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DIGITAL MAPPING FOR INCLUSIVE RIGHTS ON FOREST LAND AND RESOURCES BY PRADAN IN ODISHA

SUMMARY

Securing the rights of forest dwellers on forest land and resources is crucial for their livelihood development as well as for forest protection, conservation and climate benefits. However, for decades, forest-dwelling communities have been struggling to secure their rights on forest land and resources, the absence of which is preventing them from securing the various benefits offered by government schemes in terms of education, healthcare, and agricultural development. Recognising these issues, the Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act, 2006, commonly known as the Forest Rights Act (FRA) was passed by the Government of India. This Act enabled the forest dwellers to claim their customary and traditional rights on forest land and resources through Individual Forest Rights (IFR), Community Rights (CR), and Community Forest Resources Rights (CFRR). However, the intricacies involved in the claim-making process posed a major challenge for these marginalized communities. In this context, PRADAN, one of India's leading NGOs, has been facilitating the forest rights-claiming process in Odisha, Jharkhand and Chhattisgarh. Over the years, PRADAN has achieved a major breakthrough by getting the claims accepted by the government using a digital mapping tool. This Good Practice Note describes how PRADAN is assisting in digital land mapping and documentation to expedite the claim process under the Forest Rights Act-2006 in Rayagada, Odisha, thereby ensuring the digital inclusion of forest dwelling communities (Forest Dwelling Scheduled Tribes [FDSTs] and Other Traditional Forest Dwellers [OTFDs]) in forest areas.

CONTEXT

Historically, many tribal communities in India have resided within forest lands and have derived their livelihoods from forest by-products. But, with the onset of the centralized forest management system in the colonial era, forest dwelling communities across India were denied access to the forests and were displaced from their livelihood practices. These communities who had a reciprocal relationship with forests were often perceived as encroachers of the forest land and were thus subjected to livelihood uncertainty in the absence of secure rights to forest land and resources. Recognizing this critical issue, the Government of India brought in a legislation named The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, in 2006, better known as the Forest Rights Act (FRA) (Box 1) to ensure the rights of the forest dwelling and dependent communities on forest land and resources.

BOX 1: THE FOREST RIGHTS ACT-2006

The Forest Rights Act-2006 (FRA-2006) plays a very significant role by providing an empowering framework for Scheduled Tribes (STs) and Other Traditional Forest Dwellers (OTFDs), granting them the authority to secure their rights over individual and communal land. This framework facilitates sustainable conservation, management and protection of forest resources, yielding economic, environmental, cultural and social advantages spanning generations. Notably, FRA-2006 is a great empowering tool to ensure that women possess equal entitlement to claim and acquire land titles for forest areas, either as individuals or jointly.

FRA-2006 has the following objectives:

• Undo the historical injustice meted out to forest-dwelling indigenous communities;

• Ensure land tenure, livelihood, and food security of forest-dwelling STs and OTFDs; and

• Strengthen the conservation regime of forests by including the responsibilities of, and authority of, Forest Rights holders for sustainable use, conservation of biodiversity, and maintenance of ecological balance.

FRA-2006 is one of the most important and popular entitlement-based laws enacted in India favouring tribal and other traditional forest dwellers' rights over forest land and forest resources. However, despite its intent, the Act's implementation has been slow and hesitant. As of 1 March 2023, overall rights recognized only 190 lakh acres out of 856 lakh acres, which is 22.19 % of the total eligible forest area to be recognized under FRA-2006 as Individual Forest Rights (IFR) or Community Forest Rights (CFR).[1]

Professional Assistance for Development Action (PRADAN), one of India's national-level NGOs (Box 2) has been actively involved in the recognition and implementation of forest rights since 2018.

BOX 2: PRADAN

PRADAN is a non-government, non-profit organisation, founded in 1983 by Deep Joshi and Vijay Mahajan, with an aim to eradicate rural poverty in India. PRADAN believes that all people, no matter how poor, are capable of driving the change they need. Disempowered communities are thus facilitated to visualize a better future and they are empowered through knowledge and skills development to realize their vision. PRADAN works to evolve the entire development eco-system through long term collaboration with the government and donors to alleviate mass poverty. PRADAN has played a design improvement role in all major programs, including IRDP, SGSY, NRLM, etc. PRADAN is also a NRLM Support Organization. PRADAN trains and places well-educated people with empathy at the grassroots level, who support/engage with women collectives, striving for large-scale change in the human condition. PRADAN promotes sustainable livelihoods which are integrated with work on issues of gender, governance, forest rights, and climate.

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[1]MOTA. 2023. Performance Dashboard. Ministry of Tribal Affairs, Government of India. https://dashboard.tribal.gov.in/

A study conducted by PRADAN in partnership with Landesa during 2014-15 (supported by BMGF) in Rayagada district of Odisha in India, found that 39% of households in the area are landless, recorded land holding per household was only 36%, and single women comprised about 35% of self-help groups (SHGs). The poor from the tribal communities had access to forest land, government wasteland etc., but lacked rights on the land. Improving the livelihoods of the forest dwelling tribal communities, without securing their land rights, often impedes the achievement of development indices. Hence PRADAN has been facilitating the claim making process of land rights for women, men, and the community aiming for social transformation. During that pe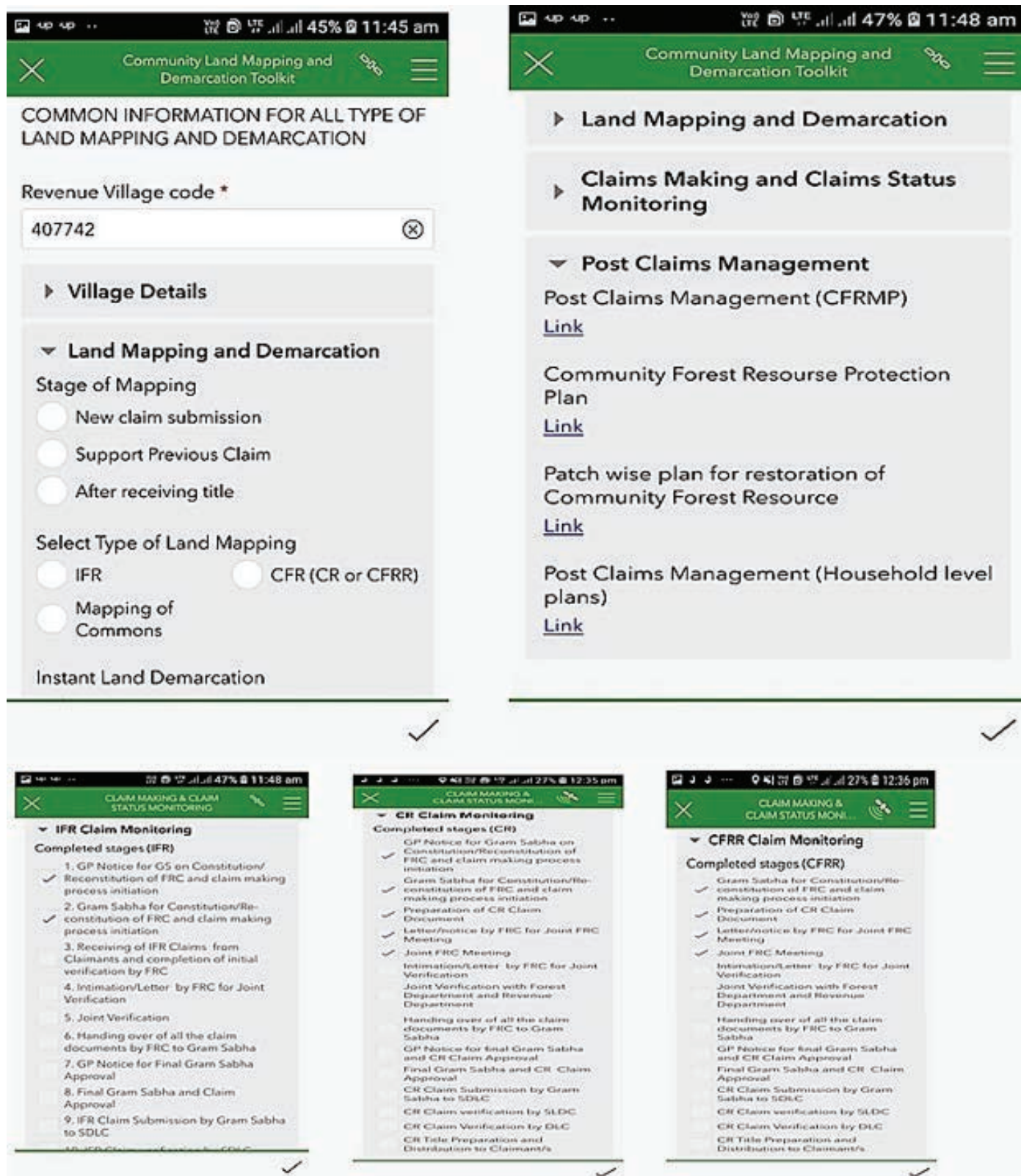riod, PRADAN conducted land mapping, using chains in a conventional manner, resulting in imprecision, confusion, prolonged timelines, and extensive utilization of manpower and resources. Since this method was less accurate due to the possibility of human error, the claim making process was rather slow and unsuccessful. In this context, PRADAN with technical support from Cadasta Foundation (Box 3), co-developed a mobile-based Community Land Mapping and Demarcation Tool (CLMDT) in 2020, so then the land mapping became more accurate, easy and fast. Hence, from 2020 PRADAN is using CLMDT for land mapping with all other steps remaining the same as before. Though the digital intervention is made only in mapping, which is only one among many steps (as depicted in the figure below) in the claim making process, this has made the entire process much faster and accurate.

| Collect revenue map, RoR and detail information | Gram Sabha level concept seeding meeting on FRA | FRC Constitution / Reconstitution | Land mapping using CLMDT & preparation of claim documents |

| Final Gram Sabha for claim approval/CFRMC | Claim document handing over by FRC to Gram Sabha | Joint Verification | Joint FRC meeting (for CFR) |

| Claim Submission to SDLC | Gram Sabha orientation on CFRM | Preparation of CFRMP | Implementation of CFRMP |

Steps in claim making of Forest Rights (Photo credits: Team PRADAN)

Box 3: Cadasta Foundation

Cadasta, a United States-based NGO, founded in 2015, develops and promotes the use of simple digital tools and technology to help partners efficiently document, analyse, store, and share critical land and resource rights information. By creating an accessible digital record of land, property, and resource rights, they help empower individuals, communities, organizations, governments, and businesses with the information they need to make data-driven decisions and put vulnerable communities and their needs on the map.

Screen captures of features of CLMDT (Photo Credits: Sailabala Panda)

KEY FEATURES OF COMMUNITY LAND MAPPING AND DEMARCATION TOOL (CLMDT)

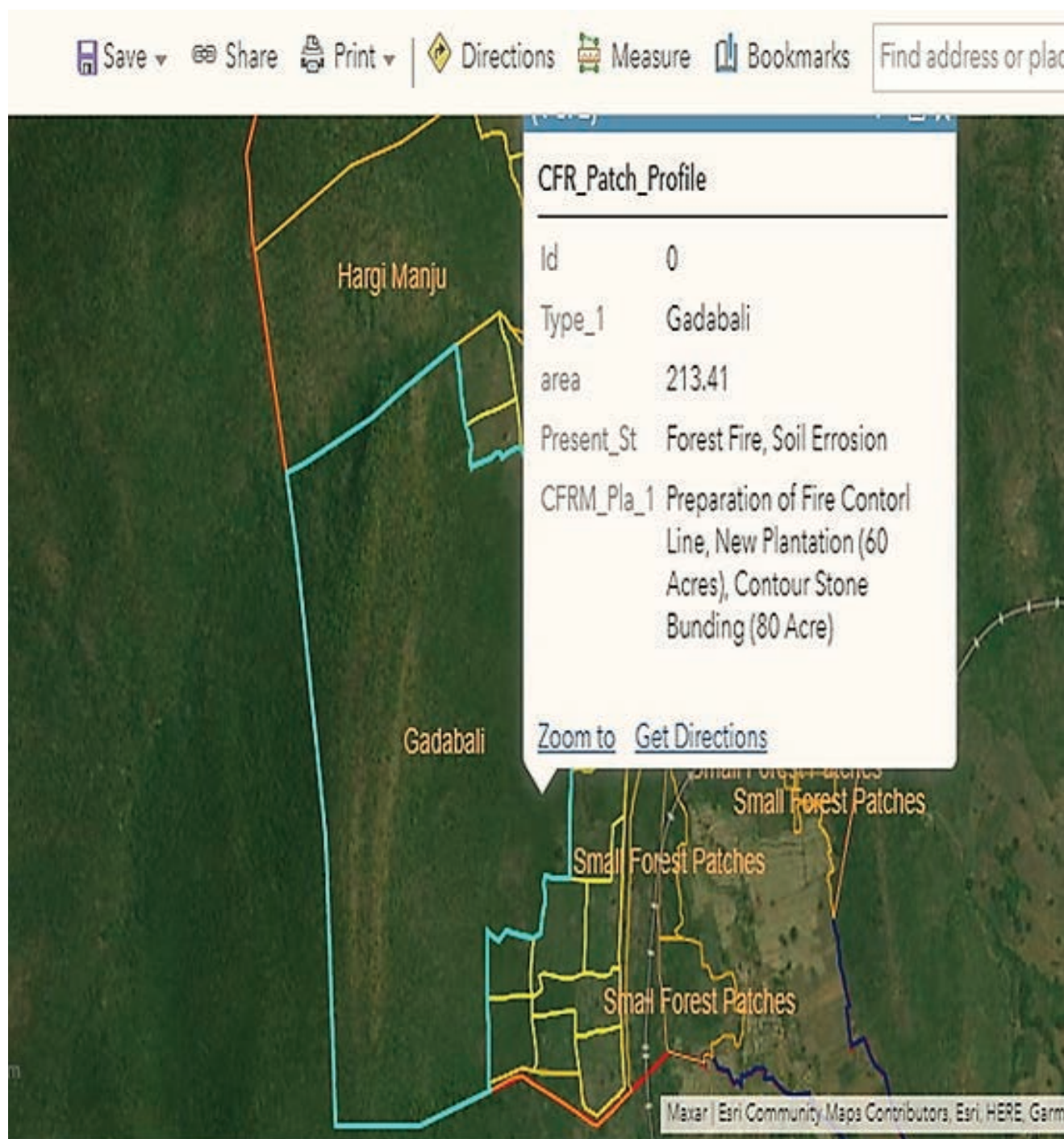The three main features of the CLMDT mobile application are:

- land mapping and demarcation;
- claims making and claims status monitoring; and
- post-claims management.

Digital mapping and demarcation can be done for claiming both Individual Forest Right (IFR) as well as Community Forest Rights (CFR). The digital mapping and demarcation of individual plots are done by referring to the revenue map, which is already integrated in the app, in the presence of the claimant as well as claimants of nearby plots so that there won't be conflicts on boundaries later.

Once the revenue code of the village is given, further details of the village will be automatically filled in the app. Further, the *Jami Saathis* or volunteers need to fill only the personal details of the claimant along with ID proof, such as Aadhar/Voters ID or ration card. Once the land demarcation is completed, the photos of the claimants (in case of joint claim having both husband and wife together) showing them holding their name board while standing in their plot, is then uploaded in the app. In claim making and claims status monitoring option, the completed stages of claim making need to be updated, thus the claimants can monitor the progress in the claim making process. In post-claims management the links to Community Forest Resource Management Plan (CFRMP), Community Forest Resource Protection Plan (CFRPP), Patch wise Plan for restoration of Community Forest Resource is uploaded. These plans are made by the Forest Resource Management Committee in consultation with the community members during Gram Sabha. Thus, the CLMDT is a comprehensive tool that helps in making the claim process more systematic and error free.

Community Forest Resource Management Plan in CLMDT

ADDRESSING INCLUSION

CLMDT serves as a comprehensive solution, enabling forest dwellers to identify individual land parcels, document relevant data and evidence, resolve boundary conflicts, and determine the extent of land to be claimed under community forest rights. However, having access to technology is one thing, and effectively leveraging its benefits in the field is another. For ensuring inclusion of the tribal communities living in forest lands, PRADAN adopted several practices, as discussed below.

Partnership with Government Agencies

In the entire process partnership with government is a key pillar. PRADAN has entered into a non-financial Memorandum of Understanding (MoU) with the ST & SC Development, Minorities & Backward Class Welfare Department in Odisha. The primary objective of this collaboration is to provide guidance and support to the department in addressing crucial implementation gaps and creating synergy among different stakeholders to accelerate the implementation of the Forest Rights Act (FRA) of 2006. PRADAN co-ordinates with multiple departments of the government, such as the Tribal Department, Revenue Department,

Forest Department and the Forest Rights cell at the Tehsil, for the claim making process. In the same way PRADAN also has an MoU with ST & SC Development, Minorities & Backward Class Welfare Department of the Government of Odisha for technology adoption in the Forest Rights claiming process in 1200 villages (from 21 June 2021 in four districts, i.e., Rayagada, Kandhamal, Kalahandi, and Mayurbhanj) of Odisha. Under this agreement PRADAN's Rayagada team has a plan of 500 villages. Furthermore, in 2023, PRADAN signed a non-financial MoU with the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI), Government of Odisha as the nodal agency for implementing *Mo Jungle Jami Yojana* (MJJY)[2] in Rayagada, Kandhamal and Kalahandi districts. Coordination meetings are conducted once a month at the FR cell with the officials from the three departments. Initially when digital mapping was started PRADAN conducted field demonstrations with the officials to familiarise them with the tool and to also display the level of accuracy in land mapping that the tool can deliver. PRADAN also gives a monthly report to the government on the activities done under the FRA claim making process.

Forest dwellers engaging in land demarcation

[2]*Mo Jungle Jami Yojana* is a state-specific scheme in Odisha, launched in 2023, for recognition and promotion of Regenerative Economies in Scheduled Areas, Land and the Resource Rights of Indigenous People. This is a special initiative for recognition and promotion of regenerative economies in scheduled areas ensuring land and resource rights to indigenous people.

Coordination with CSOs

PRADAN also co-ordinates with several other CSOs who are engaged in the FRA claim-making process in other districts. Even though many of the CSOs are not engaged in digital land mapping, PRADAN co-ordinates with them for making strategies to tackle the challenges they face in the claim-making process.

Mobilising Tribal Youth as Jami Saathis

With support from the local community, PRADAN has identified local youth from the tribal communities based on their community mobilisation and digital skills and developed them as *Jami Saathis* to primarily support the claim-making process. These *Jami Saathis* are trained by PRADAN's professionals, and they play a pivotal role as social entrepreneurs, facilitating the digital mapping process with the active participation of both women and men. They also coordinate with Gram Sabhas and facilitate the process of community forest resources management plan and its implementation. PRADAN gives induction training on the digital tool when the *Jami Saathis* are identified and frequent refresher trainings later, as well as hand-holding support at the field level. One *Jami Saathi*, on average, covers 20 to 25 villages.

Similarly, the state government is engaging village volunteers at the Gram Panchayat level. Currently around 120 volunteers have been placed by the Gram Panchayat under *Mo Jungle Jami Yojana* and PRADAN provides digital skill training with specific focus on CLMDT to these volunteers along with the process of claim filing. Further the *Jami Saathis* co-ordinate and guide village volunteers with two *Jami Saathis* supporting 20 village volunteers.

Jami Saathi helping forest dwellers in the digital mapping process

Gender Sensitisation Training

Jami Saathis, as well as the volunteers, are also given gender sensitisation sessions so that they are more aware of the gender dynamics in the field, and they understand the importance of being gender inclusive in the forest rights claiming process. PRADAN has integrated a gender perspective in FRA implementation and mobilization of Gram Sabhas (village councils) to accept IFR claims where women are the first claimant, and the husband and family members are dependents. Specific focus has been put on aiding single women within a household to claim solo IFR, securing indigenous women's user rights under Community Rights (CR), capacity building of women in livelihood activities, and creating awareness on how they are eligible for different rights and entitlements through convergence.

Supporting Cadasta to make the Digital Tool more Gender Inclusive and User Friendly

On implementing the digital tool in the field initially, the field team of PRADAN found that there is huge scope for improving various features of

the tool. Having a well-co-ordinated field team of *Jami Saathis* and volunteers, helped them to get feedback on the improvements needed in the tool. One such feedback was to include the option to add other gender options along with male and female option. In the field, the PRADAN team received requests from transgenders to add a third option – to list 'Other gender' – in the app, which they communicated to the Cadasta team, which was then incorporated into the tool.

Also, initially manual entry of data, such as village details, was being done by the PRADAN team which took a lot of time and also brought in many mistakes in the spellings which later made it hard to identify the village during the claim making process. To improve this, Cadasta updated the tool for auto detection of village name once the revenue code of the village was entered. This stopped the issue of spelling mistakes in village names and made the claim-making process more precise.

In some of the remote villages, network was an issue, hence the field staff could not do the digital map initially. So, in consultation with the Cadasta team, PRADAN enabled the offline functionality of the app. Now the field staff can map the fields even if network is not there, and upload the digital map into the database later when the network is available. Also, earlier the field staff had to refer to the revenue map separately and map the land, but now Cadasta has incorporated the revenue maps of the villages into the app, so in real time the field staff can refer to the revenue map and map the land. PRADAN has presented the tool to key government and CSO representatives and taken their feedback to further sharpen it for wider use. Many other details – such as claim documents, Aadhar and Voter ID details, the details on leased land or displacement, Uploading of Community Forest Resource Conservation and management plan (CFRMP), etc. – have been added on the recommendation of PRADAN. Hence, PRADAN has played a role in co-developing and upgrading the digital tool according to field requirements, and made it more user friendly and gender inclusive.

CHALLENGES FACED BY PRADAN IN THIS PROCESS

Initially PRADAN was engaged in the digital mapping process independently without any official collaboration with the government departments. Digital maps being only one of the 13 proofs out of which only two needed to be submitted in claim submission, enough attention was not given by the government to the digital mapping process. Further, the acceptance was more for the maps made through chain mapping among the government officials involved in joint verification of the claims as they were uneasy with the new technology and could not see any relative advantage to the digital revenue map. Hence PRADAN had to initially convince the officials at the Revenue and Forest departments as well as at the Tehsil level by conducting demonstrations. They did the mapping of the Tehsil office during the meeting with the officials and convinced them of the accuracy the tool can bring in. Now that they are convinced, the government officials understand that the tool has eased the mapping process and made it more precise.
Another challenge encountered was the finances needed to use the tool. As CLMDT is a paid tool financial constraint has hindered the scalability of the tool. Initially, PRADAN was availing of paid services from the Cadasta Foundation. After recognising the work of PRADAN in forest rights, Cadasta became a donor and gave access for using the tool. However, for the other stakeholders to access the tool, financial support is necessary. There is demand from other CSOs and non-operational blocks to use the CLMDT in land mapping and demarcation. Leverage of financial resources for larger use of the tool can benefit a huge number of forest dwellers in land mapping, documentation, demarcation, etc.

Another major challenge was in getting women involved in the claim-making process. Though PRADAN had integrated a gender perspective in FRA implementation by setting up women as the first claimant and the husband and family members as dependents, and also by putting specific focus

on aiding single women within a household to get sole IFR titles, it was hard to convince the generally male dominant communities. Hence, they mobilised Gram Sabhas (village councils) to accept IFR claims where women are also included, and gender sensitised the community.

BENEFIT AND IMPACT

The forest rights claiming process has expedited the integration of digital tools. Now, an entire village can be digitally mapped within 8-12 days, a significant improvement compared to the previous method of chain mapping, which took approximately a week to map a single field. Additionally, the precision of digital maps allows faster joint verifications. Consequently,

the primary impact of digital mapping is the remarkable acceleration of the entire claiming process.

Entitlement to forest rights have empowered tribal communities by unlocking myriad benefits. By securing legal recognition of their land, these communities have gained access to various government schemes and programs designed to uplift marginalized groups (Box 4). Getting government support to make borewells was one such benefit accessed by one village. Further, land rights open doors to essential services, education, healthcare, and other socio-economic opportunities that contribute to their overall well-being.

Box 4: Empowerment through Forest Rights: The Transformation of Champiama Kadraka

Champiama Kadraka, a woman above 40 and unmarried, resides in Banapur village. She was entirely dependent on her brother and other family members for her daily needs. Her livelihood was dependent on a 1.2-acre piece of forest land, which was shared with her family. As she was cultivating the land provided by her father, she lived in constant fear of losing it. At any time, her family members could reclaim it, citing her unmarried status. She always felt like a burden to her family. When PRADAN began engaging with Banapur village in the FRA claim-making process, the villagers underwent sensitization on including single women in claim making and joint claim making process. Subsequently, the village decided to claim individual forest rights for single women, who fully depended on these rights for their livelihood. Champiamma's family also got convinced by PRADAN team's effort and she could claim her rights over the 1.2-acre land in her name with the help of PRADAN team. Now, she can make her own plans for her land. She has levelled her land and constructed bunds around it. She has also started a fruit plantation, purchasing saplings from the Forest Department. This year, she independently paid all her medical expenses and even invested some money in gold ornaments from her income. Now, Champiamma enjoys increased agency within her household.

Also, having recognized forest rights enables tribal communities to actively participate in the protection, conservation, and restoration of their forests. With a sense of ownership, they become

stewards of their natural resources, implementing sustainable practices that ensure environmental health. These communities are now collectively strategizing and prioritizing initiatives that align

with their unique needs and aspirations, such as making community water tanks, building roads, etc. In essence, forest rights have empowered the tribal communities not only to enjoy the benefits of government programs but also to take charge of their own sustainable development and environmental stewardship.

In the last six months PRADAN has digitally mapped 63,000 acres of forest land in four districts of Odisha. They were made the nodal agency for three districts (Rayagada, Kandhamal, and Kalahandi) for implementing the *Mo Jungle Jami Yojana* by the Government of Odisha as a recognition of their work. Including single women and transgenders in the forest rights claiming process was appreciated by the stakeholders and PRADAN's gender sensitive mode of work is encouraged for adoption by other organisations working for forest rights. Thus, PRADAN could, in essence, establish a model for government and other organizations.

LESSONS LEARNED

In claiming the forest rights of forest dwellers, use of digital tools based on satellite imaging reduces drudgery and accelerates the claim process. The experience of PRADAN in using CLMDT for claiming IFR and CFR provides several lessons for those using digital tools in remote regions and forest dwelling communities.

1. **Engaging with the grassroots level people and helping them realize the need:** The FRA has been operational for more than a decade, yet a very low proportion of available land has been claimed. As PRADAN did, continuous engagement with communities at the grassroot level will help them realize that the need for protecting rights is important.

2. **Leaving no one behind in the process:** PRADAN included names of women members of the household, single women, and transgender persons in the claim making process; thereby everyone's rights are protected.

3. **A digital tool alone cannot solve the problem:** PRADAN's success in the FRA claim-making process cannot be solely attributed to CLMDT, because a digital tool has to be in the right hands to bring about changes. PRADAN had demonstrated the tool to various stakeholders (including government officials) to gain trust against the traditional chain survey method and employed it in the best possible manner using *Jami Saathis* and village volunteers to make them feel included in the process. Furthermore, PRADAN enhanced the app's features by enabling offline usability to overcome connectivity challenges in remote jungle villages. They also added the option to track the claim-making process and manage forest resources after the claim.

4. **Access to a best digital tool can have financial implications:** After recognising the need for digital mapping, PRADAN could successfully partner with Cadasta Foundation – a leader in land survey. Initially PRADAN incurred the cost to avail the service and co-developed the tool, but later Cadasta funded PRADAN to upscale the tool.

ENDNOTE

Around 77 percent of the forest area that is eligible to be recognized under FRA-2006 as Individual Forest Rights (IFR) or Community Forest Rights (CFR) is yet to be covered under the Act in India. This gives PRADAN scope to scale up the digital mapping tool across the country if the government supports it and other funding support is made available.

As PRADAN has realised the potential of digital tools in supporting forest dwellers to recognize their rights on forest land and resources, they have now started digitally intervening in forest protection and conservation as well. For this they are collaborating yet again with Cadasta Foundation to customize the tool for community-led forest protection, conservation, and restoration by giving access to real time data on forest areas.

SUGGESTED READINGS

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PREPARED BY

D. Alagu Niranjan, Ditty Maria Dominic, Nimisha Mittal, Rasheed Sulaiman V (Centre for Research on Innovation and Science Policy, Hyderabad, India), Aayushi Malhotra, Niyati Singaraju and Sheetal Sharma (International Rice Research Institute).

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