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Chrysalis Services
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Impact Assessment Report
FY 2021-22 to FY 2023-24

Addressing Wildlife Emergencies

During Disasters in the Brahmaputra Valley, Assam

Implemented by

WTI
wti.org.in

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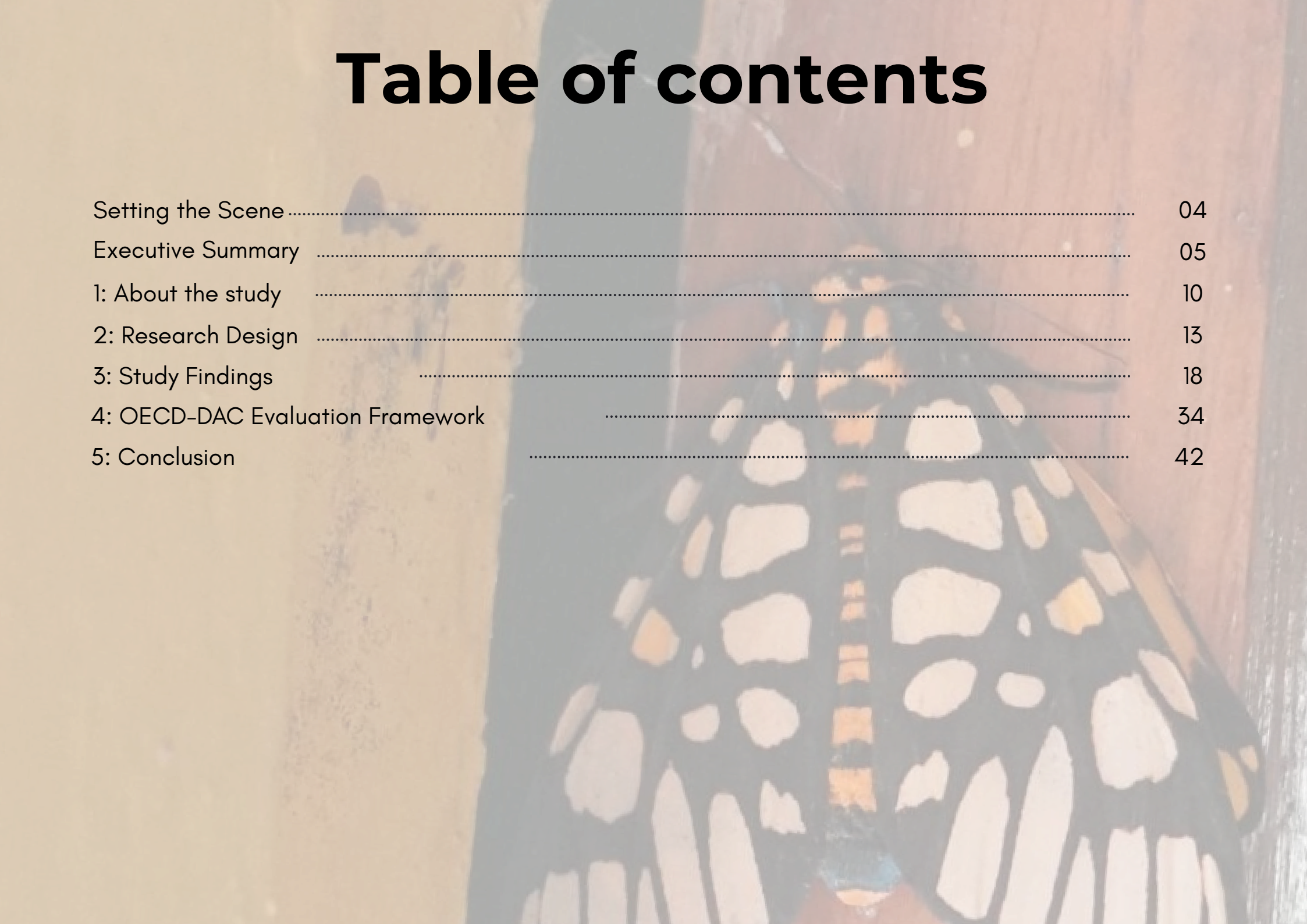


List of Abbreviations

CSR	Corporate Social Responsibility
CWRC	Centre for Wildlife Rehabilitation and Conservation
DAC	Development Assistance Committee
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
EDC	Eco Development Committee
FY	Financial Year
IEC	Information Education and Communication
IFS	Indian Forest Service
INR	Indian Rupee
KII	Key Informant Interview
MIS	Management Information System
NIDM	National Institute of Disaster Management
NSAID	Non steroidal Anti inflammatory Drug
OECD DAC	OECD Development Assistance Committee
OT	Operation Theatre
PRT	Primary Response Team
SOP	Standard Operating Procedure
SROI	Social Return on Investment
WTI	Wildlife Trust of India

Setting the Scene

About this report

This Impact Assessment Report, developed by Chrysalis Services, assesses the outcomes and functioning of the project (Addressing wildlife emergencies during disaster in the Brahmaputra Valley, Assam). The assessment examines the project's contribution to improved wildlife rescue outcomes, strengthened emergency response systems, and safer community and institutional practices during floods and conflicts. It views wildlife rescue not only as an operational service, but as a broader behavioural and institutional transition shaped by community reporting norms, trust in responders, first-response capability (PRTs and volunteers), clinical readiness of rescue centres, and coordination between WTI and the Forest Department.

The report draws on multiple sources of evidence to understand both the demand-side and supply-side dimensions of the wildlife emergency ecosystem. On the demand side, it assesses awareness, reporting behaviour, and community-linked response mechanisms through the volunteer and PRT network. On the supply side, it reviews rescue system performance using rescue MIS trends, clinical readiness observations of Kaziranga and Tinsukia facilities, and institutional perspectives from key stakeholders. By centring frontline voices while engaging Forest officials, veterinary actors, and implementing teams, the study adopts a systems-based approach to assess what is working, what constraints remain, and what is required to sustain and strengthen outcomes for both wildlife and people.

About HCLFoundation and its CSR interventions

HCLFoundation advances HCLTech's corporate social responsibility agenda in India through its flagship programs and special initiatives. As a not-for-profit organisation, it strives to contribute to national and international development goals, bringing positive impact to people's lives through long-term, sustainable programs. HCLFoundation aims to alleviate poverty and achieve inclusive growth and development through a life cycle-based, integrated community development approach that focuses on Education, Health, Skill Development and Livelihood, Environment, and Disaster Risk Reduction and Response. At present, it is implementing five flagship programs, Samuday and HCLTech Grant (Rural Development); Uday and My Clean City (Urban Development); Harit - (Environment Action) and 4 special initiatives of Power of One, Sports for Change, Academy and My E-Haat.

CSR Interventions of HCLF

Samuday
HCLTech Grant India
Uday
Harit
My Clean City
Sports for Change
My E-Haat
Power of One
Academy

About Harit

Harit by HCLFoundation is a distinct flagship program for Environment Action, with the vision 'to conserve, restore and enhance indigenous environmental systems and respond to climate change in a sustainable manner through community engagement'. Throughout the process, Harit ensures the building of scalable and replicable models that are economically viable, socially acceptable, environmentally sustainable, holistic and inclusive. Responding to the threat of climate change, environmental degradation, and biodiversity loss, Harit is working urgently to conserve, restore, and enhance indigenous environmental systems. With full participation and stewardship from local communities, Harit designs and implements sustainable measures for climate action.

Executive Summary

Image 1: One-horned rhinoceros.

Project Name

Addressing Wildlife Emergencies During Disasters in the Brahmaputra Valley, Assam

Implementing Partner

WTI
wti.org.in

Project Assessment Year

FY 2021-22 to FY 2023-24

Project Location

Assam, India.

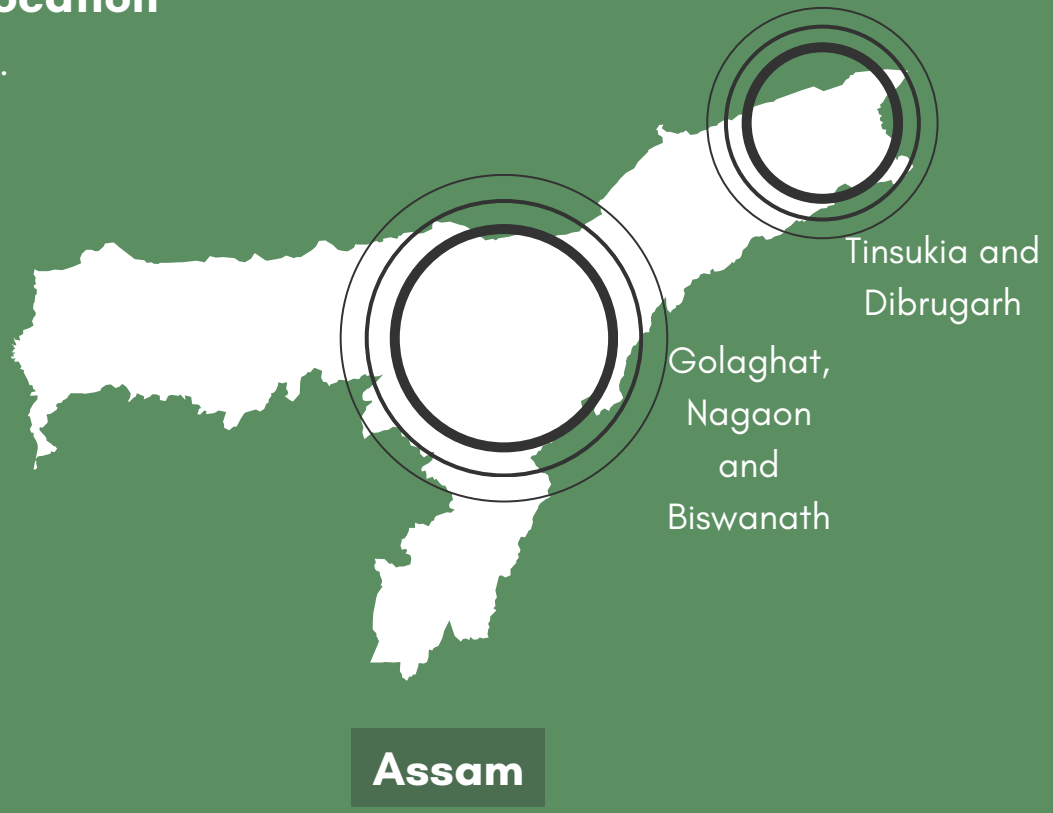


Image 2: A map of Assam highlighting the project landscape

Direct Beneficiaries

Distressed wildlife rescued and treated

Rescue MIS:

1,681 animals

rescued across FY 2021–22 to FY 2023–24

2021-22	2022-23	2023-24
649	513	519

Key Human Stakeholders Engaged:

Volunteers/Primary Response Team members, community institutions (EDCs), tea estate stakeholders, and Forest Department officials

Project Activities

Community mobilisation and awareness generation on wildlife rescue, safe behaviour during wildlife encounters, and emergency preparedness during floods and disaster situations.

Outreach through local community structures and networks such as EDCs, volunteers, and Primary Response Teams to strengthen early reporting and first response.

Capacity building of volunteers and first responders through trainings, mock drills, and demonstrations on safe incident handling, crowd management, and escalation to Forest Department and WTI response teams.

Wildlife rescue operations during emergencies including seasonal flooding, road accidents, and conflict-linked incidents, supported through coordination with Forest Department and local actors.

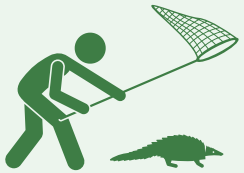
Clinical treatment, stabilisation, and rehabilitation of rescued wildlife through rescue centres and mobile/field veterinary response systems.

Operation and strengthening of rescue infrastructure including quarantine/isolation facilities, rehabilitation enclosures, medicines and equipment, and transport/referral mechanisms across centres.

Awareness activities focused on reducing harmful practices during incidents, improving community response norms, and promoting coexistence-oriented behaviour.

Targeted awareness and engagement activities linked to vulture safety and conservation, including community and school-based messaging, where relevant to the landscape.

Key Findings



Rescue outcomes improved over time. The rescue MIS records **1,681 animals rescued** across FY 2021-22 to FY 2023-24. Overall, **67% were released**. The release rate increased from **55% in FY 2021-22** to **75% in FY 2022-23** and remained high at **74% in FY 2023-24**, while mortality (dead on arrival plus died in captivity) reduced from **30%** to around **18%** in later years.

Image 3: An Asian Elephant at the project site.

CWRC maintains a **functional OT unit, sufficient medicines and equipment, organized quarantine and isolation measures, disciplined rehabilitation routines, and a stronger staffing structure,** which includes two veterinarians and ten animal keepers. Moreover, there are evident hygiene and biosecurity practices in place. In contrast, Tinsukia operates a model focused on **mobile veterinary services and emergency response**. For any animals requiring longer and more intensive care, referrals are made to the CWRC.

Volunteer and PRT-linked response behaviours are strong. In the awareness survey (n=16), **100% reported having emergency contacts saved** and **100% said** their first action in an injured, sick and trapped wildlife case is to call the WTI team. **75% reported** informing authorities more than once, and **94% reported** supporting emergency communication by informing others or calling the helpline.

Safer incident behaviour is widely reported among project-linked responders. **94% of respondents** identified key unsafe actions (chasing, stone throwing, close filming, catching attempts, poisoning, hitting) as wrong, and **81% reported** stopping harmful behaviour by others many times. **89% reported** that poisoning, trapping and attacking wildlife has decreased.

Trust and organised incident handling are reported as major shifts. **100% of respondents** reported improved trust in WTI team and better knowledge of whom to call in emergencies. **94% reported** faster reporting and more controlled crowds during incidents.

Operational constraints remain the main improvement opportunity. While **56% reported** no major difficulties, **44% reported** lack of safety equipment and **25% reported** transport challenges. Looking ahead, **63% requested** safety gear and **31% requested** better access to vehicles/boats during floods, indicating that further gains depend on field enablement rather than awareness or willingness.

Alignment with SDGs

SROI: For every unit of currency invested by HCLF through the Wildlife Trust of India, the project has successfully generated a substantial **4.10** units of socio-economic value for stakeholders. This impressive return highlights the project's effectiveness in creating positive social and economic impacts.

What worked well

Volunteer and PRT mobilisation worked well, strengthening early reporting, correct escalation to Forest/WTI, and safer first-response actions.

CWRC's strong clinical hub (OT, quarantine, rehab routines, staffing, hygiene) enabled better handling of complex cases, with Tinsukia supporting stabilisation and referral.

Behaviour change was reinforced, with responders widely rejecting unsafe practices and actively discouraging harmful crowd behaviour.

The project moved beyond rescues to a **functional rescue-to-treatment-to-release system**, reflected in improving release outcomes over time.

Trust and coordination improved, helping incidents get managed in a more organised way with clearer contact chains and better crowd control.

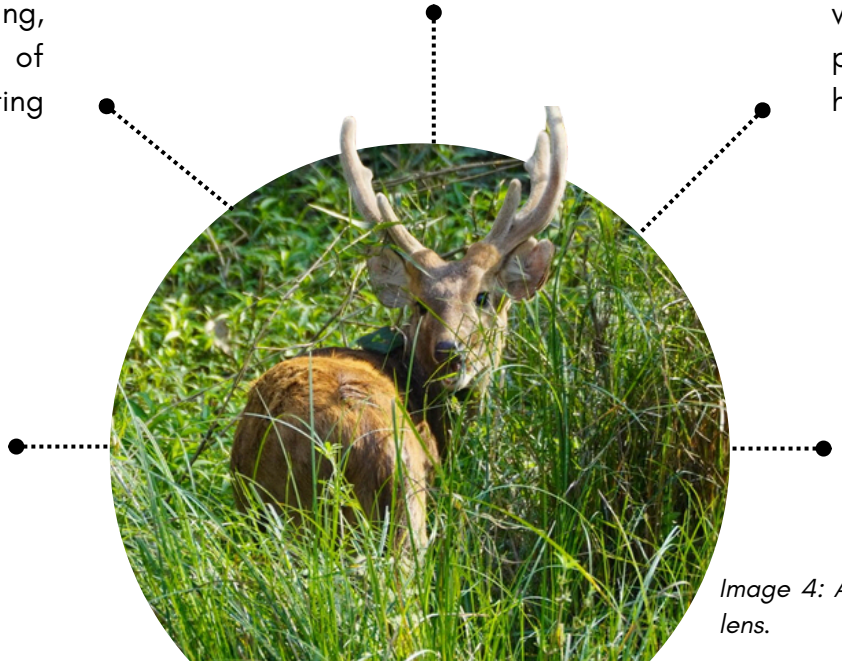


Image 4: A Hog Deer photographed through a chrysalis lens.

1. About the Study

Image 5 : A deer peacefully grazing in the forest.

1.1 Project Dashboard

Project Name

Addressing Wildlife Emergencies During Disasters in the Brahmaputra Valley, Assam

Implementing Partner

WTI
wti.org.in

Project Assessment Year

FY 2021-22 to FY 2023-24

Project Location

Assam, India.

1.2 Key Interventions

Community mobilisation and IEC campaigns to build awareness on safe behaviour during wildlife encounters, flood-related wildlife risks, and the importance of timely reporting to formal responders.

Formation and strengthening of community-linked response structures (EDCs, volunteers and Primary Response Teams) to support first response, crowd management and escalation during incidents.

Training, mock drills and demonstrations for volunteers/PRTs on safe incident handling, emergency preparedness, and coordination with Forest Department and WTI response teams.

Wildlife rescue operations during emergencies, including flood events, road accidents and conflict-linked cases, in coordination with the Forest Department and local stakeholders.

Clinical treatment, stabilisation, rehabilitation and safe release of rescued wildlife through rescue centres and field veterinary support, including referral pathways for severe cases.

Infrastructure strengthening of rescue systems, including OT readiness (where available), quarantine/isolation facilities, rehabilitation enclosures, medicines and equipment, and hygiene/biosecurity practices.

Targeted engagement on vulture safety and conservation where relevant, including awareness activities and safer practices linked to poisoning risk and carcass management.

Strengthened multi-stakeholder coordination between WTI, Forest Department, tea estate stakeholders and community actors to improve response efficiency, trust and organised incident management.

Image 6: A hog deer seen through a chrysalis lens on the way to the WTI center.

2.Research Design

Image 7: A One- Horned rhinoceros peacefully grazing in a forest.

2.1 Assessment Approach

The impact assessment of the WTI wildlife emergency response project adopted a mixed-method, outcome-oriented evaluation approach. It combined quantitative evidence from project-linked volunteers/PRT members with qualitative stakeholder insights and technical system review to assess changes in reporting behaviour, safe incident response practices, institutional coordination, and rescue outcomes. The assessment also included analysis of rescue MIS trends and structured facility observations to understand how clinical readiness and rehabilitation systems contribute to survival and release outcomes.

The design ensured triangulation across volunteer perspectives, Forest and veterinary stakeholder narratives, implementing team inputs, and observed facility readiness, enabling a balanced assessment of project contribution, operational effectiveness, sustainability, and the key constraints that influence continued impact in a flood-prone, conflict-sensitive landscape.

RESEARCH

- Review of available project documentation and project materials related to the WTI DRRM and wildlife emergency response intervention, including annual narratives, strategic planning documents and reporting formats.
- Review of quantitative survey tools and qualitative discussion guides (FGDs, KIIs, IDIs) used to capture volunteer/PRT experiences, institutional coordination and community-level response dynamics.
- Secondary review of project context for the Brahmaputra Valley landscape, including flood-linked wildlife displacement, human-wildlife conflict patterns and vulture-risk context to support interpretation of findings.
- Review of outcome pathways relevant to improved rescue outcomes, reporting and response systems, volunteer/PRT capacity, institutional coordination and safer community practices.

DEVELOPMENT

- Design of an impact assessment framework aligned to project objectives, expected outcomes and available evidence sources (rescue MIS, facility readiness, stakeholder insights).
- Development and refinement of quantitative and qualitative tools, including a volunteer/PRT awareness survey, FGD guides for conflict-prone communities and schools, and KII/IDI guides for the Forest Department, veterinary stakeholders, tea estate management and the implementing partner.
- Identification of outcome dimensions and indicators for rescue performance, response system effectiveness, preparedness and safe behaviour, harm-reduction practices and institutional strengthening.
- Development of SROI-aligned outcome pathways and proxy-linked questions to support interpretation of additionality, attribution, displacement and sustainability for key measurable outcomes where applicable.
- Validation of tools, indicators and stakeholder coverage with the client and implementing partner prior to field deployment.

ACTION (Field Engagement)

- Quantitative survey with project-linked volunteers and PRT members to capture awareness, engagement, reporting behaviour, confidence, safe response practices and perceived project contribution.
- Qualitative assessment through FGDs with conflict-prone communities and schools involved in awareness activities, and KIIs/IDIs with Forest officials, veterinary stakeholders, tea estate staff/managers and implementing teams to understand system change, coordination and barriers.
- Structured facility observations at key centres (Kaziranga and Tinsukia) to assess clinical readiness, quarantine/isolation, rehabilitation routines, staffing, medicines/equipment availability and hygiene/biosecurity practices.
- Triangulation of survey responses with qualitative stakeholder insights and field observations to validate outcome pathways and interpret change mechanisms.

DATA ANALYSIS

- Cleaning and analysis of quantitative survey data to assess engagement, preparedness, reporting behaviour, safe practices, perceived community change and constraints.
- Analysis of rescue MIS trends across the assessment period to assess caseload and outcomes (released, mortality, pending, transferred) and interpret performance changes over time.
- Comparative interpretation of facility readiness between centres and assessment of how infrastructure and staffing constraints influence treatment and referral pathways.
- Outcome mapping and attribution-oriented interpretation across key pathways, including rescue effectiveness, response timeliness, harm reduction, trust and coordination, and sustainability of volunteer/PRT capacity.
- SROI-oriented interpretation of key outcome pathways using respondent perceptions on additionality, attribution and sustainability, where relevant to the scope.

REPORTING AND COMMUNICATION

- Synthesis of quantitative findings, rescue MIS trends, facility observations and qualitative stakeholder insights into outcome-based assessment themes.
- Integration of stakeholder voices (volunteers/PRTs, Forest officials, veterinary actors, tea estates and implementing teams) to provide a triangulated interpretation of what changed and why.
- Preparation of performance snapshot, findings, key learnings, limitations and recommendations sections linked to project outcomes and operational realities.
- Draft report preparation and internal quality review for consistency, evidence alignment, and reporting accuracy.

2.2 Sampling Approach

The study adopted a mixed sampling strategy, combining purposive stakeholder selection and community-based perception sampling.

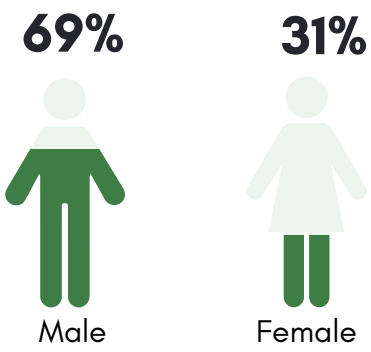
Methodology

Stakeholder / Cohort	Tools of Study	Achieved Sample Size
Local Youth & Volunteers	Awareness and Preparedness Survey	16 Surveys
Community Members in Conflict-Prone Areas	Focus Group Discussions (FGDs) and Key Informant Interview (KII)	2 FGDs + 4 KIIs
Tea Garden Staff and Managers	Key Informant Interviews (KII)	3 KIIs
Forest and Wildlife Rescue Team Members + primary response team		4 KIIs
Officials from forest department	In depth Interview	2 IDIs
Veterinary doctor		1 IDI
School Students / Teachers Involved in Vulture & Wildlife Awareness Activities	Focus Group Discussions (FGDs) KII (Teacher)	1 FGD and 2 KIIs
PRI	Key Informant Interviews (KII)	1 KIIs
Implementing partner		1 KII

2.3 Respondents Profile

Total respondents = 16

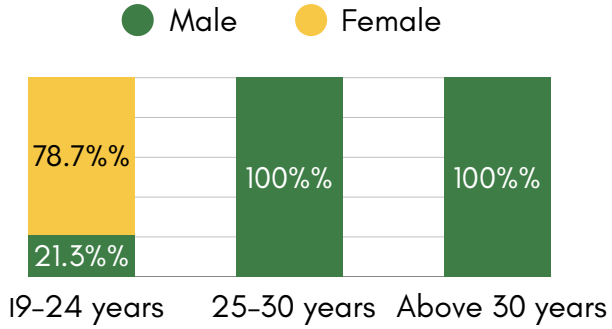
Gender Distribution



Age

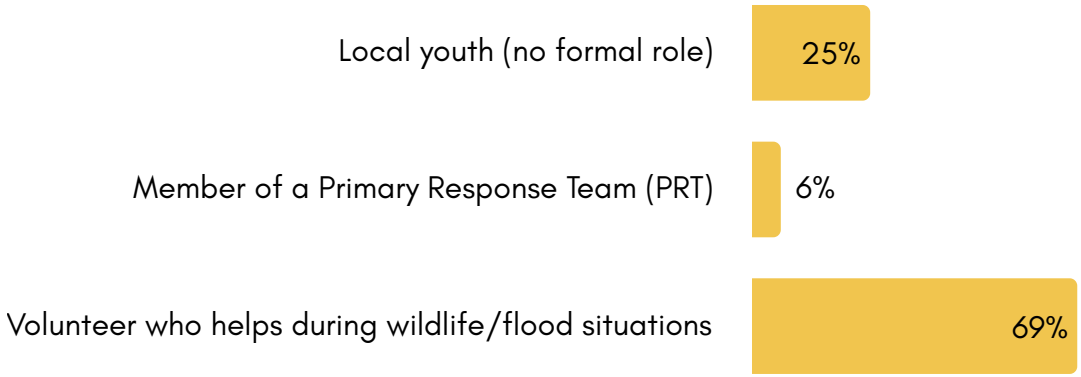
Graph 1: Illustrating the Age Distribution of Respondents

Gender Wise Age Distribution



Graph 2: Illustrating gender wise Distribution of Respondents

Main role in community



Graph 3: Illustrating the Primary Role in the Community During a Disaster

3: Study Findings

Image 8: A captivating photo of an owl perched at its resting spot in the center.

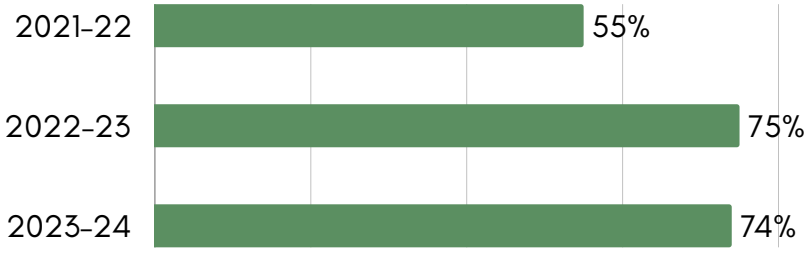
3.1 Rescue Outcomes Demonstrate Enhanced Survival Rates and Successful Reintegration of Rescued Wildlife.

Animal rescued	Year			
	2021-22	2022-23	2023-24	Grand Total
Animal Rescued	649	513	519	1681

Outcome	Year			
	2021-22	2022-23	2023-24	Grand Total
Under Care	19	8	11	2%
Died before intervention	62	33	28	7%
Died in captivity	193	80	92	22%
Escaped	5	4	-	1%
Released	358	385	386	67%
Transferred to other facilities	12	3	2	1%
Grand Total	649	513	519	1681

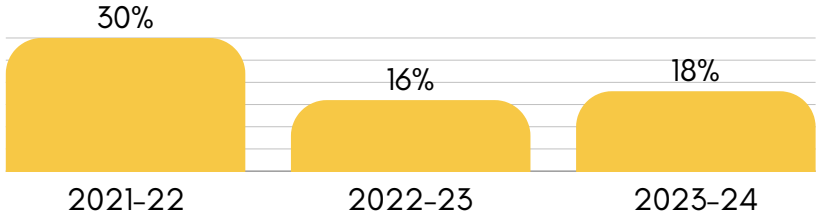
Total animals rescued: 1,681 (649 in 2021-22; 513 in 2022-23; 519 in 2023-24)

Release rate by year:



Graph 4: Displaying the annual release rate; please note that the figures have been rounded off.

Mortality (died in captivity) by year:



Graph 5: This graph illustrates the mortality rates by year. Please keep in mind that the figures have been rounded for clarity.

The project's rescue system shows successful outcomes, with **67% of rescued animals released** over the three-year period. The release rate improved markedly after 2021-22: **55% of animals were released in 2021-22**, rising to **75% in 2022-23** and remaining high at **74% in 2023-24**. In parallel, mortality reduced from **30% in 2021-22** to around **16%-18% in 2022-23 and 2023-24**. This pattern is consistent with improved response and rehabilitation effectiveness under the project, where faster rescue, better stabilisation and treatment linkage, and stronger rehabilitation pathways likely contributed to higher survival and release outcomes.

The improvement in release outcomes is consistent with frontline responders' descriptions of the project's shift toward **more scientific rescue handling and release decision-making**. During the KII with **Bidyat Bikash (IFS, Forest Range Officer, Kaziranga),** he said rescues are now done "in a proper scientific way" and releases are also "in a scientific way," and because of repeated awareness and stakeholder meetings "death has been minimized to a remarkable level."

This aligns with the operational context shared by the implementing team. **During KII with Dr. Bhaskar Choudhury (Chief Veterinarian, WTI),** he explained that Golaghat, Nagaon and other project locations sits in a floodplain landscape, and during flood or sudden high rainfall events, animals "migrate to higher grounds" and often "move into human habitats" and tea gardens—making rapid rescue and stabilisation a recurring need rather than a one-off event. This provides an important explanation for why the caseload remains high and why stronger rescue-to-release systems matter.

Dr. Saurobh Borgohain

(Veterinary Officer on deputation with the Forest Department, Golaghat), He said he is the "only veterinarian" for departmental responsibilities and therefore "has to take help from WTI" for technical manpower and equipment support—especially for complex handling and post-mortems. This directly supports the conclusion that CWRC acts as the advanced-care backbone of the system.

Image 9: Common Leopard enjoying a moment of relaxation at the center.

Image 10: Cage utilized for quarantine purposes

Image 11: Crate utilized for transporting carnivorous animals

3.2. Strong Clinical Readiness in CWRC with Opportunities to Strengthen Services in Tinsukia.

Facility readiness is rated on a Likert scale from 1 (Very Poor) to 5 (Excellent) based on observation.

Facility readiness parameter (Likert 1–5)	CWRC score	Tinsukia score	Observation basis
OT & advanced procedures	5	1	CWRC has OT with proper medicines/equipment; Tinsukia has no OT and treats on ground because it follows mobile veterinary service model; severe cases referred to CWRC
Quarantine / isolation setup	5	3	CWRC quarantine/isolation is proper; Tinsukia has quarantine/isolation but small
Rehab enclosures & care routine	5	4	Rehab enclosures and feeding schedule well-structured in CWRC; Tinsukia routine is good.
Staffing adequacy	5	2	CWRC has 2 vets + 10 animal keepers; Tinsukia has 1 vet + 1 volunteer
Medicines & equipment availability	5	4	CWRC has proper medicines and equipment; Tinsukia has medicines available but limited advanced setup
Hygiene / biosecurity practice	5	4	CWRC uses sanitisation before entry and foot sanitiser; Tinsukia follows hygiene practices too

Facility observations indicate that the project has established functional and well-structured clinical and rehabilitation systems, which contribute to the positive survival and release outcomes reflected in the rescue data.

CWRC demonstrates strong clinical preparedness, with a functional OT, adequate equipment and medicines, robust staffing support through 2 veterinarians and 10 animal keepers, and visible biosecurity practices. This level of preparedness enables timely management of complex wildlife cases and strengthens the quality and continuity of treatment and recovery support.

Tinsukia plays an important role in extending the project's reach in eastern Assam through its mobile veterinary service model. While it operates with a lean team and manages cases across a considerable distance of 257 km from CWRC, it has established quarantine and rehabilitation routines that support stabilisation and routine care effectively. The centre's linkage with CWRC further strengthens the referral pathway for higher-severity cases, ensuring that wildlife can access advanced care when needed.

This facility-level complementarity is an important operational strength within the impact narrative: the project has developed strong advanced care capacity at the primary hub, while the secondary centre expands geographic coverage and provides effective frontline stabilisation, routine care, and referral support across eastern Assam.

During the KII with Dr. Saurobh Borgohain (Veterinary Officer on deputation, Kaziranga), he said, "I'm the only veterinarian in the forest department... I always have to take help from CWRC," and linked this to responsibility for **~70 elephants** under the department. This supports the argument that CWRC capacity is not only a project asset but also a system-level support to departmental veterinary response.

During field observation, it was observed that CWRC follows visible hygiene and biosecurity measures (sanitisation before entry and foot sanitiser at entry), suggesting stronger risk management for disease and cross-contamination during rehabilitation—an enabling factor for better recovery outcomes.

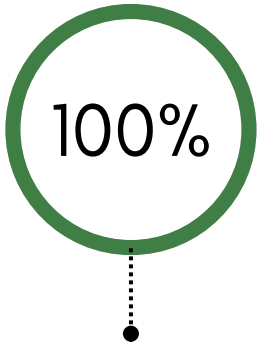
Image 12: CWRC Kaziranga

Image 13: Housing for Small Animals

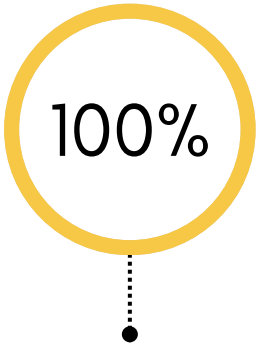
Image 14: Treatment Center for Small Animals at CWRC

3.3. Improved Community Reporting and Rapid Response to Wildlife Emergencies chains

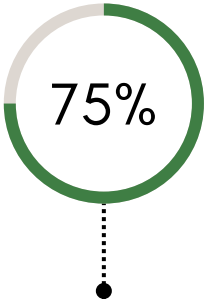
Data (Awareness Survey, n=16)



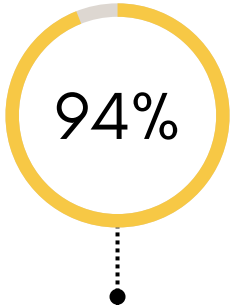
reported having WTI emergency number saved in their phone.



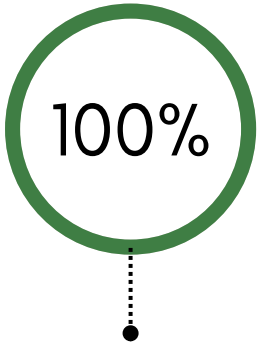
said their first action on seeing an injured/sick/trapped wild animal is to **call Forest Department/WTI**.



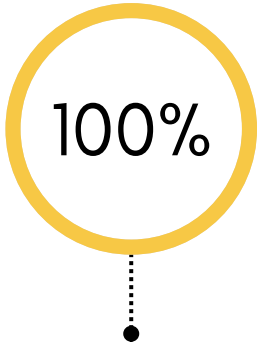
said they have personally called/informed authorities **more than once**, and **25% said** they have called **once**.



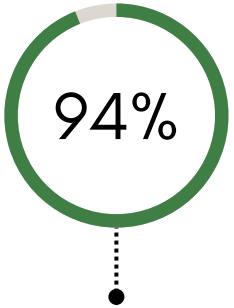
said they have helped inform others or called the helpline during emergencies.



said people in their village/tea estate **inform Forest/WTI quickly** and avoid harmful actions.



reported WTI reaches the spot within 30 minutes after being informed.



selected "People report wildlife emergencies faster than before" as a biggest change due to the project.

The findings indicate strong project impact in improving community awareness and response to wildlife emergencies. All respondents (100%) reported having the WTI emergency number saved and stated that their first action upon encountering injured or trapped wildlife is to inform the Forest Department/WTI. This reflects strong awareness of the correct reporting protocol and reduces the risk of unsafe community intervention.

Further, **75% of respondents reported informing authorities multiple times**, indicating that awareness has translated into active reporting behaviour. At the community level, **100% of respondents observed that people now inform authorities promptly and avoid harmful actions**, while **94% reported that wildlife emergencies are reported more quickly than before**, highlighting improved community responsiveness. Additionally, **all respondents stated that WTI teams typically reach the site within 30 minutes after being informed**, suggesting an effective linkage between community reporting and field response.

During the EDC and community rescue discussion, it was noted that a very high proportion of rescue calls come **directly from communities**, and that remote ranges rely on **local trained contacts** for escalation. This supports your quantitative evidence that volunteers are not only informed but also actively trigger the response system.

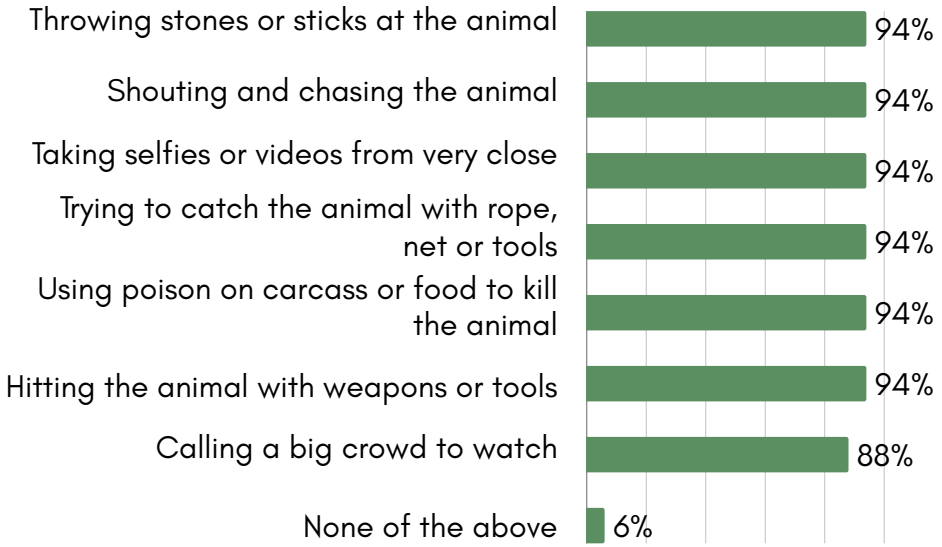
During the Human-Wildlife Conflict discussion with a volunteer, it was noted that information and coordination are often managed through **community WhatsApp groups** and PRT/response members, and that response time is typically around **half an hour**, extending up to **1-1.5 hours** in remote areas, depending on distance and access. This provides a grounded context for interpreting the "within 30 minutes" survey response and acknowledges terrain constraints.

Image 15: Community members and volunteers engaged in discussion.

3.4. Safer Incident Behaviour Strengthened and Harmful Practices Reduced.

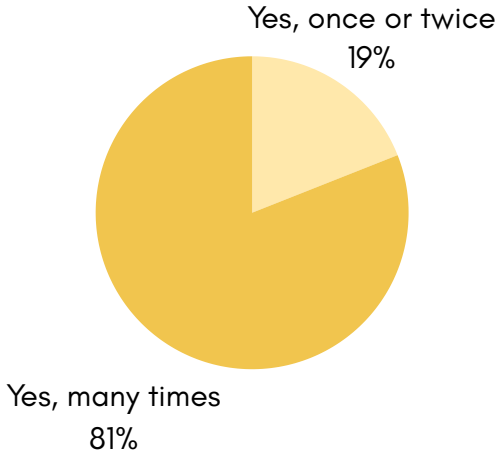
Data (n=16, multi-select)

When a wild animal is seen near houses or in the tea garden, which actions are UNSAFE or wrong in your opinion?



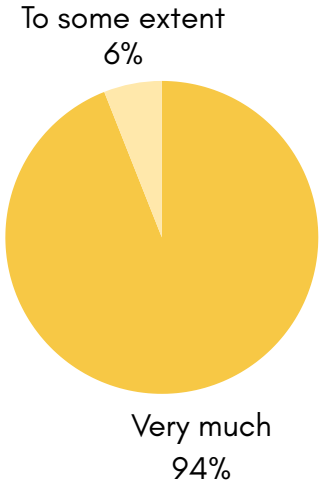
Data (n=16)

Have you ever taken any action to stop harmful behaviour by others during a wildlife incident? (for example, telling people not to throw stones, not to use poison, not to crowd around)



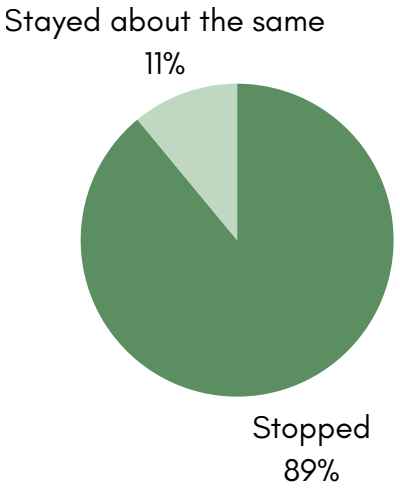
Data (n=16)

How much do you feel that this project (rescues, awareness meetings, trainings, etc.) has contributed to safer behaviour and fewer harmful actions towards wildlife in your area?



Data (n=16)

In your area, has poisoning, trapping or attacking wildlife (for example, using poison on carcasses, beating an animal, attacking leopards) in the last few years



Graph 6: The graph above illustrates the responses regarding how individuals treat animals and the reduction of harmful practices.

The survey indicates a strong shift away from harmful community responses during incidents. **94% of respondents said** that unsafe behaviours such as chasing, stone throwing, and close crowding are wrong, and **81% said** they have actively intervened many times to stop others from harmful actions. Importantly, respondents attribute these changes to the project: **94% said** it has contributed "very much" to safer behaviour and fewer harmful actions. In the only geography where poisoning was reported as a relevant risk (Tinsukia), the pattern is particularly clear: **89% of respondents in Tinsukia said** such harmful practices have decreased. This provides location-specific evidence that the project's awareness, volunteer mobilisation, and incident management mechanisms are contributing to a reduction in harmful practices in high-risk settings.

During the FGD with school students, it was noted that a positive change is visible among community members and children—"killing animals is wrong" is increasingly internalised, and injured animals are more likely to be reported for rescue and primary treatment. This aligns with your quantitative pattern: unsafe actions (including poisoning) are widely recognised as wrong, and volunteers frequently intervene to stop harmful behaviour.

During the discussion with community members, it was noted that awareness sessions explicitly promote non-provocative responses (avoiding loud drums/crackers and panic behaviours) and emphasise calling formal response teams instead of community chasing/attacking. This supports the behavioural pathway behind reduced harmful practices.

Image 16: Monkeys wandering around residential areas

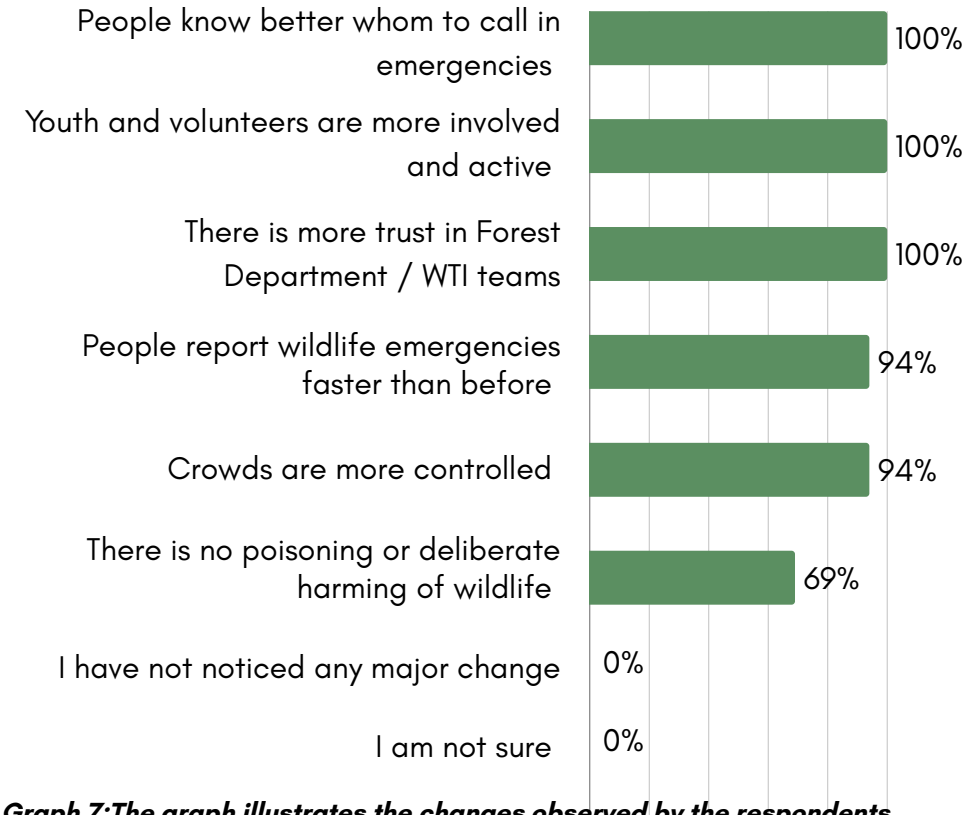
Image 17: Transport crates for One-Horned Rhinoceros at CWRC, Kaziranga.

Image 18: Forest department patrolling boat.

3.5. Program Strengthened Trust and Established a More Organised Wildlife Emergency Response System

Data (n=16, multi-select)

From your experience, what is the biggest change you have noticed in your village/tea estate because of this project?



Graph 7:The graph illustrates the changes observed by the respondents.

Respondents consistently describe project impact as a shift towards an organised, trust-based response system. **100% of respondents said** trust in Forest Department and WTI teams has increased, and that people know whom to call, indicating a stronger legitimacy of formal responders and clearer escalation pathways. **94% of respondents said** reporting is faster and crowd control is better, suggesting improvements not only in awareness but also in real-time incident management. These results align with the project's pathway of change: community sensitisation and volunteer/PRT engagement strengthen trust, which supports quicker reporting and more controlled situations, reducing the likelihood of panic-driven harmful actions.

During the veterinary KII (Dr. Saurabh), he described routine dependence and coordination with CWRC for technical and medical support, reinforcing that trust is operational (based on practical support during incidents) and not only perception.

Bidyat Bikash

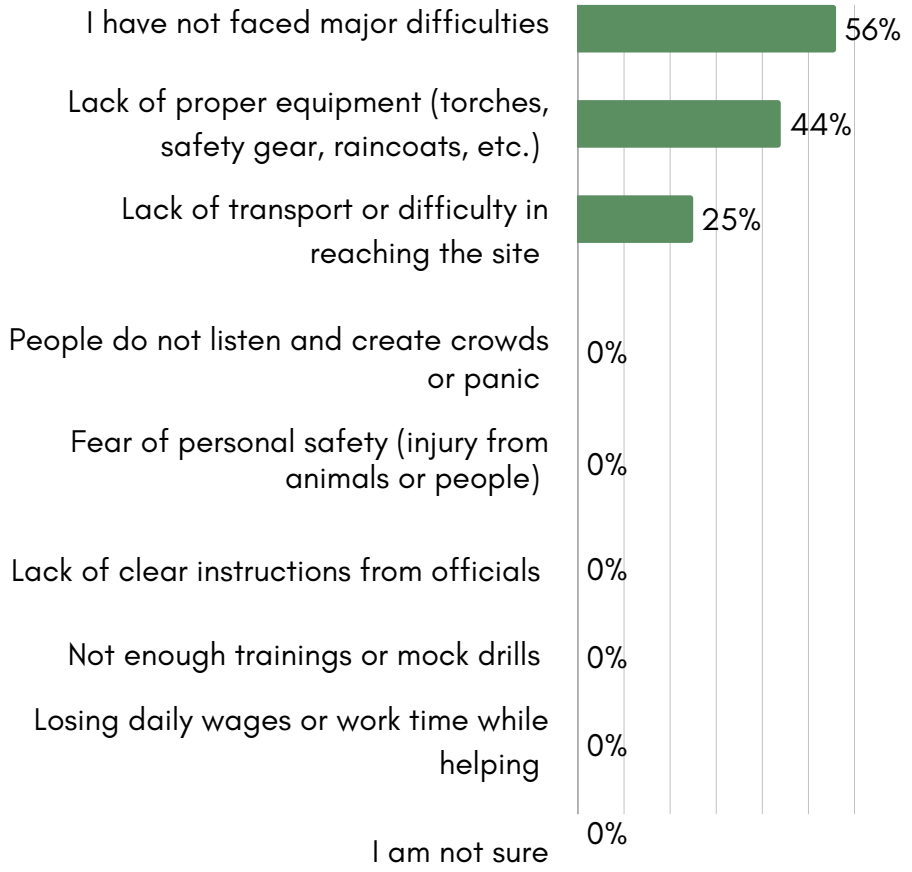
(Forest Range Officer, Kaziranga) "

We don't see WTI as a different entity... WTI is part of our conservation effort."

3.6. High Volunteer Readiness with Opportunities to Strengthen Equipment and Mobility Support

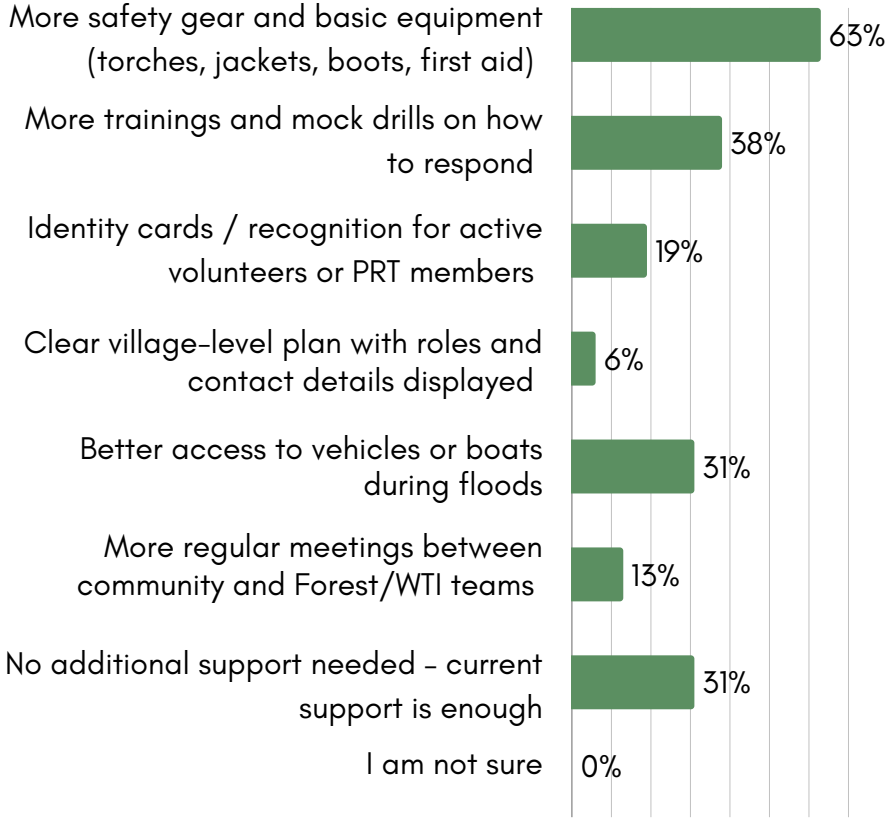
What is the biggest difficulty that youth or volunteers still face while helping in wildlife or flood-related emergencies?

Data (n=16, multi-select)



What additional support would help youth and volunteers respond better in future wildlife or flood emergencies?

Data (n=16, multi-select)



Graph 8: The graph above illustrates the challenges that volunteers encounter and the support they need.

The remaining constraints appear to be practical enabling factors rather than behavioural barriers. 56% of respondents said they face no major difficulties, consistent with the high preparedness, confidence, and active participation reflected in earlier findings. Where gaps exist, they are operational: 44% of respondents said a lack of equipment, and 25% said transport limitations, affect their ability to support incidents. The support priorities further reinforce this: 63% of respondents said basic safety gear is needed, and 31% said better access to vehicles or boats would help during floods. Importantly, none of the respondents identified issues such as unclear instructions, fear, or lack of training as their greatest difficulty, indicating that the project has largely addressed knowledge and role clarity, and that further gains will come from strengthening field enablement.

During the discussion with volunteers, it was explicitly noted that safety equipment, such as jackets, boots, and gloves, is required for safer response and field operations, and that improved access to vehicles/boats during floods is requested. It was highlighted that distance and terrain can stretch response time beyond the ideal window, reinforcing why mobility and local enabling inputs matter, even when awareness and willingness are high.

During the field visit, it was observed that Tinsukia operates with limited staffing and lacks OT capacity, reinforcing the need to strengthen peripheral centres and responder enablement to reduce dependence on a single hub.

3.7. Project Training Identified as the Primary Driver of Skills, Confidence, and Safety Improvements

Data (n=16)

If this project had not trained or involved you, how likely is it that you would still have gained similar skills and confidence to handle wildlife and flood incidents from some other source?

100%

Very unlikely

Who has contributed to your current ability to handle wildlife and flood incidents safely?

100%

Training through this project

If this project had not been in your area, what do you think would have happened to the improvements in safety and reduced losses during wildlife and flood situations for your household?

100%

Most of these improvements would not have happened without this project

The responses present a very strong narrative of the project's contribution. 100% of respondents said their skills and confidence are attributable to project training, and 100% of respondents said these capabilities are very unlikely to have been developed through other sources. Similarly, 100% of respondents said that safety and loss-reduction improvements would not have happened without the project, and 100% said no other actor contributed meaningfully. For impact assessment reporting, this provides a clear beneficiary-perceived attribution.

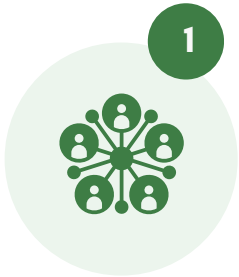
During Forest and veterinary KIIs, respondents describe WTI support as integrated into departmental response. This supports high project attribution, but it also implies that Forest Department roles and enabling actions remain structurally important (permissions, field control, frontline deployment), even if volunteers perceive WTI as the primary driver.

Image 19: Volunteers Engaged in Discussion

4: Analysis using Evaluation Frameworks

This chapter evaluates the intervention using the OECD-based evaluation criteria, Social Return on Investment (SROI), and its alignment with the Sustainable Development Goals (SDGs) and relevant national and state policy directions on disaster risk reduction and biodiversity conservation. Drawing on the volunteer/PRT survey findings, rescue MIS trends, qualitative stakeholder insights (Forest Department, veterinary stakeholders, tea estates and implementing teams), and facility observations from CWRC and Tinsukia, the analysis assesses the project's relevance, effectiveness, institutional coherence and coordination, broader impact pathways, sustainability, and overall value creation.

4.1 OECD DAC Framework (Relevance, Effectiveness, Efficiency, Coherence, Impact and Sustainability)



Relevance

The intervention is highly relevant to the Brahmaputra Valley context, where seasonal flooding and landscape-level wildlife movement routinely create wildlife emergencies and conflict situations at the interface of protected areas, tea estates, and fringe villages. The assessment indicates that the project operates in a setting where rapid rescue, stabilisation, and safe incident management are not occasional needs but recurring necessities. This makes the project contextually relevant, as it addresses a visible and persistent risk that affects both wildlife welfare and community safety.

The project design also demonstrates practical relevance by treating wildlife emergency response as a systems challenge rather than only a rescue activity. Through volunteer and PRT mobilisation, awareness activities, and structured coordination with the Forest Department, the project strengthens the real-life chain of response: early reporting, safe first response, clinical care, rehabilitation, and release. This aligns well with the operational realities of disaster-linked wildlife displacement in Assam.

Effectiveness

The project shows strong effectiveness in improving rescue outcomes and strengthening response readiness. Rescue MIS data indicate that **67% of rescued animals were released** over FY 2021-22 to FY 2023-24, with release rates improving from **55%** in FY 2021-22 to around **75%** in FY 2022-23 and FY 2023-24, alongside a reduction in mortality from **30%** to around **18%** in later years. This suggests improved rescue-to-release performance over time.

Effectiveness is also evident in strengthened community-linked response behaviour among project-engaged volunteers and PRT members. The awareness survey indicates high preparedness and adherence to escalation norms, including consistent use of emergency contacts and a preference for formal response pathways.

Efficiency

The project reflects an efficient delivery model by combining community-linked reporting mechanisms with centralised clinical capability. The volunteer/PRT network reduces response delays by improving early reporting and first-response actions, while CWRC's stronger clinical hub enables treatment, rehabilitation, and release at scale. This integration supports operational efficiency by reducing the time and risk associated with unmanaged incidents, unsafe crowd behaviour, and delayed rescues.

Coherence

The project shows strong internal coherence between its objectives and its implementation components. Rescue operations, volunteer and PRT capacity building, awareness activities, and institutional coordination mechanisms reinforce each other and collectively support the desired outcomes: safer incident management, faster reporting, better treatment and rehabilitation, and improved release outcomes. The facility model is coherent with the geography and case complexity, enabling high-severity cases to be managed where advanced capacity exists.

The intervention also demonstrates broader coherence with state and national priorities in disaster risk reduction, biodiversity conservation, and human-wildlife conflict management. Its emphasis on coordinated emergency response, safer community practices, and strengthened institutional readiness aligns with the direction of disaster preparedness and wildlife conservation planning in flood-prone landscapes.

Impact

The assessment indicates meaningful impact across both wildlife and system dimensions. For wildlife outcomes, improved release rates and reduced mortality over time suggest stronger survival and rehabilitation pathways. At the system level, the project contributes to improved reporting behaviour and safer incident response among volunteers and PRT members, supporting reduced harmful actions and more organised incident handling, particularly in high-risk contexts such as Tinsukia, where harmful practices have reportedly decreased.

The project's broader value extends beyond individual rescues. It strengthens the response ecosystem by building trust in formal responders, reinforcing safer behavioural norms, and supporting coordination among WTI, Forest Department staff, and community-linked actors. While longer-term ecological impacts (population-level recovery) require separate ecological monitoring, the project's impact on survival, harm-reduction practices, and response-system strengthening is clearly evidenced by mixed sources.

Sustainability

The project demonstrates promising sustainability in terms of knowledge, reporting norms, and first-response capability among project-engaged volunteers and PRT members. Survey evidence suggests that responders expect to continue using skills over the coming years, and many anticipate that safer behaviour and response practices will persist for multiple years, even if external support decreases. This indicates a foundation of behavioural and institutional readiness that can persist.

However, sustainability remains conditional on enabling factors and distributed capacity. The dependence on CWRC for advanced procedures and the limited staffing and infrastructure at Tinsukia represent a risk to sustained performance in eastern Assam, especially during peak flood periods when caseloads surge. Strengthening secondary-centre capacity, ensuring responder equipment and mobility, and institutionalising coordination mechanisms with the Forest Department will be key to sustaining and scaling impact across the landscape.

4.2 Alignment with SDG

SDG	Relevant Target	Project Contribution based on this project findings
	**Target 3.d** Strengthen capacity for early warning, risk reduction and management of health risks	By promoting safer behaviour during incidents and discouraging harmful practices, the project contributed to reducing community risk and potential injury. The survey indicates strong rejection of unsafe actions and frequent intervention by volunteers to stop harmful crowd behaviour, supporting safer emergency management.
	**Target 11.5** Reduce impacts of disasters, including loss of life and people affected	The project strengthened community-linked response through volunteers/PRTs. The awareness survey shows **100%** of respondents saved emergency contacts and would call Forest/WTI first, supporting faster reporting and safer incident handling, which reduces risk of injury during wildlife/flood emergencies.
	**Target 13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters	The intervention strengthened disaster-linked wildlife emergency response in a flood-prone landscape. Improvements in rescue outcomes and clinical readiness at the primary hub indicate stronger capacity to respond to climate-related wildlife displacement and distress during flood events.

SDG	Relevant Target	Project Contribution based on this project findings
	**Target 15.5** Take action to reduce degradation of natural habitats and halt biodiversity loss	The project contributed to improved wildlife survival outcomes through strengthened rescue, treatment, rehabilitation, and release systems.

Image 20: The Chrysalis team, alongside the Forest Department, volunteers and WTI team, captured by the HCLF team.

SROI:

Stakeholders	Outcome	Deadweight (%)	Displacement (%)	Attribution (%)	Drop-off (%)
Community households in conflict-prone villages and tea estates	Reduced household losses and safety risk during wildlife and flood incidents through faster reporting and safer incident handling	10% improvement may have occurred anyway through routine Forest presence, general awareness, and local coping practices, even without the project	5% minor displacement risk as some issues may shift to nearby areas or some households may face minor additional restrictions; not strongly reported	10% attributed to Forest Department actions, tea estate management measures, and broader awareness influences beyond the project	20% behaviour and preparedness may weaken over time without refreshers and continued coordination support
Local youth, volunteers and Primary Response Team members	Increased skills confidence and preparedness to respond safely and prevent harmful crowd behaviour	15% some skills would have improved anyway through experience or informal learning, but the structured training component adds clear additionality	5% small time and opportunity cost trade-off for volunteers (some reported reduced time/energy)	10% contribution from Forest staff guidance, prior experience, and local leadership support in addition to project training	15% skills and response quality may reduce gradually without refresher trainings and continued engagement
Tea garden management and company system	Fewer work disruptions and safer handling of wildlife incidents through improved coordination and response protocols	10% some improvements could occur through internal estate safety systems and routine operations even without project inputs	10% small displacement possible if time/resources shift from other estate priorities during incidents	5% shared contribution from estate management SOPs and Forest enforcement/response alongside project support	20% practices may drop off if SOP reinforcement and joint coordination meetings are not continued
Forest Department staff and response system	Improved institutional capacity and coordinated wildlife disaster response through CWRC technical backbone and joint operations	15% some capacity improvement would occur through normal departmental processes and experience	5% small displacement through added coordination/reporting load impacting other duties	10% major shared attribution with Forest Department leadership, policies, and operational authority that enable response systems	10% institutionalised SOPs typically decay slower but may reduce without continued technical support and refreshers
Wild animals and scavengers including vultures	Increased survival and safe release outcomes and reduced risk from mishandling and harmful practices	10% rescues would happen anyway through Forest rescue pathways	Saving an animal does not “shift harm” to another group in a measurable way	20% shared contribution with Forest response actions and broader enabling context besides project	0% “Animal saved and released” is a one time outcome and does not decay year on year.

Outcome	Financial Proxy (In INR)	Reason for assigning the value
Reduced crop and livestock loss, reduced injuries and deaths, reduced workdays lost and disruption, lower fear and stress during incidents	25,000	Avoided household cost using Govt ex-gratia norm for human wildlife conflict: use the minor injury treatment cost cap as a conservative proxy for "avoided emergency treatment and associated out of pocket costs" per incident
Increased skills, confidence and preparedness to manage incidents, increased social capital and recognition, reduced personal risk when responding	1,500	Replacement cost of certified first aid training for community responders (training and examination fee per candidate)
Fewer work stoppages and production losses during incidents, fewer worker injuries and compensation claims, reduced reputational and compliance risk	7,500	Opportunity cost of disruption using Assam plantation minimum wage as a conservative proxy per worker day affected Rs 250/ day, as per the respondents min 30 days work loss (=250*30)
Increased capacity and confidence for wildlife disaster response, better SOPs and coordinated response, reduced field level conflict and staff risk	3,000	Replacement cost of formal DRR capacity building using NIDM e learning course fee per staff
Increased survival and safe release of rescued animals, reduced mortality from poisoning, mishandling, mobbing and flood events, reduced risk to vulture populations from NSAIDs	31,232	Replacement cost of basic safe capture and handling kit required for wildlife rescue operations (₹25,000 tranquiliser dart gun + ₹3,000 animal catcher net + ₹3,232 rescue transport stretcher)

Particulars	Amount in INR
Total present value	4,50,10,172
Total input value	1,09,69,786
Net Present Value (Total present value - Total input value)	3,40,40,386
SROI Ratio (Total present value/total input value)	4.10

The ratio shows that each unit of currency invested by HCLF through Wild Life Trust of India for the project has generated 4.10 units worth of socio-economic value for stakeholders.

Recommendations

Future strengthening should focus on distributed capacity and field enablement. Priorities include upgrading Tinsukia's clinical readiness and staffing, formalising triage and referral protocols, and providing responders with safety kits.

Improve mobility support for rapid response by providing a well-equipped **AC field vehicle** for the rescue team and veterinarians. Long travel in heat and poor road conditions leaves the team exhausted before reaching the site, which affects alertness, efficiency, and overall quality of response and treatment.

Institutionalise the reporting and coordination chain by displaying emergency contacts/roles locally and maintaining active coordination groups with clear escalation steps.

Caption:

Conclusion

What changed

- The project strengthened wildlife emergency response outcomes and local response systems in the Brahmaputra Valley. Rescue MIS is associated with improved end outcomes over time, with higher release rates and lower mortality in later years. At the system level, volunteers and PRT-linked responders reported greater preparedness, clearer escalation behaviour (calling Forest/WTI first), faster reporting, and better incident-handling norms, including discouraging unsafe actions. Facility observations also indicate that CWRC functions as a strong clinical hub with structured OT readiness, quarantine/isolation, rehabilitation routines, staffing, and biosecurity practices, while Tinsukia provides basic care but relies on CWRC for severe cases.

Why it matters

- These changes matter because timely rescue, stabilisation, and safe release directly reduce wildlife suffering and mortality in a flood-prone, conflict-sensitive landscape. Strong reporting chains and safer first-response practices reduce panic-driven incidents, improve crowd control, and lower risk of injury to both people and responders. Institutional coordination between WTI and the Forest Department strengthens overall disaster readiness and builds a more reliable system to manage recurring wildlife emergencies, protecting biodiversity and supporting safer coexistence at the human-wildlife interface.

What remains to be addressed

- Volunteer and first-response effectiveness is constrained by practical enabling factors, such as safety gear and mobility, particularly during floods. While harmful practices were reported to have reduced in high-risk pockets, continued reinforcement is needed in those areas.

Strategic way forward

- Future strengthening should focus on distributed capacity and field enablement. Priorities include upgrading Tinsukia's clinical readiness and staffing, formalising triage and referral protocols, and providing responders with safety kits and reliable mobility support (including a well-equipped AC field vehicle to reduce fatigue and improve performance in long-distance deployments). The project should institutionalise coordination mechanisms with clear escalation pathways and regular joint planning with Forest officials, tea estates, and community structures.

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All images taken in the report are captured either by Chrysalis Services team, HCLF and Implanting Partner.