of the rules seem redundant? Do you agree with the rules, or do you think that some or most of them should be reviewed?
Participation in *Gram Sabha* activities	How has your participation in *Gram Sabha* activities changed before and after CFR rights? How often do you attend the meetings? Are you informed about the meeting timings in advance? How are the meetings conducted here?
Feelings of empowerment after CFR rights	Can you openly express your opinions on CFR governance? Do you feel that your opinions and views on CFR-driven forest management in the village are heard? Do you think you have the chance to debate? Do you feel accepted and valued when decisions regarding forest management practices are taken?
Perceived impacts of CFR rights on forest growth and conservation	Did CFR rights impact the forest near you? How? What do you think would happen to your forest without CFR rights? With global forest cover decreasing, do you think you can take some actions through CFR rights to protect the forest near your village? In what ways do you think your community can use CFR rights to protect and manage the forest near your village?
Focus Group Discussions	
Topics discussed	Key inquiries
Aspirations and expectations from CFR rights and forests	What changes would you suggest for CFR-driven forest management practices? How have CFR rights affected the experiences of forest-dwelling communities? If given the opportunity, what would you like to do for the forest? What were your expectations for the forest after receiving CFR rights, and how does reality compare? How do you see it in the future? What do you appreciate about the forest in your surroundings? How did you contribute to the early days of CFR rights for your village and forest, and what more would you like to do?

2.3. Thematic analysis

All the responses— across all three data collection approaches— were consolidated prior to analysis. Each respondent's method of participation was tagged for coding reference (as referred above: INT for in-depth interviews, FGD for focus group discussions, NW for narrative walks). Audio-recorded and handwritten notes were transcribed verbatim. Using value-coding techniques adapted from Yuliani et al. (2023), the transcripts and notes were carefully read to tag segments that reflected values, beliefs, and motivations related to forest governance and community well-being. These codes were particularly attentive to expressions of satisfaction, inclusion, autonomy, stewardship, and aspirations— categories that later evolved into the core thematic framework.

Next, we undertook thematic analysis following an inductive approach (Thomas, 2003). Coded segments were grouped into broader themes by identifying recurring patterns across responses. Thematic analysis was conducted at the semantic level, focusing on the explicit meanings expressed by respondents rather than latent assumptions. Initial codes were generated directly from the data, and themes were iteratively refined through close reading and internal discussions to ensure consistency and contextual relevance. The final themes were aligned with the study's objectives and framed around key dimensions of CFR impacts. Themes were revisited multiple times to interpret them meaningfully in the context of CFR rights and to ensure their resonance across different respondent groups. Descriptive statistics were used to summarize responses to understand overall patterns across themes.

3. Results

Five main themes emerged from our conversations with respondents regarding the socio-psychological implications of CFR-driven forest management: satisfaction with the current management state; inclusiveness in decision-making processes; freedom to express opinions about CFR governance; values of stewardship; and potential to achieve visions of empowered villages through targeted CFR initiatives.

3.1. Sense of satisfaction with the current CFR-driven forest management practices

Overall, 64 % of the respondents ($N = 265$) expressed satisfaction with the current CFR-driven forest management practices. Improved biodiversity conservation, increased and equitable livelihood benefits stemming from better transparency in management practices, and positive relationships with those in power were cited as reasons for their contentment.

Respondents felt that the implementation of CFR rights had contributed substantially towards effective biodiversity conservation, as was evident from increased wildlife sightings, higher occurrence of previously declining plant species, and the visibly improved forest structure:

"Since we gained CFR rights, we have noticed a real change in the forest. Animals like nilgai (*Boselaphus tragocamelus)* and chital (spotted deer; *Axis axis*) are more frequently seen now. Plants we thought were vanishing, such as medicinal herbs like kalmegh (green chiryata; *Andrographis paniculata*), are returning. It feels like the forest is thriving again, just like it used to." (INT 12)

"It feels lovely to think that tigers (*Panthera tigris*) are being spotted in the forest and it was possible through forest protection rules created by our *Gram Sabha*." (INT 117)

"Since our village received CFR rights and the *Gram Sabha* started protecting the forest, this new generation can see tendu (East Indian ebony; *Diospyros melanoxylon*), fruits which, otherwise, had disappeared with unsustainable lopping practices." (INT 220)

"To understand how much the CFR policies of our *Gram Sabha* have restored biodiversity, you should look at photos of the forest before 2011; now, it feels so good to just go and sit under a tree within the dense forest." (NW 7)

The respondents' sense of satisfaction was also associated with increased livelihood benefits and transparency and equitability associated therewith.

"I am very happy with the CFR rules and regulations in place. There are no hidden costs during the tendu sale process and we get better revenues without the Forest Department interfering in the process.

We earn money based on what we deserve and all record books of tendu collection and sale are publicly accessible. Our *Gram Sabha* is doing a fine job balancing forest sustainability and our needs. Life is better now." (INT 23)

"The CFR policies drafted by our *Gram Sabha* are empathetic towards forest and human needs. For example, there is a set of seven rules specifically governing bamboo harvesting, aiming to enhance product quality and sales, while enabling the forest to regenerate naturally and continue meeting community needs in the long run." (INT 108)

"Since our village received CFR rights, every action is accounted for. Earlier, we used to be informed about decisions, but now we make them. While not everything is perfect, the forest is thriving, and no family is currently homeless or starving. The *Gram Sabha* and the local NGO deserve complete credit." (INT 162)

Respondents further expressed satisfaction with CFR rights due to improved relationships with key power-holding actors, such as *Gram Sabha* heads. These stronger connections fostered better communication, trust, and collaboration, allowing communities to participate more openly in matters of forest management.

"With the CFR entitlement, our relationship with the *Gram Sabha* has become more balanced. There is no power dominance anymore… and we work together as equals. It is a very friendly and respectful relationship where they genuinely listen to us and involve us in all matters concerning our forest. This cooperation has made our community stronger and more united." (INT 139)

In contrast, the respondents who were dissatisfied mentioned concerns such as limited transparency and integrity issues in CFR-driven forest management practices, sentiments of being unheard and overlooked in the guideline creation processes of those practices, hidden costs in the policies and regulations of CFR management that the villagers have to shoulder, and a lack of diversity in commercial forest products.

Respondents shared that limited transparency and integrity issues could weaken the sustainability and success of CFR-driven conservation efforts. They felt this could lead to unequal distribution of benefits, poor resource management, or even marginalization of certain groups within the community. They also noted that favoritism or lack of accountability in appointing key roles in forest management can further exacerbate these problems.

"… those in power prioritize personal connections over the welfare of the people. Why is the same person repeatedly appointed to an important position created by the *Gram Sabha* under the CFR rights structure each year […] Should not the appointment be a collective decision of the villagers? It is even more frustrating because I have no power to ask how the decision was made." (INT 237)

"What equity? We are the minority in this village, and no one includes us in forest management practices. … […] I have also seen that benefits from the forest are shared unevenly, with others reaping rewards while we struggle to meet our basic needs. We deserve to be involved in these discussions and have our concerns heard so that we can share in the benefits of the resources we help protect." (INT 260)

Dissatisfied responses also included sentiments of being unheard and disregarded during the development of guidelines for CFR-driven forest management practices. They felt that their voices were not adequately considered, leading to a lack of trust in the decision-making process. They further mentioned that this disregard for community inputs can result in ineffective guidelines that do not reflect the needs and knowledge of local communities.

"Sometimes we learn about new CFR rules, but then they change without any explanation. I have concerns about the decision-making

process because it is dominated by a single individual. This makes me question how collective our setup really is. There are many elders in our village with valuable knowledge about the forest, but their voices are often ignored. This lack of inclusion limits our ability to make informed decisions that benefit everyone in the community." (INT 197)

Dissatisfied respondents also articulated the hidden costs inherent in public policies relating to forest management plans that the common people have to bear. For instance, they discussed exacerbated crop depredation and other forms of negative human-wildlife interactions such as tiger attacks on cattle due to increasing forest cover from creating more legally protected and restored forest areas around the village through CFR rights.

"There were no problems before 2011. Animals and villagers were peacefully living and frequently interacted in the forest. Since the CFR entitlement, there are so many rules and penalties for breaking them that I do not feel like going close to the forest and the same holds for my friends. Not only that, wild animals are now creating nuisance by entering into crop fields. I lost cotton worth nearly INR 15,000 after dukkar (boar; *Sus scrofa*) destroyed my field. [..] It is people like me who have to spend countless nights in the fields to protect crops." (INT 244)

Respondents also cited the lack of diversity in commercial forest products as one of the reasons for their dissatisfaction with current CFR-driven forest management practices. They expressed concern that the focus on a limited range of products reduces their economic opportunities and compromises the sustainability of the forest ecosystem.

"We currently rely on two plant species for commercial use. In CFR-driven plantation efforts, only one or two specific species are chosen. This dependence on a limited number of species is also resulting in a landscape that is dominated by those species, which decreases the overall diversity of the forest." (NW 1)

3.2. Inclusiveness in decision-making processes

We found that a total of 73 % of the respondents ($N = 265$) felt included in decision-making processes in the CFR rights administration. According to these respondents, inclusiveness was crucial for building a stronger sense of belonging within the CFR rights model. They felt included through being informed of and called to join the meetings, their opinions being considered in collective decisions, and votes being taken in meetings before making any decisions.

The worth placed on all these aspects was particularly clear in the all-women FGD where a respondent said:

"We have equal representation of men and women in the *Gram Sabha* and we wait for all the members to be present during the meetings. Our votes are also taken when decisions are proposed- be it fund allocation, [forest product] tendering, plantation areas, or species selection for plantation… […] It feels good to be heard. This also lowers the chances of disputes among villagers because decisions are made together. No is one more powerful than the other and we function as a unit." (FGD 29)

Respondents felt that being informed about and invited to attend meetings allowed them to express their views and contribute to discussions that affected their community and the forest. Being involved in these meetings helped build a sense of ownership and engagement among villagers, as they felt their opinions were valued and considered in important decisions.

"I have noticed a positive change in forest management since we received CFR rights… […] Now we are informed and invited to meetings where decisions are made, unlike before when the Forest Department made all the decisions without us… […] When we come

together, we can share our experiences and insights, which helps ensure that the decisions reflect our community's needs." (FGD 22)

Respondents further felt that their opinions were valued in collective decision-making processes. This acknowledgment promoted a sense of belonging and responsibility among communities and enhanced their trust in the process and encouraged further participation.

"I really feel involved in the CFR management process now that my views are taken into account in group decisions. It connects me stronger to the community and the forest, knowing that my ideas can make an impact. For instance, one of the suggestions that I made at a meeting was put into practice and it substantially improved the forest. When we see our ideas making a difference, it boosts our confidence in the system and encourages more people to join in." (FGD 40)

According to the respondents, their sense of inclusion was strengthened when votes were held in meetings before decisions were made. This democratic approach allowed all villagers to have a voice in the decision-making process, boosting their sense of belonging and importance in the community.

"We strongly believe in voting before making decisions to ensure that both majority and minority opinions are considered equally. For example, in last week's meeting, villagers had differing views on a [specific decision] related to forest management. To resolve this, we conducted a vote, and the choice with the most support was put into action." (FGD 19)

Overall, we noted that respondents who felt included also reported a sense of empowerment that they felt had been missing before the implementation of CFR rights.

"Before 2011, it was a strange situation- we were treated as outsiders in our own land. The Forest Department would give contracts to traders known to them without consulting us. These traders ignored our rights to the tendu leaves and did not share any profits, simply exploiting our labor. Now, we can decide which trader to work with and how to set the rates… […] along with the *Gram Sabha*." (INT 59)

"We were treated as encroachers and frequently harassed for farming on land next to the forest, which was managed by the Forest Department. I lacked the confidence to assert that I belonged here, more than government officials. Now that my village is recognized as CFR-entitled, I can actively participate in the matters of forest-related decision-making— a right that I was denied before. Given my active involvement in the decision-making processes, I feel more inclined to adhere voluntarily to the rules established by the *Gram Sabha* under the CFR rights framework." (INT 178)

CFR rights further facilitated inclusiveness by mandating that the individual villages form their *Gram Sabha* to exercise the forest right claims; formerly, a *Gram Panchayat* (like a village federation body) system was in place constituted of multiple *Gram Sabhas* and villagers tended to avoid meetings owing to long travels and time clashes involved-

"Most of the villagers are farmers and they do not get free before evening. After working under the sweltering sun for the entire day, who would like to travel 10 km to attend meetings? We hardly had any attendance in the *Gram Panchayat* meetings, therefore. Since 2012, *Gram Sabha* meetings have been conducted in our office or the village common ground and these are mostly scheduled post-evening when everyone is free… […] The meeting from last month lasted for almost an hour." (NW 2)

On the contrary, the respondents who expressed a lack of inclusiveness reported issues such as not being notified about meetings, lack of accounting for votes during the no-confidence motions, reluctance among power-holding actors to be transparent with policies, and discrimination based on their relationships with those in power as well as their gender and economic status.

Dissatisfied respondents indicated that non-notification of meetings led to feelings of exclusion and disconnection from the community and the entire CFR mechanism.

"What meetings? I do not get to know when these meetings are held. I do not feel included also. No one informs me or my family— we do not flatter those in power and also, we are poor, so we are not invited." (INT 32)

Respondents further identified the lack of vote accounting during no-confidence motions as a factor contributing to their sense of exclusion. They felt that this issue could compromise the integrity of decision-making processes within the CFR rights model and create mistrust within communities, as individuals may feel their opinions and votes are neither respected nor valued.

"A few people have been in power for so long. I have mentioned in many meetings that we should change them, but no one listens […] … CFR management is supposed to mean that we all decide together, right? But in reality, it is not. There should be a rotation system for who gets to be in charge. Right now, […] I do not trust those who make decisions or their choices for the forest or our communities." (INT 228)

Respondents also linked their sense of exclusion with a lack of transparency from those in power about the *Gram Sabha*'s forest management policies such as tendering of forest products, cash flow, or simply, prospective agendas:

"In one of the previous meetings, my relative questioned how a certain decision was made, but the answers were unclear and misleading and it was clear that they wanted to hide the information. Since then, we have not been invited to any more meetings. My relative is educated and could easily understand if there is any foul play involved … […]. This is why we are excluded from any meetings; it allows them to freely continue malpractices." (INT 205)

Respondents who felt excluded from decision-making processes also linked this experience with discrimination based on their relationships with those in power, as well as their gender and economic status. They indicated that individuals who have closer ties to powerholding actors often receive preferential treatment in decision-making processes, while others are left out. Additionally, they realized that gender and economic disparities further compounded feelings of exclusion, as women and those from lower economic backgrounds struggled to have their voices heard.

"Women participate in these meetings […], but do you think their opinions matter to anyone? … If someone has a close relationship with influential people, their views are automatically heard. For others, their input is usually dismissed." (INT 249)

Overall, respondents believed that collective decision-making was fundamental to CFR governance, and considering diverse opinions from all villagers was critical in this regard. They also added that the *Gram Sabha* should welcome constructive criticism and innovative suggestions while maintaining a democratic set-up where every villager felt valued and treated with dignity.

3.3. Freedom to express opinions about CFR governance

The third theme emerged from respondents emphasizing the importance of being able to freely express their opinions— including disagreements and alternatives— about CFR governance. Most respondents (65 %; $N = 265$) felt that they had the freedom to express their opinions; their presence was acknowledged at the meetings, and they were given equal time to share their views, feedback, and discuss everyone's challenges and grievances with shared concern and spirit.

Respondents who spoke about having the freedom to express their opinions in the CFR setup felt more acknowledged and included in meetings. Being able to engage in the open dialogue, whether in agreement or otherwise, made them feel more involved in CFR governance, thereby strengthening their participation in the governance system and their connection to the forest.

"We maintain a register to record attendance at meetings. After gaining CFR rights, our *Gram Sabha* decided that everyone should feel equally involved in forest management practices. This makes us feel more connected to our forest too. Now, whenever there is a meeting, we greet each other and patiently listen to everyone's opinions before making decisions. At the end of the meeting, we inform everyone of the decisions made and express our gratitude. […] When my opinions are heard and considered, it makes me feel like I am part of the process rather than just a bystander." (FGD 27)

Respondents emphasized the importance of being given equal time to share their views and feedback during meetings. They felt that when everyone got an opportunity to speak, the CFR governance became more democratic and representative of the community's diverse perspectives, promoting a sense of fairness.

"We all have equal time to speak now. It is not just those in power or their close allies who get to voice their opinions. Everyone has a fair chance to share their thoughts. This was not the case before we received CFR rights- now we truly have a say." (FGD 32)

Satisfied respondents further recognized equitable grievance redressal as a means to encourage the expression of opinions, thereby enhancing participation and engagement in CFR governance. They felt that after CFR reception, the *Gram Sabha* started treating each complaint fairly, considering the specific circumstances of each grievance, and allowing all complainants equal opportunity to share their opinions. Respondents believed that prioritizing equity in grievance redressal could effectively address systemic inequalities and empower marginalized voices.

"In our village, our complaints are treated equally- the gravity of the problem dictates the pace at which it is solved and not who the powerholders or their closer aides are. Democracy is taken seriously here, and not just for the sake of gaining popularity. This is why the barren land has turned into a full-fledged forest, of not only vegetation but also happy families who consider the forest as their own." (INT 241)

Overall, all these respondents stressed that CFR-driven forest management should encourage discussing different viewpoints and taking feedback from communities, rather than just expecting passive agreement in decision-making. They also highlighted that following CFR rules became more natural and voluntary when villagers felt that their opinions were being heard during the rule-making processes.

"In our village, members of the *Gram Sabha* include representatives from every family without any elected presidential tenure system. Therefore, we provisionally elect someone to preside over a meeting, and the power of the elected person dissolves once the meeting concludes […] Meetings follow a structured agenda; for example, the last meeting focused on appointing someone to an [important position] who would manage some of the *Gram Sabha*'s forest-related responsibilities. Proposals about wage structure, working hours, and selection criteria were openly discussed, with each participant encouraged to present their ideas. A collective decision was made, and approval was confirmed with signatures or thumb impressions to ensure that all participants felt validated and supported the *Gram Sabha's* decision without coercion… we will abide also." (FGD 13)

The respondents also linked this aspect of freedom to the ability to ask questions and hold those in power accountable for their actions and decisions. They viewed the freedom to express their opinions as a form

of personal liberty and saw CFR rights as a positive step toward respecting diversity, where the viewpoints of every villager are equally valued, regardless of caste, gender, or economic status.

"In CFR management, all individuals are treated equally, and we have the right to inquire about the reasons behind any decisions-whether it is related to cash withdrawals from banks for forest activities or the establishment of rules for forest conservation. The decision-makers are obligated to respond to our questions." (INT 126)

In contrast, some of the respondents (35 %; $N = 265$) across the three villages conveyed negative experiences regarding their freedom to express opinions about CFR governance. Such experiences included unpleasant attitudes of those in power and other participants during meetings, unequal grievance redressal influenced by interpersonal relationships with those in power, and dismissing certain views without any dialogue and suppressing opinions with irrelevant reasons and justifications.

Negative attitudes from those in power and other participants during meetings included disrespectful comments, dismissive behaviour and lack of respect for differing opinions, which created an uncomfortable atmosphere for open discussion. Such attitudes hindered effective communication and participation, making it difficult for some individuals to voice their concerns or contribute meaningfully to the CFR governance. These attitudes were often accompanied by an implicit threat of social or institutional non-cooperation from powerful actors and fellow villagers, discouraging individuals from openly disagreeing with decisions made during the meetings.

"I can publicly dissent against what is happening but that will create a big scene. My family is already bearing the brunt of protesting against those in power. No one talks to us with a straight face […] … Even when I am present at the meetings, everyone tends to look away from me. We need to live here at the end of the day." (INT 263)

These respondents reported similar sentiments regarding inequity in grievance redressal. During the study, some of the common grievances that were reported were delayed compensation for crop damage, irregular wage distribution for forest-related work, unequal access to wood and fodder from the forest, and lack of equal livelihood opportunities within the CFR rights structure. Concerns were raised alluding to situations where grievances of certain people or groups were easily addressed whereas others had to wait for a much longer time to receive their due share of solutions. Respondents felt that this was underlain by differences in interpersonal relationships of villagers with those exercising authority.

"The issue is that I do not engage in sycophantic behaviour, nor can I ask my family members to cater to those in power. X and I completed the [forest activity task] and submitted the necessary documents on time; however, X received the money two months ago, and I am still following up on this matter. When I try to bring this up in meetings, I am discouraged to speak." (INT 190)

According to the respondents, another factor that prevented them from freely expressing their opinions about CFR governance was the dismissal of certain opinions without any dialogue. In such instances, they felt that their opinions were often suppressed using irrelevant reasons and justifications.

"In one of the meetings where I was present… […] discussing dukkar coming into the crop field, they were barely listening to me … […] They kept on asking why did I not choose to have my field away from the forest when my father was dividing his land properties among my brothers. They totally ignored my complaint and claimed that I was suffering because of that and they could not do anything to help me. How is asking this question relevant to the current issue?" (NW 10)

Above all, every respondent emphasized the importance of ensuring

equal and fair treatment for all villagers through CFR governance to uphold the integrity of CFR rights. They believed that just treatment would encourage villagers to be responsible for how they use forests and make informed choices that protect them.

3.4. Values of environmental stewardship

Across the three villages, respondents stated that their strong bond with the forest stemmed from deep cultural and spiritual ties to it, as well as their struggles with the Forest Department and the State to secure their rights on the land. For them, the forest was more than just a physical space; it carried profound cultural, emotional, and historical meanings. They viewed the forest as a living entity with which they shared a mutual relationship, motivating their commitment to caring for it. This strong sense of place (Kruger, 2003; Creighton et al., 2008; Jones, 2011) drove their values of environmental stewardship.

"The forest is no less than our homes, providing everything from fruits and nuts to medicinal plants and other products that support our families and cultural events. We depend on the forest for our survival and identity. The actions we take toward the forest, whether good or bad, will affect us. For example, if today, we unsustainably cut down trees for money, it would result in losing wildlife and natural resources, which would eventually impact our quality of life in the future. It would also destroy our cultural identities and heritage. By taking care of the forest, we are taking care of ourselves and future generations […] Harming the forest is akin to harming ourselves." (INT 144)

All respondents ($N = 265$) reported that CFR rights strengthened their values of environmental stewardship. According to them, even before gaining CFR rights, local communities managed the forests for decades, despite the State often overriding their efforts. They have always practiced sustainable harvesting to conserve the ecosystem and protect wildlife. Now, after receiving CFR rights, these practices were better documented and followed by the *Gram Sabha*.

"Our traditional knowledge, passed down through generations, is essential for managing resources responsibly, conserving biodiversity, and sustaining forest ecosystems. We have always practiced this. After gaining CFR rights, we have adapted this knowledge into rules for maintaining ecological balance in the forest. For instance, the *Gram Sabha* has set guidelines that bamboo must be at least three years old when harvested and cut 25 cm above ground to ensure regrowth. Bamboo is harvested from only one-fourth of the forest area, and a minimum number of mature bamboos are left untouched, with these thresholds collectively decided by the *Gram Sabha* every year. The benefits from harvesting are shared equally by assigning individual limits on how much bamboo each person or family can collect." (INT 158)

Two core stewardship values— a sense of responsibility towards their forest and respect for nature— were evident in the respondents' pro-environmental attitudes. They felt these values had strengthened after receiving CFR rights, and villagers prioritized the well-being of forests over their benefits.

"We understand the need to protect the forest and are prepared to adjust our practices. We are willing to limit grazing in certain forest areas, following *Gram Sabha*'s guidelines, so that it can regenerate and flourish better. By doing this, we safeguard the land, the future of our people, and the wildlife that shares this home with us." (FGD 36)

"… there is a ritual of bonfire where large amounts of wood are burnt during *Holi*- one of the major tribal festivals celebrated during the springs. After CFR entitlement, the *Gram Sabha* collectively decided to limit this ritual to its bare minimum and use deadwood from the forest and twigs from crop fields instead of living trees. In the past, we would get wood from living trees for this ritual but we do not do

that anymore. I understand this goes against our ancient beliefs and rituals, but protecting the forest is more important. Similarly, the *Gram Sabha* suggested wedding *mandaps* (temporary pavilions for rituals) be reused for multiple weddings in the village to check wood extraction from the forest for this purpose…" (INT 184)

"I know we have restrictions on collecting fodder from the forest, and some of us have to travel long distances for it. But this is the only way to prevent further degradation of our forest, so, it is fine." (INT 208)

All the respondents also expressed a strong sense of consciousness regarding their roles in bringing positive changes to the forest. In one of the narrative walks, a respondent pointed to a mahua (Indian butter tree; *Madhuca longifolia*) tree and said:

"This tree has been here since I was born … […] All I know is that this is my forest, and every plant here is like family to me, and my actions affect their survival. In this time of deforestation, biodiversity loss, and climate change, we— the forest-dwelling communities— need to work together with shared beliefs and values for the betterment of the forest. With CFR rights, we can translate our strong consciousness into actionable strategies that yield positive outcomes for the forest and villagers." (NW 4)

The respondents' values of environmental stewardship are a testament to the power of collective action. They highlighted the voluntary collective actions taken by villagers after receiving CFR rights. These actions included activities such as planting trees, soil and water conservation, and preventing forest fires. A common concept across the three villages was the *shramdan* (village welfare fund). At the beginning of their CFR journeys, villagers donated money to this fund to support planting initiatives, hire workers, and manage administrative expenses.

"Unlike other CFR-entitled villages in the Vidarbha region where the forest was intact and only needed protection, our forest was degraded and required higher expenses. The *Gram Sabha* asked every villager to donate money to the *shramdan* or work for free to restore the forest. Regenerating a degraded forest was not easy, but we did it." (INT 213)

According to the respondents, the tribal customs dictated that the dead should be buried in the forest, allowing anyone who enters the forest to feel connected to their ancestors and cultural heritage. They also believed that their strong connection to the forest and nature makes them more resilient to sickness compared to people living in urban areas and that their collective decisions about forest management would benefit future generations and strengthen this connection to the land.

3.5. Potential for realizing visions of empowered villages

Respondents considered CFR rights as a catalyst for achieving their vision of empowered and sustainable villages. They considered plantation drives, organized by the *Gram Sabhas*, as key opportunities to put their visions into practice. For each village, respondents recommended planting specific species they believed could support the local economy while offering aesthetic, cultural, and medicinal benefits. At the same time, they emphasized enhancing biodiversity in the surrounding CFR-entitled forests, proposing the planting of species that could serve as resources for wildlife.

Respondents indicated that the freedom to select species for plantations in the forest was not available prior to the implementation of CFR rights, as the plantation drives were conducted by the Forest Department without engaging the local people or considering their needs and opinions. Nonetheless, there existed a latent desire among villagers to contribute positively to forest biodiversity in a manner that also improved their overall living conditions. For example, one respondent— who practices Ayurveda (traditional Indian medicine)— proposed planting local medicinal plants such as Malabar nut (*Justicia adhatoda*), wild jack (*Artocarpus hirsutus*), and Indian prickly ash (*Zanthoxylum*

rhetsa) to provide accessible remedies to villagers for minor ailments like superficial cuts, bruises, and the common cold. Another respondent advocated for the planting of flowering plants, including Indian cork tree (*Millingtonia hortensis*) and Indian beech (*Pongamia pinnata*), to enrich forest biodiversity and use these flowers for cultural rituals. With the realization of CFR rights, the *Gram Sabha* is currently tasked with the collective responsibility of determining which species to plant, the quantities thereof, and the appropriate locations for these plantations within the forest. Respondents expressed a strong motivation to influence decisions regarding species selection in such plantation initiatives.

Overall, species selection varied across villages based on local forest conditions and was shaped by two key considerations: first, the aspiration to introduce species historically absent from the landscape; and second, the belief that increasing the abundance of certain native species would enhance forest diversity and support ecological regeneration. For instance, 36 % of the respondents in Village 1 (*N* = 105) selected teak, while 29 % chose bamboo (Fig. 2):

"Around 30 years ago, the Forest Department planted these teak trees, which are now fully grown in the forest; they instructed the villagers not to allow grazers to come close to the saplings. Since then, no additional teak has been planted in the forest. I will suggest planting some in the next plantation drive whenever that is- the more the merrier. I have read in the newspaper that these species are key in conserving soil … […] and contribute to local economies." (FGD 4)

"… (referring to FGD 4) I agree with this, but I suggest we plant more bamboo in the forest because it grows quickly and requires little care. Currently, there is no bamboo naturally occurring in the forest, and adding it would be good for the landscape and commercially too. A couple of years ago, the *Gram Sabha* planted some bamboo saplings, and it has grown well in the forest." (FGD 6).

Similarly, for Village 3, 38 % of the respondents (*N* = 106) cited mahua as their selected species followed by 20 % who chose custard apple (Fig. 2).

"Our village is known for its delicious custard apples, and I would like to see more of them, so we can export the fruits internationally one day. We should plant more of them. However, villagers need additional sources of income during this time of high prices […] flowers of mahua can be used in multiple ways: alcohol, vinegar, medicines, jams, and also, cooking oil. My father used to say that nectar from mahua flowers attracts bees, which is beneficial for the forest. That is why, I suggested planting more mahua in the last *Gram Sabha* meeting. For our tribal weddings, we need salai trees (Indian frankincense; *Boswellia serrata*). We should plant them as well." (INT 254)

Likewise, in Village 2, 37 % of the respondents (*N* = 54) identified custard apples as their selected species followed by 27 % who chose Indian gooseberry (Fig. 2).

"Amla (Indian gooseberry; *Phyllanthus emblica*) grows naturally in our forest, and pregnant women eat it to boost their immunity, protecting both the mother and unborn baby from common illnesses. Given its many medicinal benefits, including blood sugar regulation, I have recommended planting more amla in the forest. The dried fruit can also be used as a post-meal digestive aid." (FGD 16).

"During our last *Gram Sabha* meeting, I suggested planting more custard apples in the forest. These forests play a significant role in our religious and cultural traditions, often being offered as *prasad* (sacred offering) to deities during our festivals. Beyond that, the fruit has medicinal properties, especially in treating constipation. Furthermore, custard apples have economic value, as the fruits can be harvested and sold, benefiting the local community." (FGD 18).

All respondents expressed a strong commitment to nurturing the planted species and safeguarding the forest. They emphasized the importance of avoiding overharvesting and maintaining species diversity by discouraging monoculture practices. Across the three villages, a notable sense of ecological empathy was evident, with 36 % of respondents (*N* = 265) expressing specific interest in planting flower- and fruit-bearing trees to support insects, birds, and herbivores. Respondents believed their decisions served both ecological and community interests and were intended to ensure a resilient and biodiverse forest for future generations.

"We should have more trees of jamun (Indian plum; *Syzygium cumini*) and aam (mango; *Mangifera indica*) in our forest. Right now, we have plenty of commercial trees but it does not help the animals or birds […] I have seen in my ancestral village that birds find jamun delicious and so are chital. What is a forest without wildlife?" (INT 132)

4. Discussion

The study shows that CFR rights had positive socio-psychological implications for most of our respondents by enhancing their sense of agency, belonging, ownership, and empowerment within the CFR management and the surrounding forests. A majority of respondents reported being satisfied with the current management of CFR rights in their villages. The inclusion of voices and the freedom to express opinions seemed to be critically important to the respondents, and CFR rights seemed to have satisfied the majority of them in this regard. While some respondents perceived their voices and opinions to be undervalued based on power asymmetry, socio-economic status, and gender, insights from the all-women FGD offered a contrasting perspective. All respondents further indicated that CFR rights reinforced their values of environmental stewardship and enabled them with the agency to achieve their visions for sustainable and resilient villages through focused CFR plantation initiatives.

Previous research suggests that community support for forest management often depends on the perspectives and experiences of local communities (Danielsen et al., 2007; Isyaku, 2021; Lucungu et al.,

Fig. 2. Word cloud representation of respondents' species selections for planting in targeted CFR-plantation initiatives as part of their visions of empowered villages.

2022). In our study, most respondents stated satisfaction with the current CFR-forest management practices. This aligns with the findings of Zumbish and Jha (2022), who found that local communities in Chhattisgarh and Odisha (India) supported CFR-driven forest management due to their satisfaction with the processes. Respondents in our study also appreciated how CFR rights effectively integrated the ecological values of forests with the social needs of local communities, such as improved livelihood opportunities. This is consistent with existing literature from the Global South, where communities have similarly expressed satisfaction with the ecological and social benefits of community forest rights (CIRUM, 2012: Vietnam; Woldie and Tadesse, 2019: Ethiopia; Thammanu et al., 2021: Thailand).

In contrast, dissatisfied respondents in this study emphasized the challenges faced by local communities under CFR policies, especially the increased instances of crop depredation as a consequence of forest conservation initiatives through the CFR rights. Comparable issues have been documented in Nepal's community forestry, where heightened incidents of crop raiding were attributed to enhanced forest protection measures and new plantations (Baral et al., 2021; Bista and Song, 2022). Furthermore, dissatisfied respondents frequently cited power asymmetries, lack of transparency, and favoritism as prominent issues in the current CFR-driven forest management. Satpathy (2017) similarly identified deficiencies in transparency and accountability across various administrative levels in a study on the FRA implementation in two districts of Odisha, India. The feeling of being unheard by those in power was also reported as reasons of dissatisfaction. Reports from other regions suggest similar dynamics. For example, in the community forests of Burkina Faso, women and youth expressed frustration over being ignored by customary leaders (Friman, 2024). Similar exclusionary practices have been reported in Cambodia's community forestry initiatives, where women and economically disadvantaged households were often left out of both formal and informal decision-making spaces dominated by local leaders (Persson and Prowse, 2017).

The respondents identified inclusiveness in decision-making processes as an outcome of CFR rights entitlement, with a majority of them acknowledging that CFR rights facilitated this inclusiveness. In theory, CFR rights are meant to create an inclusive framework wherein every villager actively participates in decisions related to forest management, benefit-sharing, and tenure security (Das, 2019). Our findings indicate that inclusion in decision-making processes promoted a sense of ownership and empowerment within local communities, which positively shaped long-term forest conservation goals and enhanced their socio-psychological well-being. This observation corresponds to the existing body of scholarship, which posits that inclusive decision-making bolsters legitimacy, leads to self-mobilization, and is crucial for the sustainability of conservation initiatives in community-driven forest management (Agrawal and Gibson, 1999; De Vente et al., 2016; Haji et al., 2020). Other empirical studies have also indicated that when local communities are involved and afforded meaningful roles in forest governance, their compliance with local forest regulations increases and within-community frictions are easily mitigated, which can be attributed to enhanced self-esteem and a sense of belonging (Pulhin et al., 2007; Ojha et al., 2009; Wali et al., 2017). Our findings reinforce this idea with the respondents noting that participation in decision-making processes within the CFR rights mechanism motivated them to comply more effectively with the rules established by the *Gram Sabha*. This enhanced compliance came from the significant boost in their self-esteem and sense of empowerment after being included in decision-making (Sahu et al., 2019).

Not all experiences were favorable though; some respondents reported issues such as insufficient communication about meeting schedules and a lack of transparency in accounting for votes during no-confidence motions during decision-making. These findings also conform with the ongoing discourse regarding the mixed outcomes regarding the decision-making mechanism of community-driven forest management (Blaikie, 2006; Sunam and McCarthy, 2010; Agarwal and

Saxena, 2018; Mbeche et al., 2021). Perceptions of exclusion from decision-making were often linked to forms of social differentiation, including respondents' proximity to local elites, gender, and socio-economic status. Similar patterns have been documented in other community forest governance contexts. In Ghana, for instance, gender, social networks, residency status, and educational attainment intersect to shape local participation in community forest monitoring efforts (Asumang-Yeboah et al., 2022). Similarly, in Cambodia's recreational forests, demographic characteristics such as age and gender significantly influence community engagement in governance decisions (Padilla et al., 2025). Likewise, in Nepal's Terai region, the inclusion of women and other marginalized groups in collaborative forest management processes has been found to be notably limited (Subedi and Kafle, 2025).

Inclusiveness in decision-making is paramount for enabling a space conducive to the open expression of opinions regarding current CFR-driven forest management practices. More than 70 % of the respondents reported the ability to freely share their views and raise questions with regard to CFR governance, which is also integral to their socio-psychological well-being. Existing research demonstrates that when individuals are empowered to voice their concerns and preferences, their overall sense of agency and satisfaction increases, leading to enhanced mental health and community cohesion (Fraser et al., 2006; Carson, 2018). In our study, respondents emphasized that participatory CFR-governance structures, which promote open dialogue, are linked to improved social outcomes and sustainable forest management practices. These findings corroborate the idea that community forestry initiatives must reflect the aspirations and views of local communities to drive meaningful socio-ecological change (Hajjar et al., 2013). Moreover, respondents linked their ability to express opinions with an enhanced interest in actively participating in CFR-driven forest management practices. This observation matches the findings by Lucungu et al. (2022), who noted that communities in the Democratic Republic of Congo regarded opportunities for feedback and constructive criticism within the community forest rights framework as vital for better participation.

Conversely, negative experiences included dismissive attitudes from authority figures and peers during meetings, as well as the silencing of certain opinions without constructive dialogue, often overshadowed by irrelevant justifications. Similar issues were reported by Sukumar et al. (2019), where villagers felt marginalized based on caste in *Panchayati Raj* institutions, limiting their ability to voice concerns and compelling them to accept decisions without genuine consent. Respondents also expressed dissatisfaction with the inequitable nature of grievance redressal mechanisms, which they felt constrained their freedom to voice concerns. Parallel concerns have been raised with respect to Nepal's community forestry initiatives where inequality in grievance redressal has been identified as a major challenge, often rooted in entrenched social hierarchies and power imbalances (Adhikari and Di Falco, 2008). These dynamics tend to limit the ability of marginalized groups— including women and lower-caste individuals— to access and engage with grievance mechanisms, often resulting in their concerns being overlooked or inadequately addressed (Agarwal, 2001).

The findings of this study highlight the important role that CFR rights can play in improving environmental stewardship among local communities, strengthening the multifaceted relationships between forests and forest-dwelling communities. Many respondents described feeling marginalized and disconnected from the forest they relied upon for years for their livelihoods, cultural practices, spiritual beliefs, and community identity and noted that the implementation of CFR rights had reversed this trend, allowing them to actively engage in the management of forest resources. Respondents reported an increase in sustainable harvesting practices as well, reflecting a shift towards responsible stewardship (Chapin et al., 2010). This is consistent with a growing body of literature indicating that when local communities are granted secure rights over resources, they are more likely to engage in environmentally responsible behavior that support forest biodiversity conservation (Chankrajang,

2019; Fa and Luiselli, 2024; Smith et al., 2023). Several respondents further emphasized that by connecting CFR-driven conservation initiatives with local traditions and beliefs, they are more likely to embrace sustainable practices that reflect their unique cultural contexts. This integration of stewardship values and traditional ecological knowledge, facilitated through CFR governance, resonates with ongoing scholarship on the relational values underpinning human–nature interactions (Chapin and Knapp, 2015; Chan et al., 2018; West et al., 2018). Taken together, these insights illustrate how rights-based forest governance— such as CFR rights— can foster ecologically responsible practices that are culturally grounded and locally meaningful, a point also emphasized by van Oosten and Merten (2021).

The respondents viewed CFR rights as a driving force for realizing their aspirations of empowered and sustainable communities. The perceived potential of CFR rights to likely enable respondents to choose species for forests renewed their sense of agency, belonging, and ownership over their forest and CFR management. Their choices reflected a vision for a more diverse and sustainable forest, informed by their unique perspectives and insights. It has been reported that the ability to envision how their forests should look and function is a critical component of community empowerment (Isager et al., 2001). In this study, the species choices of respondents reflected a deep understanding of local ecosystems, highlighting traditional ecological knowledge and cultural values. This corroborates with a recent study in Scotland, where participants suggested various activities related to recreation, education, and commerce as components of their vision for 'development' in woodland areas (Hague et al., 2022). Suggesting specific species for plantation drives signified a desire among respondents to not be merely passive recipients of CFR-forest management strategies but wanting to be active participants in shaping the forest landscape according to their philosophies and relational values. Besides community well-being, their species selection aimed to contribute towards creating a more diverse and dynamic forest with provisions of wildlife habitats and various ecosystem services. Similar findings have been reported by Allendorf et al. (2013) wherein local communities were motivated by biodiversity improvement, socio-cultural benefits, and economic opportunities to engage in community-driven conservation.

Across responses, the *Gram Sabha* emerged as a central institution in the implementation of CFR rights. While many respondents emphasized its role in ensuring fairness and accountability, others— particularly those with negative experiences— expressed dissatisfaction with how forest governance was executed in their villages. However, even critical views did not reject CFR rights themselves, but instead underscored the importance of robust and responsive local institutions for their effective implementation (Sahu et al., 2017; Lucungu et al., 2022). Furthermore, in the rapidly changing social and ecological landscape of a country as diverse as India, forest laws must be adaptable to facilitate collective participation from local stakeholders within an enabling legal and institutional framework. Thus, promoting context-specific avenues for participation within CFR governance is essential for fostering both environmental sustainability of forest ecosystems and the socio-psychological well-being of forest-dwelling communities.

5. Conclusion and future prospects

Our findings indicate that CFR rights have strengthened communities' sense of inclusion, voice, and stewardship, contributing to improved socio-psychological well-being. Many respondents reported feeling more empowered and acknowledged in local forest governance processes. However, concerns around uneven participation highlight that the benefits of CFR implementation are not uniformly experienced. In some cases, perceptions of exclusion or limited influence within decision-making forums were linked to broader issues of representation and accountability. To address these challenges, we recommend that local governance institutions periodically assess their functioning— through community surveys or participatory reviews— to identify gaps in representation and responsiveness. Institutional safeguards should be established to ensure inclusive participation, especially for women, and other socially disadvantaged groups. Regular monitoring and capacity-building efforts are also essential to promote transparency, build trust, and reinforce equitable governance practices. This study is limited by its focus on three CFR-entitled villages and a relatively small number of FDG respondents. Future research could benefit from a broader sample that includes a diversity of socio-political contexts, along with perspectives from key actors, such as NGO representatives and government officials involved in CFR facilitation. Nevertheless, the insights presented here have wider relevance for countries across the Global South that are working toward decentralized, community-led, and rights-based models of forest governance. Recognizing and integrating socio-psychological dimensions of well-being into policy frameworks— alongside material and ecological considerations— can support more equitable and enduring community-based conservation outcomes.

Ethics approval

This study received ethics approval from ATREE Institutional Review Board under reference number 2021/87, ensuring absolute compliance with ethical standards for research involving human subjects.

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CRediT authorship contribution statement

Anirban Roy: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Asmita Sengupta:** Writing – review & editing, Supervision, Resources, Project administration, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

This article includes sensitive data and complete anonymization of the data was not possible. Therefore, it is not publicly available.

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