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PRACTICE INSIGHTS

Public engagement with Raimona National Park: a science communication perspective of wildlife conservation

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Abstract

Public engagement plays a crucial role in wildlife conservation by bridging scientific and community-driven communication. However, conservation communication often faces conflicts and challenges in stakeholder engagement. This study examines the role of public engagement in establishing Raimona National Park (RNP), focusing on interactions between scientific communication from conservationists and culturally informed communication from local communities. By analyzing survey responses from 340 participants and participatory observations, this research explores how structured public engagement contributes to conflict resolution and long-term park management. The study also highlights the role of NGOs, governance structures, and behavioral change in shaping conservation outcomes in the Raimona landscape.

1 ▪ Introduction

Conservation efforts in areas, such as Raimona National Park, require integrating multiple perspectives, where effective communication plays a vital role. Effective conservation depends on scientific expertise and collaboration between decision-makers, scientists, and local communities. As natural resource areas face increasing pressures from population growth and development, communication becomes central to fostering cooperation and informed decision-making.

Science communication plays a crucial role in bridging the gap between knowledge production and public understanding, particularly in conservation contexts where diverse stakeholders are involved. Rather than merely disseminating information, participatory science communication emphasizes dialogue, mutual learning, and co-production of knowledge between scientists and the public. This approach is especially relevant in biodiversity conservation, where local communities often hold valuable ecological understanding. Scholars argue that participatory models foster trust, legitimacy, and inclusive decision-making, making science more responsive to social and ecological realities [Bucchi & Trench, 2021; Chilvers, 2013]. In this light, science communication becomes a shared process — grounded in context, values, and relationships — rather than a one-way transfer of facts.

Science communication has evolved to adopt more participatory approaches that emphasize dialogue, co-creation, and mutual learning. In conservation, participatory science communication is especially valuable, as it integrates local knowledge and fosters inclusive engagement with affected communities [Bucchi & Trench, 2021; Leach et al., 2005; Kumar & Daimary, 2024]. This shift offers a great opportunity to consider how communication can support ethical and community-based conservation efforts. In recent decades, conservation biology has expanded to recognize the significance of social dimensions. Introduced by Soulé [1985], conservation biology continues to grapple with questions about how best to integrate ecological science with human values and actions. Scholars argue that science does not operate in isolation but is intertwined with societal assumptions about life, nature, and responsibility [Jasanoff, 2018; Stanley et al., 2025]. As a result, there has been a shift toward participatory and inclusive approaches to conservation [Lees et al., 2021]. Stakeholder engagement and public participation are now widely regarded as critical components of sustainable conservation efforts [Reed et al., 2018]. These approaches invite local communities, Indigenous groups, and other stakeholders to contribute to conservation planning and decision-making processes [Reed, 2008; Reed et al., 2025; Daimary & Chetia, 2025]. Public engagement helps translate scientific research into deeper understanding and support among the public. It builds awareness, strengthens accountability, and encourages collective stewardship of natural resources [Toomey et al., 2017; Choi, 2025]. Participatory methods, in particular, are valued for drawing on local knowledge, building trust, and enhancing the legitimacy of conservation efforts [Sterling et al., 2017; Murveit et al., 2025].

However, these approaches are not without challenges. Power imbalances, resource constraints, and differing interests can undermine genuine engagement [Cooke & Kothari, 2001]. Addressing these issues is essential for ensuring inclusive and equitable conservation practices.

This study investigates how public engagement can contribute to improved conservation outcomes in Raimona National Park. While many conservation efforts follow top-down

models, this practice insight emphasizes a communication-centered, participatory science communication approach that seeks to involve both scientists and local communities [Momme et al., 2025]. It aims to show how collaborative engagement can strengthen wildlife conservation efforts and promote more effective, socially informed conservation strategies.

Human-wildlife conflicts in Raimona National Park highlight the intricate balance between biodiversity conservation and local livelihoods. Studies [Daimary & Kumar, 2024; Daimary & Deka, 2025] indicate that habitat fragmentation, agricultural expansion, and resource dependency have led to increasing encounters with elephants, leopards, monkeys and wild buffalo. These conflicts often arise due to overlapping habitats and limited mitigation strategies. Communication and public engagement are crucial in addressing conflict by bridging the gap between scientific knowledge and local communities [Pooley & Schwarzenegger, 2017; Kumar & Daimary, 2024]. The Bodo community in Raimona has coexisted with wildlife for generations, yet their traditional knowledge is often overlooked in conservation policies. Participatory science communication [Ward et al., 2024] is the only approach to community engagement that fosters cooperation.

2 ▪ Study area and methodology

2.1 ▪ *Study area*

The study area is in and around the Raimona National Park in the Bodoland Territorial Region (BTR) of Assam (India) (see Figure 1). The park encompasses a total of 422 square kilometers of land, which is covered by the Kachugaon Forest Division in the Kokrajhar district. The park boundary extends from the Sankosh River on the west to the Saralbhanga River on the east and it touches the Indo-Bhutan international border on the north. The Buxa Tiger Reserve of West Bengal is located to the west, and the Phipsoo Wildlife Sanctuary of Bhutan is located to the north, which are contiguous with the Raimona as a transboundary area. Earlier, the area was known as Ripu Reserve Forest under the Kachugaon Forest Division with a total area of 605.27 square kilometers. The Ripu Reserve Forest had the most significant density of *sal* woodland in Asia and was one of the country's oldest and most scientifically managed forests in the late 19th century [Basumatary et al., 2022; Daimary & Basumatary, 2024]. The term "Raimona" derives from "Raymana", a desolate area or the capital of the vassal state Ripudwar at the base of Bhutan [Basumatary et al., 2022]. The Raimona National Park was covered by savannah forest at the turn of the 20th century [Basumatary et al., 2022]. The Bodoland Territorial Region (BTR) of Assam has authority over Raimona National Park, which is situated between 26°37' and 26°50' N and 89°51' and 90°14' E. The estimated population and households surrounding the national park, which start south of the park boundary, represent 4,000 people. The majority of the population in the area is made up of Indigenous tribal people.

3 ▪ Engagement of organizational actors in conservation practice

The collaborative structure that brings together a wide range of stakeholders, including governmental agencies, non-governmental organizations (NGOs), academic institutions, and local communities, defines organizational engagement in conservation at Raimona National Park. Developing and implementing successful conservation plans that address the park's ecological and socioeconomic challenges depend heavily on this multi-stakeholder approach.
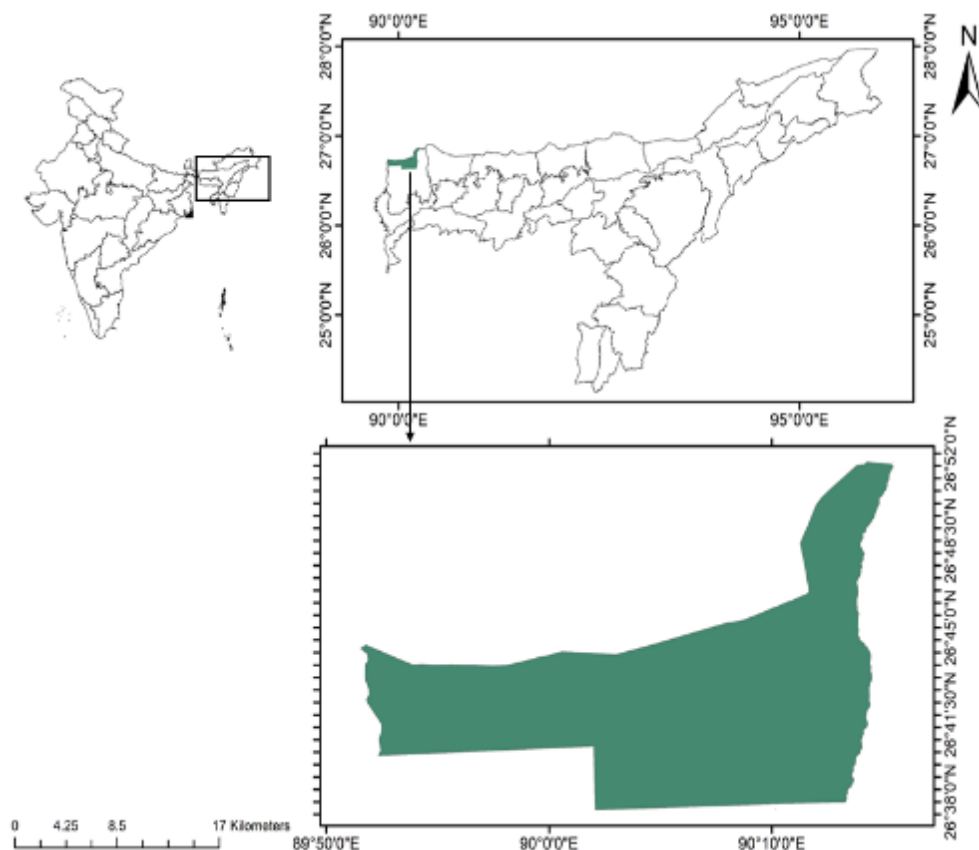
Figure 1. Raimona National Park in the state of Assam, India.

3.1 ▪ *Education and capacity building*

By offering educational programs and conducting workshops centered on sustainable practices and biodiversity protection, local organizations like Aaranyak, Wildlife Trust of India and the Raimona Golden Langur Eco-Tourism Society play a vital role in educating the local population and building capacity. By improving locals' knowledge and abilities, these programs provide opportunities for people to take an active role in conservation efforts. Studies have demonstrated that conservation initiatives managed by communities and incorporating local knowledge have a higher success rate in accomplishing their ecological objectives [Berkes, 2007; Larson, 2007]. Stakeholders in Raimona mostly depend on local people's support in terms of their conservation activities. This presents an opportunity for locals to contribute their Indigenous and local knowledge to the conservation efforts.

3.2 ▪ *Research and technical support*

The Wildlife Trust of India and other scientific institutions support Raimona National Park by carrying out research that influences management strategies. By providing technical assistance to the forest department, these groups guarantee that conservation plans are based on solid scientific evidence. Effective resource management and habitat restoration depend on evidence-based decision-making, which is made possible by this collaboration [Batista et al., 2014]. We observed that animal rescue and animal rehabilitation are done in

accordance with scientific best practices by the Wildlife Trust of India, which is a non-governmental stakeholder.

3.3 ▪ *Funding and resource allocation*

Maintaining conservation efforts in Raimona National Park requires financial assistance from groups like the International Fund for Animal Welfare and the David Shepherd Wildlife Foundation. To guarantee that the resources required for long-term conservation initiatives are accessible, these funds are frequently distributed to programs that focus on wildlife protection, habitat restoration, and community involvement. Funding increases the scope of conservation initiatives and gives local stakeholders a feeling of pride in their work [Child, 2019]. The major organizations mentioned above provide support to local stakeholders like Aaranyak and the Wildlife Trust of India. Whereas local stakeholders continue to provide support to ground-level organizations, such as the Raimona Golden Langur Eco-Tourism Society and other eco-development communities.

3.4 ▪ *Community involvement in decision-making*

Effective participation by local community members in scientific discussions and decision-making is crucial for accomplishing conservation endeavors at Raimona National Park. Participating in these activities increases the likelihood that locals will voice their concerns, impart traditional ecological knowledge, and help create sustainable practices that fit within their particular cultural and economic circumstances. Improved conservation outcomes have been shown to result from participatory strategies and increase community ownership of conservation efforts [Stevens, 2022; Duangchantrasiri et al., 2016].

4 ▪ Stakeholders' identification and role

Stakeholder identification and engagement are crucial for effective conservation at Raimona National Park. Stakeholder roles include education, research, financial support, and community involvement, ensuring a holistic approach to protecting biodiversity while addressing local needs and concerns (see Table 1).

5 ▪ Insights from the field

5.1 ▪ *Case I: WTI and the establishment of Raimona National Park*

The establishment of Raimona National Park in Assam, India, in 2021 was made possible because a number of organizational actors played critical roles in shaping conservation practice through their strategic communication, stakeholder engagement, and collaborative governance. Case I focuses on the efforts of the Wildlife Trust of India (WTI), whose long-term conservation initiative, *Bringing Back Manas National Park*, served as a foundation for expanding the protected area network within the Greater Manas Landscape, a transboundary ecological zone encompassing parts of Assam and Bhutan. Raimona, covering 422 square kilometers, was identified as ecologically vital for maintaining biodiversity corridors and supporting species such as golden langurs, elephants, and one-horned rhinoceroses.

Table 1. Organizational engagement at the Raimona National Park.

Sl. No.	Scientific organization name	Organizations type	Nature of involvements at Raimona National Park
1.	Raimona Golden Langur Eco-Tourism Society (RGES)	Education, protection and tourism	Local People
2.	Eco Task Force of Territorial Army	Education, protection and tourism	Restore deforestation
3.	Aaranyak	Technical support to the forest department, Assam	Scientific Conservation Management
4.	David Shepherd Wildlife Foundation	International NGO	Funding Agency
5.	Wildlife Trust of India	National NGO	Scientific Conservation Management
6.	Colleges and Universities	Government and non-government	Academic Research
7.	International Fund for Animal Welfare (IFAW)	Providing financial and technical support to WTI	Funding partner to WTI
8.	WWF	International	Direct involvement
9.	International Union for Conservation of Nature (IUCN)	International	Promoting conservation strategies and practices
10.	Forest Research Institute (FRI)	National Educational and Research Institute	Research activities and conservation planning within the park
11.	Assam Forest Department	State government	Conservation strategies, monitoring wildlife, and managing the park's resources
12.	Local Community Groups	Local groups and associations	Sustainable practices and tourism development
13.	Eco Development Community	Local groups and associations	Sustainable practices and tourism development

WTI's role went beyond ecological assessments and policy advocacy. It actively engaged with the Bodoland Territorial Council (BTC) and local communities to build a broad consensus for the park's notification. This engagement was underpinned by multi-level communication strategies that framed the park not only as a conservation priority but also as a site of socio-economic opportunity. WTI organized workshops, awareness campaigns, and community dialogues to foster support for the park and cultivate local stewardship. Additionally, capacity-building programs were conducted for forest staff, homestay operators, and community leaders to promote ecotourism and sustainable livelihoods, aligning conservation goals with economic benefits for the region.

WTI functioned as a communication intermediary, translating conservation science into accessible, persuasive narratives that resonated with various stakeholders. By linking biodiversity protection with human development, WTI facilitated participatory conservation planning that acknowledged the socio-political context of the landscape. The creation of Raimona National Park thus illustrates how organizational communication, when integrated with scientific, policy, and community frameworks, can contribute significantly to conservation outcomes. This case underscores the importance of narrative framing, local partnership, and institutional trust in advancing ecological protection in complex socio-environmental settings.

5.2 ▪ *Case II: multi-stakeholder communication barriers*

Establishing Raimona National Park in Assam, India, presented both challenges and opportunities for multi-stakeholder communication within conservation practice. Case II highlights how the Wildlife Trust of India (WTI), in collaboration with the Bodoland Territorial Council (BTC), played a critical role in navigating complex interactions among local communities, forest officials, non-governmental organizations, and policymakers. Initial barriers to communication included a lack of shared terminology, differing institutional priorities, and limited community awareness about conservation policies. WTI's approach, which combines capacity-building workshops, stakeholder mapping, and community-based ecotourism initiatives, enabled trust-building and the alignment of conservation goals among diverse actors. This case underscores the importance of integrating participatory communication strategies and adaptive engagement models like iterative and learning-based approaches to overcome stakeholder misalignment in protected area governance.

5.3 ▪ *Engagement with the conservation practice at Raimona*

Wildlife conservation is a crucial component of natural area conservation, addressing the rapid decline and swift extinction of species. The effectiveness of wildlife conservation initiatives greatly depends on public empathy, which also affects poaching, human-animal conflict, and partnerships with governmental and non-governmental organizations. The mission statements of conservation groups recognize the importance of effective public communication for wildlife managers, which is inspiring people, educating and engaging the public. Scientists may disagree about whether scientific or non-scientific conservation techniques are better, but they all agree that science alone cannot resolve species decline through poaching, or conflicts between people and animals brought on by population growth, for example [Kumar & Daimary, 2024].

Choosing appropriate communication channels for conservation is important, especially when it comes to the human aspect of wildlife conservation, depending on the objectives and target audience. Wildlife presentation depends on the social sciences' foundation of communication. Effective communication in wildlife conservation draws on key principles from the social sciences, particularly in understanding how information is shared, interpreted, and acted upon by different audiences. In wildlife management, this helps differentiate between scientific communication, rooted in data, research, and ecological expertise and non-scientific communication, which often involves traditional knowledge, local beliefs, or political narratives. In the case of Raimona National Park, the Wildlife Trust of India (WTI) has worked to bridge these communication approaches by engaging local communities through awareness campaigns, educational workshops, and participatory conservation programs. These efforts aim to make scientific knowledge more accessible while also valuing community perspectives, thereby fostering more inclusive and effective conservation strategies.

Informal wildlife communication. It is important to recognize that much informal wildlife communication, consisting of the exchange of information and experiences regarding wildlife, frequently occurs outside of official scientific or organizational channels, among local communities, wildlife lovers, and the general public. Informal science communication does not require participants to understand technical terms to exchange data or information about Raimona National Park. Individuals (including human beings, wildlife, or flora and

fauna) use, feel, and exchange ideas as they experience day-to-day life. Various organizations involved in wildlife management, such as conservation NGOs, forest departments, and local communities, often work together to create grassroots solutions. These joint efforts help improve decision-making in national park management, ultimately leading to more effective and sustainable wildlife conservation.

Expert-driven wildlife communication. Expert-driven wildlife communication describes the process through which scientists, conservationists, and other experts inform and educate communities about wildlife concerns, most often by disseminating factual information. The process requires participants to comprehend technology and apply scientific knowledge to the communication process. For example, sensors based on a variety of technologies, including accelerometers, wireless sensor networks, GPS, microphones, and cameras, are used in the scientific study of wildlife communication [Steen et al., 2012], and the data that is gathered from these tools is analyzed and integrated into expert-driven conservation strategies. In Raimona National Park, for example, camera traps and GPS collars have been used to monitor elephant and clouded leopard movements, informing both ecological research and public outreach efforts.

Members of the scientific community and different community and organisational actors in Raimona National Park differ in their perspectives when looking at conservation. We argue that people with non-scientific knowledge can also be considered experts in conservation. We believe that one cannot justify a position or argue for a particular approach to conservation by labeling community members as uneducated or non-expert. Figure 2 depicts the collaborative approach to engaging scientific and non-scientific players in and around Raimona. For a successful conservation 'result', the 'engagement' process helps achieve a strong 'decision' in 'conservation action'. This engagement process for decision-making between scientific and non-scientific communities for conservation is designed to deal with all circumstances in the park.

Figure 2 represents the fundamental importance of community involvement in conservation initiatives. This basic idea is linked to bringing together three important stakeholders: park administrators working for the park authority, conservation scientists, and local communities.
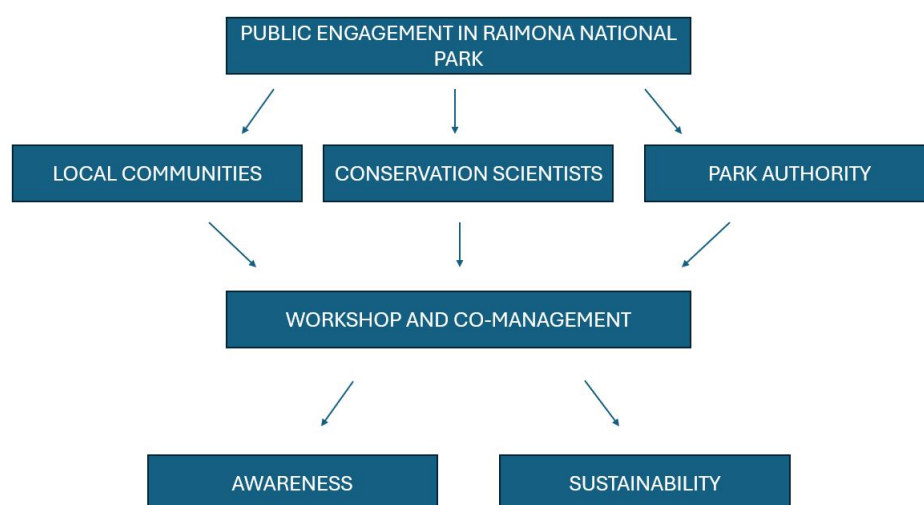

Figure 2. Public engagement with Raimona National Park for awareness and sustainability.

Local communities contribute traditional knowledge and benefit from park resources. Conservation scientists conduct research and share their findings and expertise, while park administrators manage resources, enforce rules, and foster meaningful public engagement.

Workshops and co-management are the two engagement strategies that are essential for successful public participation for organizations like WTI. The workshops bring all parties involved together to promote mutual understanding and knowledge sharing. Co-management fosters cooperative decision-making and resource management by establishing relationships between the park authority and local communities. All stakeholders come to have a greater understanding of the conservation concerns unique to Raimona National Park, and a focus on sustainability encourages stakeholders to focus on the long-term preservation of the park's resources through sustainable methods.

6 ▪ Methodology

To assess the impact of public engagement in terms of what is contributes to improved conservation outcomes at Raimona National Park, we used a two-phase mixed-methods approach.

6.1 ▪ *Phase I questionnaires*

We distributed structured questionnaires to 340 individuals across villages in the Athiabari and Kachugaon ranges of Raimona National Park. The questionnaire covered themes including awareness of conservation, human-wildlife conflict, and engagement with scientific outreach. Participants were selected through purposive sampling.

6.2 ▪ *Phase II: participatory observations*

Over six months, we conducted participatory observations during community events, workshops, and conservation activities led by NGOs and the forest department. Field notes captured interactions between local and scientific actors, modes of communication, and outreach practices. This approach, informed by Science and Technology Studies (STS) [Felt et al., 2017], helped us examine how scientific engagement shapes conservation in a localized context.

7 ▪ Findings and discussion

The results highlight the use of inclusive communication strategies — such as dialogue-based engagement and interactive platforms — that aim to strengthen conservation efforts and foster human-wildlife coexistence in Raimona.

We observed that villages have not been happy since the national park was declared. The results obtained from our survey show that 35.9% of households faced economic challenges due to a lack of forest access, and 37.6% of them had to give up their forest dependency within a year. Among them, 14.1% of households are directly affected by wildlife disturbance to their livelihoods, whereas 10.3% of households are in tension because of wildlife disturbance. Wildlife such as Asian elephants destroy agriculture, and monkeys and parrots

destroy betel nuts and other fruits that people depend on for their extra annual income. However, 2.1% of the households feel there has been no negative impact on their livelihoods after Raimona was declared a national park.

The establishment of the park has elicited mixed reactions from the local community, reflecting both challenges and opportunities. A significant proportion of the population reported concerns related to economic difficulties, restricted access to forest resources, and adverse impacts on livelihoods, with 73.5% highlighting such issues. Perceptions of the park's environmental impact were varied; while 15.6% of respondents believed that forest and wildlife conditions had significantly improved, 64.7% were uncertain, indicating gaps in awareness and understanding. These findings underscore the importance of effective science communication in addressing public concerns and fostering community support for conservation initiatives.

To mitigate these challenges, it is crucial to adopt more targeted public engagement strategies. Regular awareness programs that involve local organizations, conservation scientists, and forest officials play a vital role in educating communities about the ecological and socio-economic benefits of the national park. Additionally, the promotion of alternative livelihood opportunities for forest-dependent communities is essential to reduce reliance on forest resources. Collaborative efforts with local entrepreneurs and business stakeholders can help create sustainable income sources while enhancing public support for conservation. To enhance their effectiveness, public engagement needs to move beyond one-way information campaigns to involve local organizations, conservation scientists, and forest officials in dialogue-based, participatory formats. Our analysis of the data we collected revealed generally negative perceptions among the local population. The survey segmented responses based on people's proximity to the park, revealing that residents within 0–1,800 meters of the park largely held negative views (see Figure 3). However, we observed optimism among a subset of residents, particularly those living within 0–400 meters, where over 20% expressed support for the park. This group is more dependent on the forest for their livelihood. In contrast, residents living between 400 and 1000 meters were less optimistic, likely due to their reduced reliance on the park's resources. The park's recent establishment has led to decreased access to forest resources, either due to park regulations or government policies.

The second analysis indicates that local populations living closer to the park require further engagement with the project's objectives and impacts. To address this, it is essential to co-design regular awareness programs with the active involvement of local communities, local organizations, and the scientific community, ensuring that residents can share their perspectives and contribute to decision-making about the park's conservation goals and benefits. Additionally, alternative livelihood opportunities need to be developed collaboratively with affected community members, allowing them to identify and shape options that are culturally appropriate and economically viable.

Livelihood-focused awareness initiatives should be developed, engaging local business communities, entrepreneurs, and scientific organizations to create sustainable economic alternatives.

Public opinion regarding forest officials appears generally positive, although a significant portion of respondents remained neutral (see Figure 4). This suggests that while there is some support, there is considerable room for improving public engagement and improving
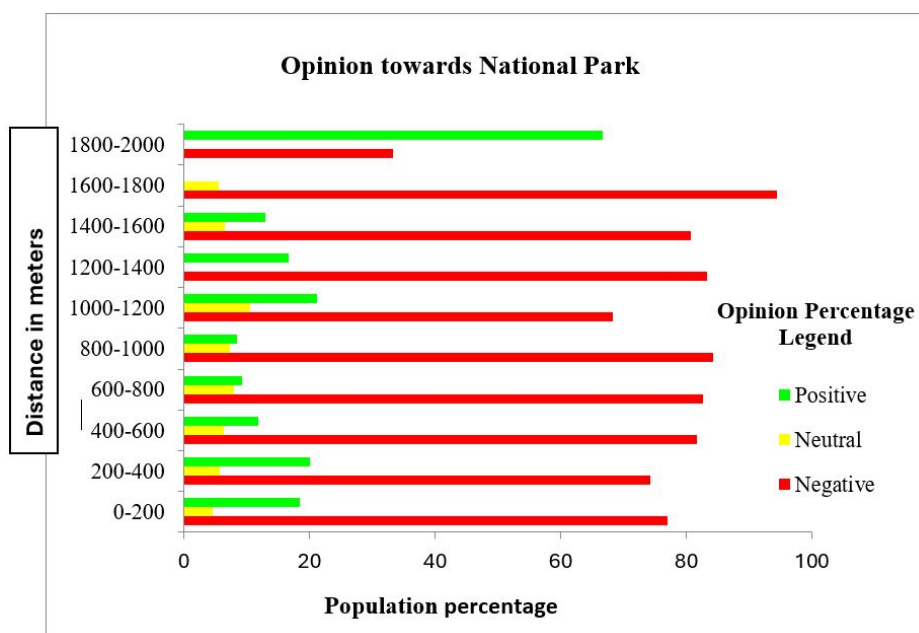
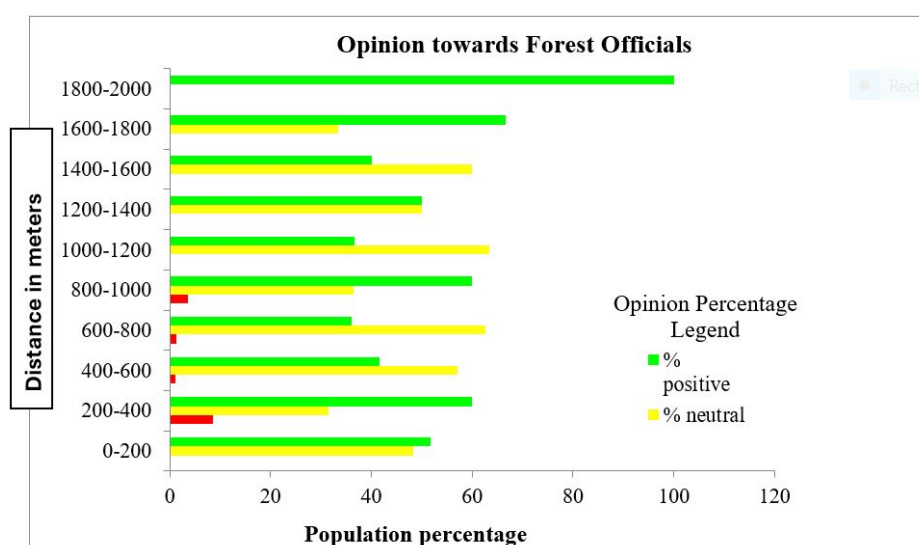**Figure 3.** People's opinion on the formation of the Raimona National Park.

Figure 4. People's opinion on the forest and wildlife management at the Raimona National Park.

overall perceptions of the National Park. Strengthening communication and fostering dialogue between park authorities and the community could help build trust and further influence public opinion.

The primary goal of the mainstream conservation method adopted in Raimona National Park is societal economic prosperity. To protect the environment, this strategy is crucial. Violations of laws protecting forests, biodiversity, and wildlife are also modern problems. There are existing disputes between environmental advocacy groups and Indigenous people over their ancestral territories, and several historical accounts note evictions and conflicts

between the forest department and locals living in the Indian Protected Area. Building on anthropologist Aiyadurai's [2016] work, engaging local communities through participatory science communication not only advances ecological initiatives but also fosters mutual learning about rich tribal traditions and cultural knowledge. Even if there are more opportunities to work in protected areas, conservation approaches still lack an integration that combines social science and natural science. In the realm of conservation, social issues like the caste system and religion are rarely tackled.

Figure 5 shows that the conservation of wildlife depends on the scientific community and communication within the community. Informed conservation strategies are based on the scientific community's research, data, and knowledge.
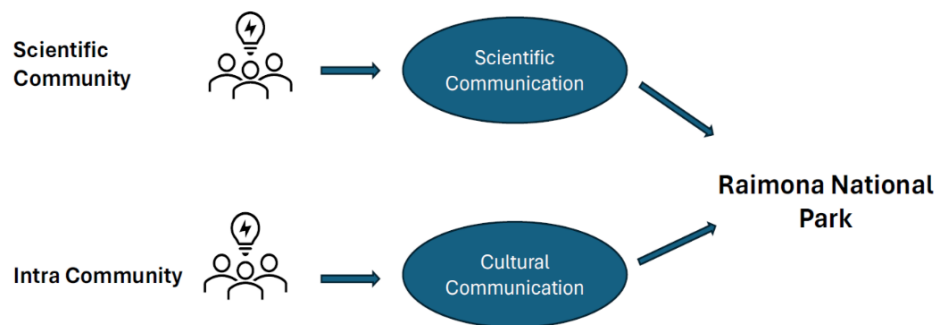

Figure 5. Community engagement through communication to conserve Raimona National Parks.

At the local or stakeholder level, intracommunity communication promotes cooperation, common understanding, and grassroots action. When combined, these exchanges close information gaps, guarantee efficient policy formulation, and raise public participation, all of which contribute to more inclusive and long-lasting conservation initiatives, as we have observed in the case study. Culturally informed communication highlights how cultural beliefs, traditions, and local narratives shape the way wildlife is understood and discussed within different indigenous communities.

7.1 ▪ *Communication barriers*

Identification of communication barriers inside Raimona National Park is crucial for addressing the constraints to efficient administration and stakeholder participation. These obstacles, which fall into three categories: internal, external, and multi-stakeholder, represent the intricate dynamics that impede the growth of conservation initiatives and the growth of organizations taking a conservation focus.

7.1.1 ▪ *Internal barriers: local communities and forest range managers*

A fundamental barrier is internal obstacles between forest range managers and local people. Although efforts toward community engagement have improved (as seen in Figure 2), challenges remain. Many locals still feel excluded from key decision-making processes, especially when communication remains top-down. These difficulties are worsened by the lack of open forums where residents can voice their concerns and share feedback. Addressing these gaps is essential to building truly inclusive conservation strategies. This

mismatch encourages local opposition and confuses conservation laws. In addition, it intensifies disputes like those between people and wildlife, which are perceived differently by the two groups. Establishing a more participative strategy where communities actively participate in conservation debates is crucial to reducing this problem. Bridging the gap can be facilitated by resolving socioeconomic issues related to forest access and cultivating trust via open communication.

7.1.2 ▪ *External barriers: forest departments and NGOs*

Although their approaches and priorities are different, both sides frequently work toward the same conservation objectives. While NGOs may choose to take more community-centric or advocacy-based tactics, forest departments usually prioritize observing existing laws. These two organizations' ineffective coordination and communication resulted in disjointed efforts and lost opportunities for cooperation. NGOs are proficient in community participation, which can support the enforcement function of the forest department if both organizations are working together. However, the absence of integration diminishes the possibility of significant conservation results. To overcome these challenges and build stronger cooperation in forest and wildlife management, there is a need to move beyond formal consultation models (as shown in Figure 2) toward more community-led dialogue, ongoing feedback loops, and shared decision-making platforms that give local voices a more active role in shaping conservation goals.

7.1.3 ▪ *Multi-stakeholder barriers: opportunities for organizational development*

When government organizations, non-governmental organizations, local communities, and businesses from the private sector try to work together on opportunities for national park development, multi-stakeholder barriers appear. Competing priorities, hazy communication routes, and opposing interests frequently make these obstacles worse. It can be challenging to align the divergent aims of various stakeholders' contexts, such as local empowerment, economic development, or conservation. The lack of a standardized communication framework hinders stakeholder coordination. While the above section outlines stakeholder roles and responsibilities, field observations revealed overlapping duties and unclear accountability in practice. To address this, we are refining role definitions through participatory workshops and developing shared goal-setting sessions to ensure all stakeholders have a clearer understanding of their contributions to park conservation.

Despite the structured processes described in the sections above, including stakeholder mapping, communication planning, and community engagement, Raimona National Park continues to face key communication challenges. These include inconsistent follow-up, unclear feedback mechanisms, and limited shared decision-making. Figure 2 has been updated to highlight the stages where these gaps occur (Figure 6), particularly in community feedback loops and inter-departmental coordination.

Addressing these shortcomings requires not just more of the same but a shift toward ongoing, co-managed communication platforms, clearer accountability at each step, and greater flexibility in adapting strategies to local realities. These changes are essential for building lasting collaboration and sustainable conservation outcomes.
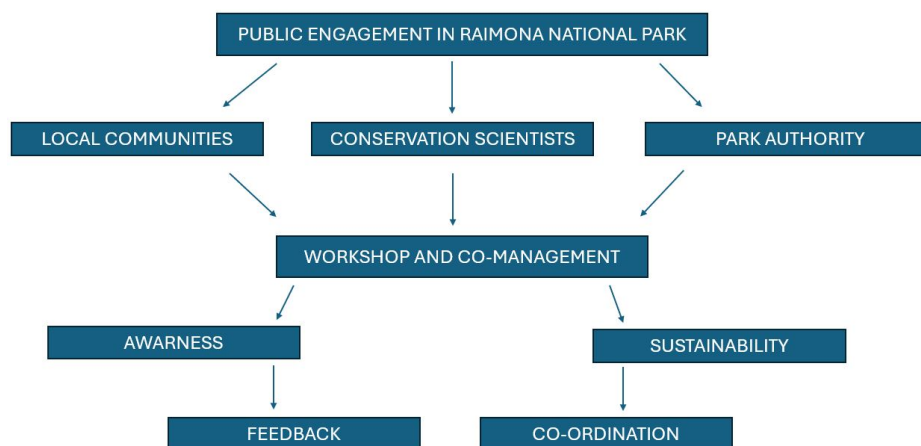
Figure 6. Public engagement with Raimona National Park.

8 · Conclusion

This practice insight underscores the need for an evolving, evidence-informed participatory conservation approach that continues to adapt and more effectively involve local communities in decision-making, particularly in response to the ongoing challenges observed in implementation. The future success of Raimona National Park depends on preserving biodiversity and meeting local socioeconomic needs, minimizing wildlife disturbances, and increasing public awareness of the park's ecological and community value. Organizational involvement has played a key role in promoting sustainable practices, providing funding, building capacity, and supporting research to date. And including local communities in conservation planning has strengthened their sense of ownership and resilience to a degree; however, effective and lasting outcomes will require adjustments to the participatory science communication practices in place. We are still learning how to communicate in ways that connect with local realities, but this is essential for building trust and encouraging meaningful public engagement. The insights we have gathered through survey work and observations will guide future policies and initiatives that aim to balance conservation goals with human development in Raimona National Park, to ensure a cooperative and sustainable path forward.

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