

Template/Pro forma for Submission

NMHS-Himalayan Institutional Project Grant

NMHS-FINAL TECHNICAL REPORT (FTR)

Demand-Driven Action Research and Demonstrations

NMHS Grant Ref. No.:	GBPNI/NMHS-2017-18/MG32/624
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Date of Submission:	0	7	0	8	2	0	2	3
	d	d	m	m	y	y	y	y

PROJECT TITLE

**CHARACTERIZATION OF COMMUNITY RESERVES AND
ASSESSMENT OF THEIR CONSERVATION VALUES IN
MEGHALAYA**

Project Duration: *from* (01.04.2018) *to* (31.01.2022).

Submitted to:

Er. Kireet Kumar

Scientist 'G' and Nodal Officer, NMHS-PMU

National Mission on Himalayan Studies, GBP NIHE HQs

Ministry of Environment, Forest & Climate Change (MoEF&CC), New Delhi

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Submitted by:

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GENERAL INSTRUCTIONS:

1. The Final Technical Report (FTR) has to commence from the start date of the Project (as mentioned in the Sanction Order issued by NMHS-PMU) till completion of the project duration. Each detail has to comply with the NMHS Sanction Order.
2. The FTR should be neatly typed (in Arial with font size 11 with 1.5 spacing between the lines) with all details as per the enclosed format for direct reproduction by photo-offset printing. Colored Photographs (high resolution photographs), tables and graphs should be accommodated within the report or annexed with captions. Sketches and diagrammatic illustrations may also be given detailing about the step-by-step methodology adopted for technology development/ transfer and/ or dissemination. Any correction or rewriting should be avoided. Please provide all information under each head in serial order.
3. Any supporting materials like Training/ Capacity Building Manuals (with detailed contents about training programme, technical details and techniques involved) or any such display material related to project activities along with slides, charts, photographs should be brought at the venue of the Annual Monitoring & Evaluation (M&E) Workshop and submitted to the NMHS-PMU, GBP NIHE HQs, Kosi-Katarmal, Almora 263643, Uttarakhand. In all Knowledge Products, the Grant/ Fund support of the NMHS should be duly acknowledged.
4. The FTR Format is in sync with many other essential requirements and norms desired by the Govt. of India time-to-time, so each section of the NMHS-FTR needs to be duly filled by the proponent and verified by the Head of the Lead Implementing Organization/ Institution/ University.
5. Five (5) hard-bound copies of the Project Final Technical Report (FTR) and a soft copy of the same should be submitted to the **Nodal Officer, NMHS-PMU, GBP NIHE HQs, Kosi-Katarmal, Almora, Uttarakhand.**

The FTR is to be submitted into following two (02) parts:

Part A – Project Summary Report

Part B –Detailed Project Report

In addition, the Financial and other necessary documents/certificates need to be submitted along with the Final Technical Report (FTR) as follows:

Annexure I	Consolidated and Audited Utilization Certificate (UC) & Statement of Expenditure (SE) , including the interest earned for the last Fiscal year and the duly filled GFR-19A (with yehigh-resolutionp).
Annexure II	Consolidated Interest Earned Certificate
Annexure III	Consolidated Assets Certificate showing the cost of the equipment in Foreign/ Indian currency, Date of Purchase, etc. (with break-up as per the NMHS Sanction Order and year wise).
Annexure IV	List of all the equipment, assets and peripherals purchased through the NMHS grant with current status of use, including location of deployment.
Annexure V	Transfer of Equipment through Letter of Head of Institution/Department confirming the final status of equipment purchased under the Project.
Annexure VI	Details, Declaration and Refund of any Unspent Balance transferred through Real-Time Gross System (RTGS)/ PFMS in favor of NMHS GIA General

NMHS-Final Technical Report (FTR)
Demand-Driven Action Research Project

DSL: Date of Sanction Letter

2	8	0	3	2	0	18	
d	d	m	m	y	y	y	y

DPC: Date of Project Completion

3	1	0	1	2	0	2	2
d	d	m	m	y	y	y	y

Part A: Project Summary Report

1. Project Description

i.	Project Grant Ref. No.:	GBPNI/NMHS-2017-18/MG32/624					
ii.	Project Category:	Small Grant		Medium Grant	✓	Large Grant	
iii.	Project Title:	Characterization of Community Reserves and Assessment of their Conservation Values in Meghalaya					
iv.	Project Sites (IHR States/ UTs covered) (Location Maps attached):	Meghalaya					
v.	Scale of Project Operation:	Local	✓	Regional		Pan-Himalayan	
vi.	Total Budget:	2.87. (in Cr)					
vii.	Lead Agency:	Salim Ali Centre for Ornithology and Natural History(SACON)					
	Lead PI/ Proponent:	Dr. P V Karunakaran					
	Co-PI/ Proponent:	Dr. H.N. Kumara Dr. S. Babu					
viii.	Implementing Partners:	Salim Ali Centre for Ornithology and Natural History (SACON)					
	Key Persons (Contact Details, Ph. No., E-mail):	Dr. P V Karunakaran Salim Ali Centre for Ornithology and Natural History Anaikatty PO, Coimbatore, Tamil Nadu 641108 Phone: 9488115231 Email: karunakaran.pv@gmail.com					

2. Project Outcomes

2.1. Abstract/ Summary (not more than 250-300 words)

The creation of Community Reserves (CRs) recognized the numerous efforts by local communities, individuals and institutions on conservation of biological diversity. A perusal of the literature indicated that characterization and assessment of conservation value (incorporating both biological and social) of the Community Reserve in the State of Meghalaya has seldom been attempted and any information generated would be highly useful for the management of this network of People managed Protected Area Network. With this background, our study was designed to Identify, characterize and map the landscape elements and its components (flowering plants, mammals, birds, and herpetofauna) of each community reserves in Meghalaya and asses its conservation values, based on identified biological, social and cultural attributes (criteria), identify and characterise the key community institutions and other stakeholders who have a crucial role in the current system of natural resource management in the CRs, conduct an analysis of various management issues/threats/challenges related to conservation and livelihood opportunities its intensity and spatial occurrence and develop a comprehensive conservation plan in consultation with the local communities for each community reserves.

We conducted more than three-year field-based studies in 33 Community reserves spread across Khasi, Jaintia and Garo Hills of the Meghalaya state from April 2018 to January 2022. We created spatial data of each CRs, and sampled different indicator taxa such as flowering plants, amphibians, reptiles, birds and mammals using standard sampling techniques. We also documented human ecological aspects of each CRs using participatory approaches such as focal group discussions and household interviews. We conducted awareness programmes. We characterized the CRs based on the physical, biological and human ecological information and assessed the conservation value of each CRs based on attributes derived from the above information. We developed a biodiversity database based on the information generated from the survey and inputs from local communities. Finally, we prepared conservation plan for each CRs incorporating the information generated through field sampling and analysis.

Our results showed that CRs exhibit a complex physiognomy and retain rich biodiversity and acts as a refuge for many conservation important species. Our analysis showed that most of the CRs hold high conservation values contributed by physical, biological and human ecological attributes. Although the CRs are embedded in a human-dominated landscape, they provide habitats for various critical conservation status species. Apart from biological diversity CRs also support other ecosystem services, especially providing fresh water to the local communities and livelihood in the form of ecotourism. We created awareness and perspective changes to the Management Committees of each CRs during the process. We developed baseline data biodiversity and spatial attributes for 33 CRs across the State. Finally, the project also assessed the conservation values of each CRs and prepared a brief conservation plan for 33 Community reserves. Considering the conservation values and ecosystem services of these PAs higher degree of involvement of the District Autonomous Council and Forest Department is required for the effective management of these People Managed Protected Area Network.

2.2. Objective-wise Major Achievements

S#	Objectives	Major achievements (<i>in bullets points</i>)
1	Identify, characterize and map the landscape elements and its components (flowering plants, herpetofauna, birds and mammals) of each community reserves in Meghalaya and asses its conservation values, based on identified biological, social and cultural attributes (criteria).	<ul style="list-style-type: none"> • 33 Community Reserves (PAs) studied <ul style="list-style-type: none"> ○ Spatial database with basic thematic layers prepared ○ Baseline information on Flowering plants, Amphibians, Reptiles, Birds and Mammals Collected ○ Many endemic and conservation-significant species were recorded from the Community Reserves. ○ This includes slow loris, Chinese pangolin, leopard, clouded leopard, marbled cat, ○ 4-5 new species (analysis going on) of amphibians recorded ○ One Manuscript under review ○ We derived 47 criteria for assessing the conservation values ○ 33 community reserves were categorized into three classes based on conservation values derived using above indicated 47 criteria
2	Identify and characterize the key community institutions and other stakeholders who have a crucial role in the current system of natural resource management in the community reserve	<ul style="list-style-type: none"> • The community institutions of 33 Community Reserves were identified • Information on their ethnic identity, dependency/interaction with community reserves were studied • Awareness programmes conducted for all the Community Reserve Management Committees and in select villages on the importance of conservation and sustainable utilization of natural resources.
3	Conduct an analysis of various management issues/threats/challenges related to conservation and livelihood opportunities its intensity and spatial occurrence	<ul style="list-style-type: none"> • SWOT analysis conducted in consultation CR Management Committees • Livelihood dependency with CR has been elucidated

4	Develop a comprehensive conservation plan in consultation with the local communities for each community reserves	<ul style="list-style-type: none"> • We are preparing comprehensive plan for 33 Community Reserves (<i>in progress</i>) • Consultations with Community Reserve Management Committees have been carried out • Consultation with select Autonomous District Council has been carried out
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Note: Further details may be summarized in DPR Part-B, Section-5. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

2.3. Outputs in terms of Quantifiable Deliverables*

S#	Quantifiable Deliverables*	Monitoring Indicators*	Quantified Output/ Outcome achieved	Deviations, if any, & Remarks thereof:
1	<ul style="list-style-type: none"> • Spatial database of all the studied Community Reserves in Meghalaya with information on key biological elements (flowering plants, mammals, birds, herpetofauna); 	<ul style="list-style-type: none"> • No. of New Database/ Datasets/ Maps generated on Spatial database of Community Reserves in Meghalaya; Conservation value maps; 	<ul style="list-style-type: none"> • Spatial Data base (with thematic layers on administrative boundary, drainage, road, landuse land cover) for 33 community reserve have been prepared • Biodiversity database of the following taxa prepared for 33 Community Reserves • Flowering Plants – Scientific name, family, local name, endemism, IUCN status, Schedule as per Wildlife (P) Act, Appendices as per CITES, Resource Value (Timber, Medicinal, Ornamental, NWFP & Fodder • Fauna (Amphibians, Reptiles, Birds & Mammals) – Scientific name, common name, endemism, IUCN status, Schedule as per Wildlife (P) Act, & Appendices as per CITES • Human ecological attributes of 33 Community Reserves – • Administrative- Name of district, block, villages(s), klan, language spoken & religion, • Values- sacredness, aesthetic, cultural & ritual • Management – women’s participation 	

	<ul style="list-style-type: none"> • Conservation value maps of each Community Reserves 	<ul style="list-style-type: none"> • Conservation Plan for each Community Reserve 	<ul style="list-style-type: none"> • Policy framework/ draft (No.) on Comprehensive conservation 	<ul style="list-style-type: none"> • Resource dependency- Cultivation, drinking water, Fishing, Timber, Fodder, NWFP, Hunting • Policy support- WPA & ADCP • Financial support- MFD & ADC • We assessed the conservation value of 33 CRs using 47 criteria derived from the above database and a map has been prepared • Conservation Plan for 33 CRs under preparation. • Since field interventions are not part of the project, the CR which has a higher Conservation Value (..No) could be considered as the field-based best model • 33 Consultation meetings with Community Reserve Management Committee (260 people) • Two awareness programs for village people (70 each participant) • We trained around 200 individuals of the local community from the three Hill ranges specifically on 	<ul style="list-style-type: none"> • Initially we planned to prepare this map at landscape element (habitat) wise but since the majority (60%) of CRs are smaller in size (20ha>) we could not prepare the CV map with respect to landscape element as desired. • Due to Covid related travel restrictions stakeholder consultation was
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<ul style="list-style-type: none"> • Development of field-based conservation models for selected reserves in each district of Meghalaya 	<p>plan for selected community reserves; etc</p> <ul style="list-style-type: none"> • No of Field-based conservation models; • No. of Training or workshops conducted, including No. of Stakeholders benefitted • Other Publications and Knowledge Products (Nos.). 	<p>scientific documentation of biodiversity</p> <ul style="list-style-type: none"> • We provided academic support to 5 MSc dissertations and one Ph.D.D student in the project where they contributed substantially to the information on Community Reserves • Popular articles (2 Newsletter article) • Peer reviewed articles (9 published; three under review) • Oral and poster presentation in National (Man and Biosphere Programme; Zoological Survey of India, Shillong) and international conference (IALE 2023 World Conference, Nairobi, Kenya; International Primatological Society Congress, Malaysia; 12th Asian Raptor Research and Conservation Network Symposium, Malaysia and ATBC 2023 Annual Conference at Coimbatore India) 	<p>limited to Community Reserve Management Committee</p> <ul style="list-style-type: none"> • Due to Covid related restrictions on travel and gathering, we could not organize more awareness programmes
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*As stated in the Sanction Letter issued by the NMHS-PMU.

2.4. Strategic Steps with respect to Outcomes (in bullets)

S#	Particulars	Number/ Brief Details	Remarks/ Attachment
1.	New Methodology/ Technology developed, <i>if any:</i>	Assessment of Conservation values with physiographic, biological and socio-ecological attributes	

S#	Particulars	Number/ Brief Details	Remarks/ Attachment
2.	New Ground Models/ Process/ Strategy developed, <i>if any</i> .	The identified Community Reserve with high Conservation Value will be a field-based model to demonstrate joint management in a tribal dominated landscape of the North eastern region.	-
3.	New Species identified, <i>if any</i> :	Presumed to be 4 (genetic analyses yet to be completed for three species)	One manuscript submitted
4.	New Database established, <i>if any</i> :	33 databases on community reserves as explained under 2.3	
5.	New Patent, <i>if any</i> :	NA	
	I. Filed (Indian/ International)		
	II. Technology Transfer, <i>if any</i> :		
6.	Others, <i>if any</i>	-	

Note: Further details may be summarized in DPR Part-B, Section-5. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

3. New Data Generated over the Baseline Data

S#	New Data Details	Status of Existing Baseline	Addition and Utilisation New data
1	Spatial data base	No of thematic layers other than administrative boundary	Thematic layers on drainage, road network, terrain, contour, landuse /landcover and patch characteristics of the vegetation has been developed.

2	Biodiversity elements of Community Reserves	There was no documentation of the biodiversity elements of the Community Reserves (PAs) of Meghalaya. While we were initiating the study, Jirang Community Reserve (Ri Bhoi District) has baseline data.	This particular project generated baseline information on flowering plants, amphibians, reptiles, birds and mammals of 33 community reserves (PAs). This data is being utilized for preparing the Management Plan of these PAs by the Forest Department. We generated additional information on Jirang Community Reserve also.
3	Information on Human Ecology	No proper documentation of the socio-cultural aspect of the CRs other than Jirang.	The socio-cultural aspects of Community reserves and Human-PA interactions have been documented in this study.

Note: Further details may be summarized in DPR Part-B. Database files in the requisite formats (Excel) may be enclosed as annexure/ appendix separately to the soft copy of FTR.

4. Demonstrative Skill Development and Capacity Building/ Manpower Trained

S#	Type of Activities	Details with number	Activity Intended for	Participants/Trained			
				SC	ST	Women	Total
1.	Workshops	Two	1. Awareness creation for Village Community -Jirang		150		150
			2. Community leaders of Biosphere Reserve Management Committee		10		10
2.	On-Field Trainings		Local People were employed as field assistants and trained them in field techniques for documenting biodiversity and using equipment such as GPS, camera traps, etc		250	50	250
3.	Skill Development	-	-				-
4.	Academic Supports	3 categories	M Sc Dissertations	2		3	5
			Ph D (in progress)				1
			Internship				5
	Others (if any)						

Note: Further details may be summarized in DPR Part-B. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

5. Linkages with Regional & National Priorities (SDGs, INDC, etc.)/ Collaborations

S#	Linkages /collaborations	Detail of activities (No. of Events Held) *	No. of Beneficiaries
1.	Sustainable Development Goals (SDGs)/ Climate Change/INDC targets addressed	Our project activities carried out in the Community Reserves are aiming to the sustainable management of PAs which provide various ecosystem services. The database and conservation plans (policy documents) recommend for sustainable use of resources in a people-managed PA network.	Local communities of the 33 villages who are associated with CRs, Policy makers, Students, researchers, and Scientists.
2.	Collaboration	We collaborated with ZSI Shillong, BSI Shillong & Coimbatore, NEHU, Shillong, & Centre of Law Social Transformation, Pondicherry University, Norway and Bat Conservation India Trust, Bengaluru for species identification, streamline methods, collect data on unique taxa, Ph.D. guideship, etc. The outputs are being/will be published as popular and peer-reviewed articles.	Scientists, researchers and other academic personals and NGOs who are involved in conservation activities.

Note: Further details may be summarized in DPR Part-B, Section-6. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

6. Project Stakeholders/ Beneficiaries and Impacts

S#	Stakeholders	Support Activities	Impacts in terms of income generated/green skills built
1.	Line Agencies/ Gram Panchayats:	Autonomous District Councils	We discussed the project and its impacts on natural and biological resources of the community reserves which are falling under the regime of Autonomous District Council also.
2.	Govt Departments (Agriculture/ Forest/ Water):	Supported the Forest Department, Meghalaya in the preparation of Management Plans for 33 Community Reserves (PAs).	33 Community Reserves.

3.	Villagers	We supported villagers and local communities through various programmes. It includes biodiversity awareness programmes and livelihood support.	Two awareness programmes (around 150 people). We employed > 250 people as field assistants spreading across the three hill ranges of Meghalaya.
4.	SC Community:	-	
5.	ST Community:	Field and camp assistants	> 250 people were supported as wage labour during the fieldwork in 33 CRs
6.	Women Group:	Field camp management	> 30 women
	Others, if any:		

Note: Further details may be summarized in DPR Part-B, Section-6. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

7. Financial Summary (Cumulative)

Please attach the consolidated and audited Utilization Certificate (UC) and Year-wise Statement of Expenditure (SE) separately, *ref. Annexure I.*

SN	Financial Position/ Budget Head	Fund Approved	Fund Received	Expenditure/ Utilized	% of Total cost
1	Salaries/Manpower cost	8803840.00	5835520.00	8685786.00	98.66
2	Travel	7020000.00	4101510.00	4578170.00	65.22
3	Expendables & Consumables	1000000.00	800000.00	962367.00	96.24
4	Contingencies	1467240.00	1123320.00	1125076.00	76.68
5	Activities & Other Project cost	2286000.00	1474000.00	1056867.00	46.23
6	Institutional Charges	500000.00	200000.00	200000.00	40.00
7	Equipment	7645460.00	7645460.00	3385053.00	44.28
8	Total	28722540.00	21179810.00	19993319.00	69.61
9	Interest Earned	823779.00			
10	Grand Total	29546319.00			

8. Major Equipment/ Peripherals Procured under the Project** (if any)

SN	Name of Equipment	Cost (INR)	Utilisation of the Equipment after the project
1	Sherman Traps	49560.00	Used in similar research activities by the Institute.
2	Laptop, HP	78000.00	
3	Hobo Data Logger with accessories	29931.00	
4	GPS, Garmin MAP 64 S	177472.00	
5	Steel Cupboard	11420.00	

6	Steel Almira with glass door	12160.00
7	Mist Nets	235760.00
8	UK banding pliers without Pin	24801.00
9	Band Opener	14197.00
10	Large Standard Wing/Tail Ruler	17405.00
11	Compass, Sunto KB 20	26250.00
12	Laser Range Finder Nikon,	32332.00
13	Pesola Spring Balance 600 G	15309.00
14	Pesola Spring Balance 1000 G	15310.00
15	Pesola Spring Balance 300 G	15309.00
16	Camera Trap Cuddeback	523500.00
17	Digital Camera Nikon Coolpix A900	137088.00
18	Binocular Nikon Prostaff	49560.00
19	Binocular Nikon Monarch	130838.00
20	Mouse Ear Punch	2968.00
21	Ear Punch Nail Clipper	3976.00
22	Digital Vernier Caliper INSIZE, 1108	5877.26
23	All-in-One Desktop: HP	385683.00
24	RH Temp Data Logger	4450.00
25	Digital Thermometer	531.00
26	Printer, HP Laserjet Pro P1108	8999.00
27	Sony ICD-PX240 MP3 digital voice IC recorder	2630.00
28	Seagate 2 TB Harddisk	6251.00
29	GD 3 Solar Home Lighting sytem	1890.00
30	Foxim Bluetooth	767.00
31	Camera Nikon Coolpix P 900	29847.00
32	Digital Polarizing Microscope	114459.00
33	Thermo-Hygroclock TH 402 Pacer	1829.00
34	Anemometer Lutron	11564.00
35	5 TB portable Harddisk	22567.00
37	MI Power Bank	24990.00
39	Sherman Trap	11210.00
40	Boya BY MI Omni direction Mic	20000.00
41	Creative Labs Sound Blaster Play !3	37760.00
42	High Precision ETC Clock Module	3210.00
43	Kestral 3000 Windmeter	22050.00
44	Seagate 1 TB Hard Disk	7942.00

**Details should be provided in details (*ref. Annexure III &IV*).

9. Quantification of Overall Project Progress

S. No.	Parameters	Total (Numeric)	Remarks/ Attachments/ Soft copies of documents
1.	IHR States/ UTs covered:	1	Meghalaya
2.	Project Sites/ Field Stations Developed:	33/3	33 Community Reserves located in Khasi, Garo and Jaintia Hills/ One base camp at Shillong to cover Khasi and Jaintia Hills and another at Tura to cover Garo Hills.
3.	Scientific Manpower Developed (PhD/M.Sc./JRF/SRF/ RA):	Ph. D. – 1 MSc - 5	Pursuing Completed
4.	Livelihood Options promoted	Nil	
5.	Technical/ Training Manuals prepared	Nil	
6.	Processing Units established, if any (attach photos)	
7.	No. of Species Collected, if any	7+	Will be submitted to the ZSI collection
8.	No. of New Species identified if any	4 (genetic analysis yet to be completed)	One manuscript submitted
9.	New Database generated (Types):	33	Details Attached with DPR
	Others (if any)		

Note: Further details may be summarized in DPR Part-B. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

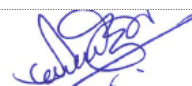
11. Knowledge Products and Publications:

S#	Publication/ Knowledge Products	Number		Total Impact Factor	Remarks/ Enclosures
		National	International		
1.	Journal – Research Articles/ Special Issue:		9	5.839	3 under review
2.	Book – Chapter(s)/ Monograph/ Contributed:	-			
3.	Technical Reports:	1			
4.	Training Manual (Skill Development/ Capacity Building):	-			
5.	Papers presented in Conferences/Seminars:	8			Faunal diversity Sacred groves
6.	Policy Drafts/Papers:	-			
7.	Others, if any:	-			

Note: Please append the list of KPs/ publications (with impact factor, DOI, and further details) with due Acknowledgement to NMHS. Supporting materials may be enclosed as annexure/ appendix separately to the FTR.

12. Recommendation on Utility of Project Findings, Replicability and Exit Strategy

Particulars	Recommendations
Utility of the Project Findings:	<p>The project findings could be primarily used for strengthening the Protected Area Management in the State of Meghalaya. Since Community Reserves are another category of PAs, managed by local communities with the help of the Forest Department, the strategies could be used for strengthen the relationship between people and PA management, especially in Garo Hills wherein human-elephant interaction is a major issue. This study highlighted the significance of the Community Reserves on account of their physiographical, biological, and socio-ecological values. Such information may be utilized by the forest department in increasing the livelihood opportunities of local communities through ecotourism and other viable/feasible activities.</p>
Replicability of Project/ Way Forward:	<p>The methods, findings and outputs of this project could be used for other community reserves elsewhere in the country. In the current project, we could study only half of the community reserves in the state of Meghalaya and we recommend that the remaining community reserves should also be explored for highlighting their significance. This would enable in developing baseline information on all the community reserves in one of north eastern states which encompass a significant extend of the global biodiversity hotspots.</p>
Exit Strategy:	<p>Since the significance of the community reserves is demonstrated on account of their conservation values and services, the Forest Department of Meghalaya may be used this information to attract more resources from various donor agencies both national and international. This would help in diversifying various livelihood options other than the current menial activities like planting of seedlings and fire protection. The Autonomous District Council is another institutional entity that would be of immense support to the management of these reserves. The ecosystem services provided by the CRs may be highlighted as a key factor for sustaining these PAs for the benefit of society. A tripartite institutional mechanism involving Forest Department, Autonomous District Council and Community Reserve Management Committee represented by Local Communities should be established for the better management and conservation of CRs.</p>



PROJECT PROPONENT)

(Signed and stamped)

Place: Anaikatty

Date: 07/08/2023

NMHS-2022

Final Technical Report (FTR) – Project Grant

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