Terminal Evaluation Report

UNDP-GEF Project: India High Range Landscape Project

Developing an effective multiple-use management framework for conserving biodiversity in the mountain landscapes of the High Ranges, the Western Ghats, India

GEF Project ID	4743
UNDP Project ID	4651
TE timeframe	August 2022 to November 2022
Date of final TE report	22nd November 2022
Region	Asia and the Pacific
Country	India
GEF Focal Area	Biodiversity (GEF-5)
GEF Agency	United Nations Development Programme (UNDP)
TE Team members	SM Vijayanand (IAS Retd.) Dr. Yash Veer Bhatnagar

Submitted by:

SM Vijayanand (IAS Retd.)

Dr. Yash Veer Bhatnagar

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1. Acknowledgements

The Terminal Evaluation Team is happy to acknowledge the active support of UNDP and the local Project Management Unit in facilitating a rounded evaluation of the Project. Special thanks are due to the State Government which under the leadership of the Chief Secretary evinced keen interest in follow up action.

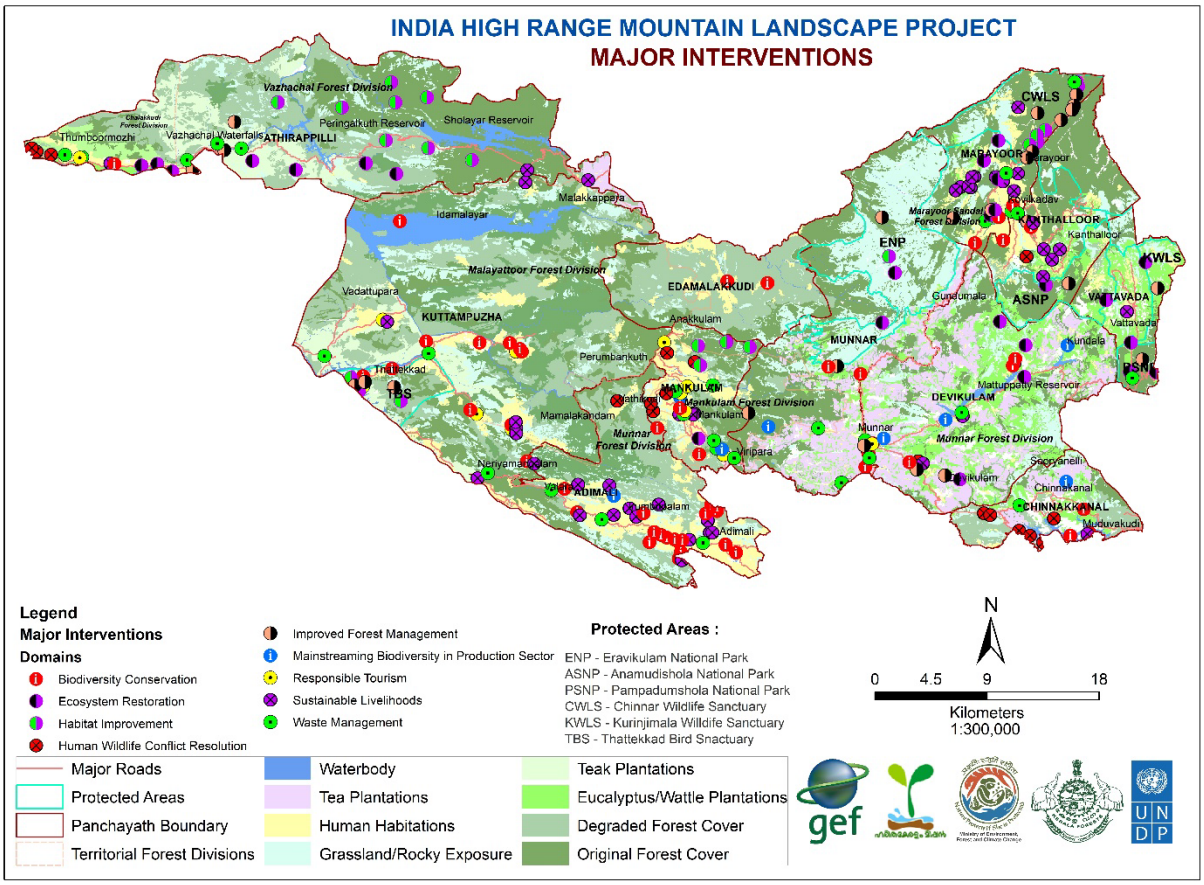
The TE Team thanks all the Presidents and elected members of the Village Panchayats, the officers of the Forest Development Agencies, the teams from expert support institutions, the start-up entrepreneurs and most, importantly, the beneficiaries, especially the scheduled tribes, women members of the Green Task Force (Haritha Karma Sena), the farmers and youth.

2. Abbreviations and Acronyms

AWP	Annual Work Plan
BD	Biodiversity
BOD	Biochemical Oxygen Demand
CBO	Community-based Organization
CDR	Combined delivery report
DFO	District Forest Officer
DIG	Deputy Inspector General
DIM	Direct Implementation Modality
FPIC	Free, Prior and Informed Consent
FRA	Forest Rights Act
GEF	Global Environment Facility
HCVA	High conservation value area
HKM	Haritha Keralam Mission
HRML	High Range Mountain Landscape
HVBA	High value biodiversity area
IG	Inspector General
INR	Indian rupee
KILA	Kerala Institute of Local Administration
M&E	Monitoring & Evaluation
MEE	Management Effectiveness Evaluation
METT	Management Effectiveness Tracking Tool
MoEFCC	Ministry of Environment, Forest and Climate Change
MTR	Mid-term Review
NPSC	National Project Steering Committee
NTFP	Non-timber forest product
PA	Protected Area
PIR	Project Implementation Review
PMU	Project Management Unit
PVTG	Particularly Vulnerable Tribal Groups
RET	Rate, endangered and threatened
SDG	Sustainable Development Goal
SHG	Self-Help Group
SES	Social and Environmental Standards
SMART	Specific, measurable, achievable, relevant and time-bound
SPSC	State Project Steering Committee
TE	Terminal Evaluation
UNDP	United Nations Development Programme
USD	United States Dollar
WII	Wildlife Institute of India
WQI	Water Quality Index

3. Executive Summary

a. Map of the Landscape showing the Project Activities



b. Project Information Table

Table 1 - Project Information Table

Project Details		**Project Milestones**	
Project Title	India High Range Landscape Project – Developing an effective multiple-use management framework for conserving biodiversity in the mountain landscapes of the High Ranges, the Western Ghats, India	PIF Approval Date:	Mar 22, 2012
GEF Project ID:	00087493	ProDoc Signature Date:	May 15, 2014
UNDP Atlas Business Unit, Award ID, Project ID:	PIMS # 4651 Award # 00075746 Project# 00087493	Date Project Manager hired:	May 2018
Country/Countries:	India	Inception Workshop Date:	November 2018
Region:	Asia Pacific	Mid-Term Review Completion Date:	June 2021

Focal Area:	Biodiversity (GEF-5)	Terminal Evaluation Completion date:	December 2023
GEF Operational Programme or Strategic Priorities/Objectives:	BD-1: Improve Sustainability of Protected Area Systems BD-2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors	Planned Operational Closure Date:	May 14, 2019 (Revised - September 14, 2022)
Trust Fund:	GEF Trust Fund		
Implementing Partner (GEF Executing Entity):	UNDP India		
NGOs/CBOs involvement:			
Private sector involvement :			
Geospatial coordinates of project sites:	10.0889° N, 77.0595° E		

Table 2 - Financial information

Financial Information		
PDF/PPG	at approval (US$M)	at PDF/PPG completion (US$M)
GEF PDF/PPG grants for project preparation	USD 88,600	88,600
Co-financing for project preparation	0	0
Project	at CEO Endorsement (US$M)	at TE (US$M)
[1] UNDP contribution:	USD 1,000,000	USD 1000,000
[2] Government:	USD 28,000,000	USD 20,164,972
[3] Other multi-/bilaterals:	-	-
[4] Private Sector:	USD 1,000,000	USD 57,242
[5] NGOs:	-	-
[6] Total co-financing [1 + 2 + 3 + 4 + 5]:	USD 30,000,000	USD 20,522,214

3.2 Project Description

The India High Range Mountain Landscape Project in Munnar, Kerala, focuses on biodiversity in a location which has experienced considerable eco-degradation including loss of biodiversity. The Project approved in late 2013 could take off only in end of 2020 after almost a five-year delay due to local opposition, and another two years delay due to finalizing fund flows.

The Project basically has two major implementation partners – the Forest Development Agencies and the Village Panchayats (Local Governments). In practice, it has been highly participatory and

has tried out multiple activities in different parts of the landscape focusing on livelihoods and biodiversity conservation.

The long-term goal of the project is the sustainable governance of globally significant biological diversity of India by mainstreaming conservation considerations into production activities in the mountain landscapes, while also considering development imperatives needed for sustaining livelihoods and also addressing retrogressive factors including impacts of climate change.

The immediate objective of the project is to conserve the biodiversity of High Ranges of the Western Ghats in peninsular India from existing and emerging threats through building an effective collaborative governance framework for multiple use management of mountain landscapes. This was to be achieved through the following Outcomes:

- Outcome 1: Effective **governance framework** for multiple-use mountain landscape management in place.
- Outcome 2: Multiple use mountain landscape **management** is applied securing the **ecological integrity** of HRML
- Outcome 3. Strengthened **capacities** for community based **sustainable use and management** of wild resources

c. Evaluation Ratings Table

Table 3 - Evaluations ratings table

1. Monitoring & Evaluation (M&E)	**Rating**
M&E design at entry	4
M&E Plan Implementation	3
Overall Quality of M&E	3
2. Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	**Rating**
Quality of UNDP Implementation/Oversight	5
Quality of Implementing Partner Execution	5
Overall quality of Implementation/Execution	5
3. Assessment of Outcomes	**Rating**
Relevance	5
Effectiveness	5
Efficiency	5
Overall Project Outcome Rating	5
4. Sustainability	**Rating**
Financial sustainability	3
Socio-political sustainability	4
Institutional framework and governance sustainability	4
Environmental sustainability	3
Overall Likelihood of Sustainability	3.5

TE Rating Scales

Table 4 - TE Rating Scales

Ratings for Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight, Execution, Relevance	Sustainability ratings:
6 = Highly Satisfactory (HS): exceeds expectations and/or no shortcomings 5 = Satisfactory (S): meets expectations and/or no or minor shortcomings 4 = Moderately Satisfactory (MS): more or less meets expectations and/or some shortcomings 3 = Moderately Unsatisfactory (MU): somewhat below expectations and/or significant shortcomings 2 = Unsatisfactory (U): substantially below expectations and/or major shortcomings 1 = Highly Unsatisfactory (HU): severe shortcomings Unable to Assess (U/A): available information does not allow an assessment	4 = Likely (L): negligible risks to sustainability 3 = Moderately Likely (ML): moderate risks to sustainability 2 = Moderately Unlikely (MU): significant risks to sustainability 1 = Unlikely (U): severe risks to sustainability Unable to Assess (U/A): Unable to assess the expected incidence and magnitude of risks to sustainability

d. Brief Summary of Conclusions

The Project was found to be very relevant to the locality and has contributed to enhancement of State Policies. The Project design and its implementation is a good example of adaptive management. Most of the micro interventions were introduced for the first time in the landscape, in addition to upgrading several local initiatives. They have provided proof of concept for scaling and/or replication. Though a small Project badly affected by delays over which the project unit had no control, its results are very promising.

The Project is remarkable for its democratic character and genuine participation especially of women and the marginalized groups and it has significantly influenced the development thinking of the Forest Development Agencies and the Village Panchayats and there is high probability that most of them would be internalized and taken forward by different actors in the landscape.

Summary of Recommendations

Category (I) - *For UNDP-GEF and MoEFCC*

(i) Considering the value of the Project interventions, and the practically unsurmountable hurdles the project faced, these lessons should not be left abruptly, and a follow-on project is essential. Knowing the constraints on funding, the external support could be limited to technical assistance, capacity building and monitoring & evaluation. The sole objective of such a Project should be to scale up successful interventions and also replicate wherever possible.

(ii) The MoEFCC may spread the knowledge products to other States especially those related to Responsible Tourism.

(iii) It may nudge the State Forest Department to adopt the landscape approach in the coupled conservation-development activities.

(iv) The MoEFCC may follow up with the State Forest Department to convert environmentally damaging commercial plantations to ecologically suitable land use including grasslands and also share this experience with other States.

Category (II) - *State Government*

(i) The following policies need to be mainstreamed:

a) The Green Plan of Local Governments
b) Conversion of environmentally unfriendly commercial plantations into appropriate native species
c) Adoption of Responsible Tourism protocols for localities in eco sensitive areas
d) Developing a Green Corridor concept in the Eco-tourism areas, as demonstrated in the project
e) The Green Innovation Fund should be made a State-wide initiative as part of the Kerala Start-Up Mission
f) Adopting a landscape approach for the Western Ghats as a whole (a good starting point is the Landscape Level Management Plan prepared as part of this project)

(ii) Even in the absence of continued support from UNDP/GEF, an integrated plan of action may be prepared for the landscape for the Fourteenth Five Year Plan converging the existing available resources of different Departments and agencies including Local Governments to be implemented on a Project mode

(iii) Department specific action plans

(a) Tribal Department

- Carry forward initiatives related to Non-Timber Farm Produce
- Expand tie-up with TRIFED for marketing
- Operationalize the e-marketing platform
- Promote revival of traditional cereal and vegetable varieties using methods which have already been validated in the field
- Take forward the improved variety of Lemongrass on a project mode in Marayoor-Kanthalloor areas

(b) Local Self Government Department

- Utilize the high-resolution maps for spatial planning for the 11 Panchayats
- Operatonalize the Green Plan methodology across the State
- Continue strengthening of the Solid Waste Management initiatives and their replication across the State
- Scale up the Sandalwood Rejuvenation Initiative in Marayoor under a Special Project using MGNREGS funds
- Convert knowledge products into practice – namely, use of bio-engineering techniques for slope stabilization
- Prepare local biodiversity strategies and action plans for the Village Panchayats in the landscape on the model developed for Athirapilly
- Strengthen role of Local Governments in Responsible Tourism
- Take forward the Organic Mankulam initiative

(c) Tourism Department

- Take forward the two "Green Corridor" DPRs and promote Responsible Tourism initiatives in the landscape and also adapt them for other similar landscapes

(d) Environment Department

- The Kerala State Biodiversity Strategies and Action Plan for 2022 to 2032 may be formally adopted and converted into Annual Action Plans.
- Local biodiversity strategies and action plans may be developed for all the Village Panchayats in partnership with Local Self Government Department.
- The concept of Multi-Dimensional Biodiversity Index may be adopted and operationalised initially in the landscape.
- The Biodiversity Knowledge Centre which is in an advanced stage of development may be properly maintained.

(e) Agriculture Department

- It may implement a sustainable sugarcane initiative on a project mode in Marayoor and Kanthalloor.
- It may give importance to making Mankulam fully organic and continue with the activities related to organic cardamom.
- The spatial crop planning reports prepared for the Village Panchayats of Vattavada, Marayoor and Adimali may be used for local planning.
- In Kanthalloor and Vattavada Panchayats, farmers willing to convert their private eucalyptus and acacia plantations to agriculture crops may be supported, in doing so.

(f) Forest Department

- The ongoing modifications to the Management Plans in Protected Areas and Working Plans in other areas may be completed.
- The Department should formally adopt the landscape approach across the State. The integrated Landscape Management Plan prepared under the project should be finalized and adopted.
- It should upscale the successful pilots in converting environmentally harmful plantations to appropriate land use.
- Also, it should complete the activities taken up to reduce human animal conflicts on a sustained basis.

General

Immediately a high-level Workshop may be organized by the State Government to identify the positive contributions of the Project, which need to be taken forward and convert each initiative into an Action Plan under an overall Special Plan for the landscape. A duly empowered Landscape Level Committee could coordinate actual implementation.

At the State level, the Planning and Economic Affairs Department should coordinate this Project. At the level of the landscape the Haritha Kerala Mission should coordinate all activities in the non-forest areas and the Forest Department within the forest areas.

4. Introduction

The Terminal Evaluation (TE) is carried out as an independent assessment in accordance with the guidelines issued by United Nations Development Programme (UNDP) and Global Environment Facility (GEF) and specifically as per the Terms of Reference (ToR) given to the

Evaluation Team (Annexure 1). It has followed the ethical and technical standards set by UNDP and GEF. Within this framework the best judgement of the evaluators is presented.

a. Project Background

The project covers the landscape having extent of 2198.78 sq. kms., spread across three Districts namely, Idukki, Ernakulam and Thrissur and 11 Village Panchayats (elected Village local governments) grouped into four clusters.

1.	Munnar Cluster	-	Chinnakanal Munnar Devikulam
2.	Anchunad Cluster	-	Vattavada Kanthalloor Marayoor
3.	Edamalakkudy Cluster	-	Edamalakkudy
4.	Kuttampuzha Cluster	-	Mankulam Adimaly Kuttampuzha Athirapilly

Interestingly, this is one of the most environmentally sensitive areas in the Western Ghats of Kerala with high pressure on the eco system and a relatively backward region with a population having a large number of scheduled tribes, scheduled castes and small and marginal farmers.

Over the last 75 years or so, there has been migration of people into the highlands mostly from the mid lands, resulting in large scale degradation of the natural environment. Recently there is an increasing realisation that sustainable development is possible through a participatory process, and it has become a survival need. The Project addresses this.

b. Purpose

The purpose of the TE is to critically analyse the achievements and shortfalls in the planning and implementation of the Project with reference to the objectives and outcomes set for it. The TE focuses on the themes and sub-themes set out in the Inception Report. In addition, the Terminal Evaluation intends to give specific recommendations on sustainability of the project into a sustained programme.

It is well accepted that the de facto project period was very short for reasons beyond the control of the Project Team and, even this period coincided with the Covid Pandemic, further affecting its field work. At the same time, as will be apparent from this TE report, there are certain initiatives which are very relevant to the landscape for which the proof of concept has been developed by the project and they need to be continued by the State Government through the Local Governments and other agencies from a larger coupled conservation-development objective. Hence giving specific recommendations to ensure sustainability is seen as the major purpose of this evaluation, as the gains of this Project are too precious to be lost.

c. Approach

The approach of the TE Team is a participatory and consultative one, establishing close rapport and interacting intensely with the Project Team, Government and Local Government functionaries, other implementing partners, direct beneficiaries and related stakeholders and of course, the UNDP country office. Based on careful examination of the evidence obtained from different sources, direct and indirect, written or oral and numbers especially in relation to

physical and financial achievements, the TE has attempted to develop a coherent picture of the performance and more importantly present useful findings, conclusions and recommendations particularly for sustainability.

d. Scope

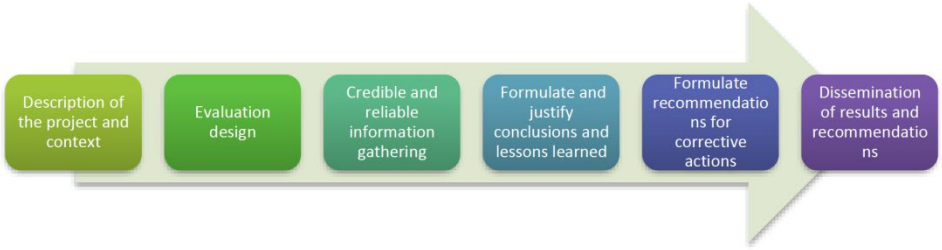
Within the framework of the guidelines on the TE, the parameters assessed, include the following:

1. Financial performance
2. Physical performance, that is, achievement of targets
3. Contribution of knowledge inputs
4. Development of models to be scaled up or replicated
5. Capacity building of implementing partners namely the Local Governments and the Forest Development Agencies (FDAs)
6. Draft landscape level 'management plan' encapsulating lessons and sustained governance-management structures and actions in the coming decade.
7. Action points for sustainability – general and specific

The beneficiaries included in the evaluation consist of institutions like Village Panchayats, the Self-Help Group Network of Women, and the Forest Development Agencies as well as farmers, tribals, the vulnerable groups and youth. It covers the entire area of the landscape.

e. Methodology

Figure 1 - Broad methodological approach followed by the Terminal Evaluation team which is adapted from the approach provided in the UNDP-GEF Guidelines for Terminal Evaluations (2020)



Source: Guidance for conducting terminal evaluations of UNDP-supported GEF-financed projects, 2020

Figure 2 - Approach provided in the UNDP-GEF Guidelines for Terminal Evaluation (2020)

The TE team chose a special methodology with a carefully designed sequencing to get the best idea of the project (Figure 1 & 2).

- To start with it, undertook a detailed study of the project documents including the Original Project, the Revised Project, the Mid Term Review and its response, and the field report of the Ministry of Environment, Forest & Climate Change (MoEFCC) (Annexure 2)
- Thereafter it interacted with the project staff together including State Project Coordinator and State Project Director and sought their inputs and their perspective on what worked and what did not work and why.
- The Team accessed the proceedings of the Multi-stakeholder Dissemination Workshop organised by the Project on 29th and 30th of June 2022.
- After this stage, separate interactions were held with the 11 Village Panchayats over zoom in which elected representatives, project staff and other local officials participated (Annexure 3). This attempted to find out the views of the Local Governments especially on what was useful and what was not done and also on what they intend to do post-project.

Thereafter field visits were conducted as per the schedule annexed (Annexure 6). Also see map of project activities domain wise as Annexure 6A. It may be noted that the Village Panchayats and the specific project sites were selected to get a good understanding of the work on ground. Detailed online discussions were held with the elected heads, other elected representatives and key officials of all the 11 Village Panchayaths. Further, 8 village panchayaths were selected to get a good understanding of the work on the ground with focus on the specific project sites. It was ensured that key projects covering different aspects of the programme were included in the field visits like natural resources management, agriculture, solid waste management, empowerment of women, inclusion of Scheduled Tribes, innovations like Green Corridor and Responsible Tourism and use of appropriate technology in waste management, distillation of lemongrass and planting of sugarcane.

At the field level direct interaction with the beneficiaries of the project was held in a detailed manner following a dialogic approach. Also, special care was taken to include the vulnerable groups especially the Particularly Vulnerable Tribal Groups (PVTG), poor women mostly from Kudumbashree and other tribal groups. 97 women members were met and 58 members from the Scheduled Tribes were met out of a total of 307 members met through both online and physical modes.

- his was supplemented by discussions with the technical support agencies and field level staff followed by verification of assets and other work on ground, after which further interaction was had with the beneficiaries and officials. This provided a rounded view.

- In the case of the Forest Department, there were discussions with senior officers including the DFO, Chalakudy, DFO, Vazhachal, DFO, Marayoor the Wildlife Warden, Munnar Wildlife Division and Wildlife Warden, Idukki included to find out how the project aided their work.
- After the field visits, the knowledge products of the project were collected and studied as listed in Annexure 5.
- The next round of discussions was with the start-ups involved in the project activities. This gave an idea on the uniqueness of certain interventions and also the possibilities of continuance post project (Annexure 6).
- There was a special online session to interact with the different technical support agencies for the knowledge products to understand their possible future use and the steps to be taken for that (Annexure 7).
- Then the FDAs involved in the project were consulted on the benefits of the project and to understand the level of internalization of the concepts developed by the project and the possibilities of their future use (Annexure 8).
- At this stage clarificatory discussions were held with UNDP country office, the MoEFCC and the project team followed by online discussions with a senior representative of the National Project Steering Committee.
- Finally, a special consultation was held with senior policy makers of the State Government led by the Chief Secretary, all of them Members of the State Project Steering Committee, to brief them on the importance of continuing certain activities and the mode of using the knowledge products. This perhaps goes beyond the scope of the evaluation as such, but the TE team sees this as a constructive and crucial step to ensure continuity of the efforts made during the project.

In all the steps the overarching and cross-cutting themes were gender, social inclusion, environmental benefits and post project sustainability.

It may be noted in such a project with diverse local level interventions spread across the entire landscape, the combination methodology described above alone could give a multi-dimensional picture of the project performance.

Since the focus of the project is biodiversity, the evaluation team attempted to analyse and verify on the ground to the extent possible, the biodiversity implications of the different initiatives. While doing so, the team is aware that most biodiversity responses such as species recovery or ecosystems restoration can be seen only in the long-term but what can be evaluated are the steps taken and their potential benefits and as models for conservation that can be upscaled.

The rationale for the approach and the resultant methodology is summed up below:

- This is a Project which faced virulent opposition from the local population including local leaders in the beginning. Therefore, the level of acceptance after modification is of special interest.
- Kerala has been following a highly participatory process of local planning called People's Plan through its Local Governments. Nearly a third of its development resources are planned for and spent by the Local Governments. So, integration with the processes and systems at the local level is critical.
- Similarly, there is an active women Self Help Group (SHG) system in Kerala called "Kudumbashree." It represents around 40% of the total population with each family represented by a woman. The role of the SHGs is important in ensuring gender inclusivity and citizen participation in local development.

- The Project has several initiatives focussing on local livelihoods which have significant implications for biodiversity. Their proof of concept is very relevant for assessing the outcomes and also sustainability.
- The Project has resulted in a comprehensive Landscape-level management plan that draws upon the project's lessons in using an integrated coupled conservation-development approach, piloting suitable activities, forging convergences, governance, and legal framework(s) for its implementation.

Hence a highly qualitative methodology has been adopted with of course due care taken to triangulate the findings by getting the rounded response from the implementers, beneficiaries, and the records of the Project. Also, adequate care has been taken to overcome the conventional weaknesses of a qualitative approach like inadequate sampling, superficial consultations, possibilities of responses being influenced by the implementers or even the future expectation of benefits, etc. Consulting all the stakeholders helped triangulation of findings.

These measures are all indicated in the Evaluation Matrix (Annexure 9) which sums up the Methodology. Taking time, the TE team gave priority to adhere to the planned collection of materials and interaction sessions and even went beyond to add more stakeholders for online interactions.

f. Ethics

The highest principles of ethics expected of an evaluation team were adhered to by ensuring rigour in analyzing and fairness in reporting, with total adherence to facts as revealed from documents and evidenced in the field. Though almost 87 persons were met online and about 220 persons on the field representing all relevant stakeholders, full confidentiality has been ensured. Special care has been taken to include the perspectives of marginalized groups especially the tribals.

g. Limitations

Considering the scope of the project, there were no limitations worth reporting. In terms of methodology, extensive consultations, field visits and interactions with beneficiaries and stakeholders, direct and online, got over the major limitations of qualitative methodology.

5. Project Description

a. Project Milestones

- Date of approval of the original Project Document - May 15, 2014
- Project put on hold - February 2015
- Decision to modify the Project – August 2016
- Approval of the revised Project –
    - SPSC Approval – 26/04/2018
    - Government Order (GO) issued on 08/08/2018 (GO Ms No 35/2018/F&WLD)
- Letter clarifying the Fund Flow modality issued by MoEFCC on 04/12/2020
- Date of the Project Operational Closure
    - Planned - May 14, 2019
    - Revised 1 – March 14, 2022
    - Revised 2 – September 14, 2022

b. Development Context

(a) Environment

Most of the non-plantation area was virgin montane shola grassland ecosystems and evergreen rainforests till about 75 years ago on the western slope of the Western Ghats with high rainfall, and deciduous forests with scrub jungle on the eastern rain shadow slope with much lesser rainfall. It got populated by people from the mid lands and significant extent of the forest was converted into agricultural land, resulting particularly in soil erosion and loss of biodiversity, fragmentation of the landscape causing human-animal tensions and inflow of invasive alien species. The project landscape area has a rich diversity of flora and fauna with over 200 endemic plants of which nearly half are placed under the Rare, Endangered, and Threatened (RET) categories by IUCN and fauna like Nilgiri Tahr, elephant and giant squirrel as also great Indian hornbill. Clear estimates of faunal biodiversity are not yet available. However, it has been estimated that the Project area has 79 species of mammals, at least 322 species of birds, 122 species of reptiles, 50 species of amphibians, several species of insects, including 111 species of odonata (dragonfly family) and 265 species of butterflies – indicating a rich and rare biodiversity. Of late, in the last four years the region has been subject to the vagaries of climate change with extreme weather events creating severe problems especially land slips, which are detrimental to both the people and the ecosystem.

For the past quarter of a century tourism has been the lifeline of the Kerala economy and recently, over a decade or so, eco-tourism has developed creating a pressure on the eco-system through indiscriminate opening of resorts, home stays and even trek trails. There is also the attendant problem of waste generation particularly plastics. Because of this, green moderation of tourism has become an environmental necessity and priority.

(b) Socio-Economic

The following Table gives the socio-economic profile of the area.

Table 5: Socio-economic Profile of the Eleven Panchayats in the Landscape#

Sl. No.	Particulars	Munnar	Devikulam	Chinnakanal	Kanthalloor	Vattavada	Edamalakudi	Marayoor	Mankulam	Adimali	Kuttampuzha	Athirappalilly
1	Households	7968	6166	3099	2923	1561	536	3307	2513	10336	6366	2328
2	Total Population	32029	23709	11553	10963	5697	2236	12399	9595	40484	24451	8805
3	Sex ratio	994	990	971	1022	938	870	1002	973	1002	976	1026
4	Total Literacy rate	85	86	78	76	70	65	77	87	88	90	87
5	Literacy – Male	91	93	86	82	80	N.A	83	90	91	93	91
6	Literacy – Female	79	80	71	70	59	N.A	71	84	85	88	82
7	SC (as % of total pop)	55%	57%	37%	28%	16%	NIL	32%	5%	8%	8%	27%
8	ST (% of total pop.	7%	1%	10%	23%	28%	100	28%	22%	16%	16%	12%
9	Total Workers	16440	12423	6479	6056	3643	N.A	6503	4963	19174	11469	4336
10	Main Workers (% of total workers)	77%	88%	85%	86%	94%	N.A	77%	83%	73%	81%	83%
11	Marginal Workers (% of total workers)	23%	12%	15%	14%	6%	N.A	23%	17%	27%	19%	17%
12	Cultivators (% of main workers	1%	1%	14%	13%	50%	N.A	16%	28%	16%	14%	4%
13	Agricultural Labourers (% of main workers)	3%	4%	35%	55%	42%	N.A	56%	47%	22%	19%	14%

#Source of data - Revised Implementation Strategy 2018

c. Public Institutions of Governance

a) Village Panchayats

The most important institutions are the eleven Village Panchayats.

The Village Panchayats in Kerala have the Primary Health Centres under Allopathy and similar institutions under Ayurveda and Homeopathy, Veterinary Dispensaries, Agricultural Offices called Krishi Bhavans, Lower Primary Schools, Anganwadis (pre-schools) and so on under their control. The High Schools are under the District Panchayat and the Community Health Centres/Taluk Hospitals are under the Block Panchayats.

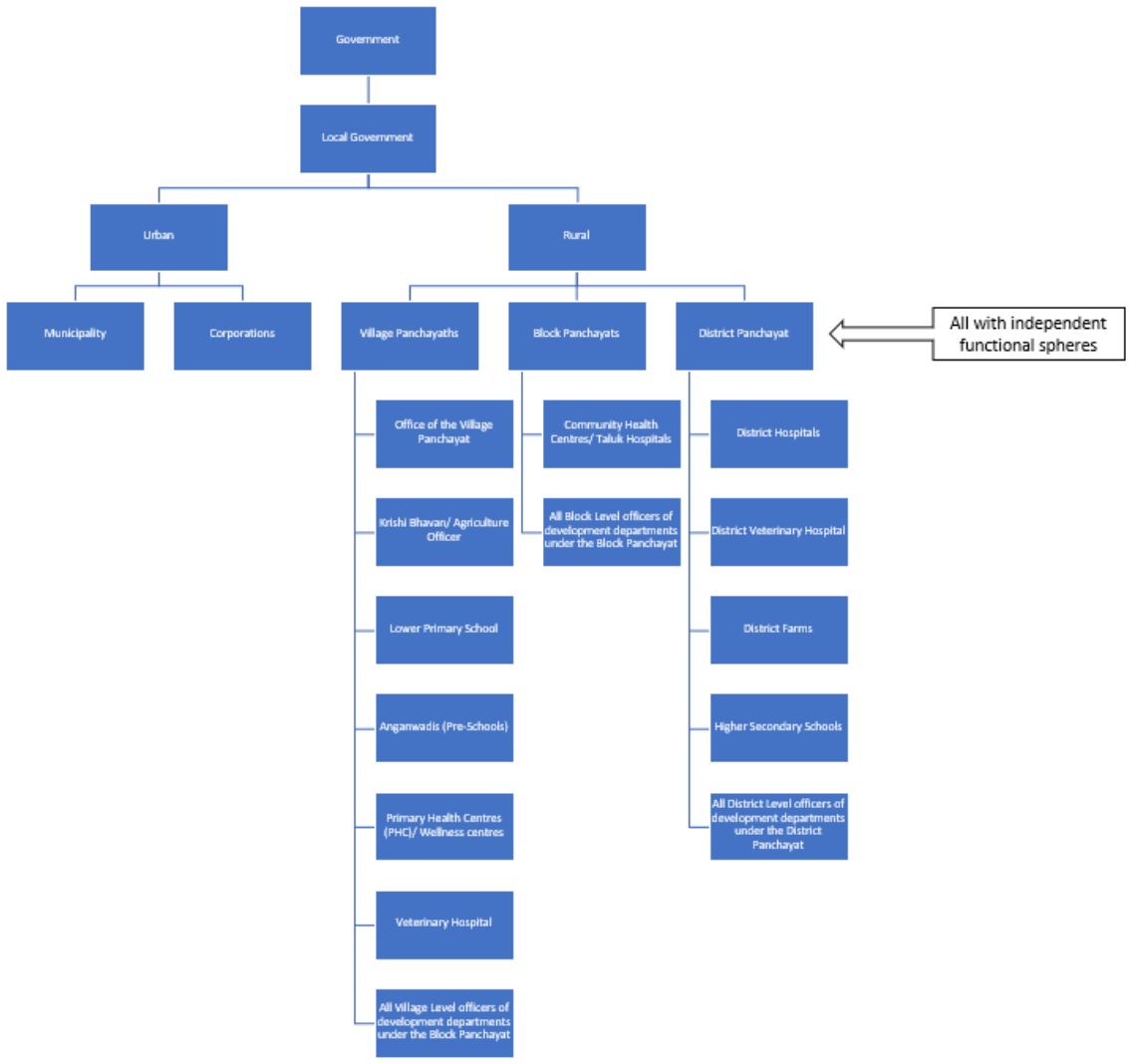


Figure 3 – Flow chart showing relationship between

Most of the current development interventions in the landscape other than Major District Roads, State and National highways are carried out by Local Governments especially the Village Panchayats through the People's Plan which is the result of a highly participatory planning process, for which the Village Panchayats, Block Panchayats and District Panchayats receive substantial funds from the State Government. In addition, the Village Panchayats have significant own source revenues from local tax and non-tax sources. And the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) has contributed a lot of additional funds to the landscape, most of which have to be spent on natural resources management.

During 2018 to 2022 the Village Panchayats have generated their own revenue of around Rs 26.93 crore and they have been devolved Rs 256.67 crore for people's planning, out of which Rs 24.04 crore is for the Scheduled Tribes. About thirty percent of the devolved resources have to be spent on the productive sector, largely agriculture – also another Rs. 63.43 crores. Further, during this period, the Village Panchayats have spent Rs 230.22 crore under MGNREGS out of which more than sixty percent has to be spent on natural resources management-related works. Thus, the Village Panchayats alone had a resource envelope of Rs 513.82 crore (USD 62.79 Mn) during the project period.

Source of data – Mahatma Gandhi Rural Employment Guarantee (MGNREG) Mission and Information Kerala Mission

b) Forest Department

Considering the nature of the project, the Forest Department is a critical stakeholder and the following forest divisions in the project landscape looked after components falling within their jurisdiction through Forest Development Agencies.

1. Munnar Territorial Forest Division (FD)
2. Munnar Wildlife Division
3. Marayoor FD
4. Mankulam FD
5. Idukki Wildlife Division
6. Malayatoor FD
7. Chalakudy FD
8. Vazhachal FD

At the State level forest department activities are coordinated by a State Nodal Officer nominated by the Department.

c) Other relevant institutions

The District Collector controls the Revenue Department with Tahsildars at the Taluk level and Village Officers at the revenue village level. The District Superintendent of Police controls the Police Stations. Further there is the Tribal Development Office of Adimali which looks after the interests of the Scheduled Tribes in the project area.

The non-forestry work of the project is coordinated by the Haritha Kerala Mission (HKM) (literally Green Kerala Mission), a state level entity working under the Planning Department.

d. Policy Factors

The policy factors relevant to the project are:

- Decentralised planning
- Rules regarding solid and liquid waste management
- Acts, rules, and operational instructions regarding MGNREG scheme
- The policies of the Forest Department like the Indian Forest Act of 1927 (with amendments), Environment (Protection) Act 1986 and the Biological Diversity Act 2002 the Indian Wildlife (Protection) Act 1972 and its amendments, that includes Protected Area management, Fire Prevention, Rejuvenation of degraded areas and conversion of environmentally harmful commercial plantations
- Organic Agriculture

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition Of Forest Rights) Act, 2006 or simply, the Forest Rights Act 2006 that recognizes the rights of the forest dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.
- Tourism, especially Eco-Tourism

e. Problems the project tries to address

They include:

- Pressure on biodiversity
- Degradation of natural resources – soil, water, biomass
- Livelihoods especially of the poor, focussing on Scheduled Tribes, women and youth
- Solid Waste management, including plastics
- Agricultural practices which exert pressure on the environment
- Tourism affecting the environment and biodiversity

In addressing these problems, the threats and barriers are mostly related to knowledge and attitudes. Of course it is easier to address issues related to knowledge through effective communication but changing attitudes can be only through careful demonstrations of the viability of alternatives which would take time.

f. Development Objectives

The immediate development objectives of the Project can be listed as follows:

(i) Eco-restoration in degraded forest landscape
(ii) Promotion of sustainable livelihoods especially of women and the marginalised communities
(iii) Solid waste management
(iv) Soil and water conservation
(v) Mainstreaming biodiversity conservation in productive sectors – plantations, tourism, agriculture, etc.
(vi) Strengthening management of Protected Areas
(vii) Capacity building including provision of quality technical assistance

g. Expected Results

The expected results are:

(i) Development of proof of concept for different initiatives related to the objectives with potential their scale-up/replication in a systematic manner
(ii) A capacitated Village Panchayat system which can mainstream green concerns into its regular planning process
(iii) Improved solid waste management system
(iv) Making the tourism initiatives local people friendly and eco-friendly
(v) Development of replicable models in converting environmentally harmful plantation practices in forests into beneficial ones
(vi) Influencing private plantations to adopt energy efficient plants
(vii) Greening agriculture practices
(viii) Enhanced livelihoods for local communities

(ix) Generation of reports on current practices in the production sectors with an aim to green the practices

(x) Supporting the Government in greening sectoral policies and programmes such as Responsible Tourism

6. Findings

a. Project Design/Formulation

The project began in 2014 and did not include the Theory of Change as per the project document. However, the project document provides a detailed overview of root causes, baseline analysis, project milestones, goal and objectives and risk observations. During the MTR process of the project, an initial draft of the Theory of Change was developed which was then revised in 2021.

The Theory of Change was prepared rather late, only after the Midterm Evaluation and that too more in the form of a 'problem and objective tree' that explores the causes, consequences and appropriate actions for desired goals. Yet, the Theory of Change brings out the issues and solutions quite clearly but is lacking in two important respects. One is on the role of the Village Panchayats in internalizing the environmental learnings and incorporating them in their plans. Second, though a multi stakeholder forum is mentioned in the governance framework, it had to be pushed from above with adequate coordination arrangements and a technical support system in place at the State level. This did not come out.

- The Research Framework though implicit in the revised project was not specifically stated but after the MTR, it was more clearly defined
- Probably being a small project, the impact indicators ? not sharply defined. At the time of the MTR, the SMART aspects of the indicators were looked into and thereafter the project adhered to that.
- The assumptions of the Project were not properly articulated though they could be gleaned from the revised project document, and it has to be mentioned that through a process of intense consultation and verification of local priorities, several risks were mitigated *ab initio*. However, there were two unexpected, unpreventable externalities namely, the devastating floods of 2018 identified as the worst such extreme event in 100 years, and the Covid pandemic (2019-2021) which affected project preparations and project implementation respectively. But a preventable externality (as far as the project team is concerned) was the huge delay in deciding on the flow of funds.
- The Project also incorporated learnings from the programme of the Haritha Keralam Mission implemented through the Local Governments, focusing on solid waste management and improved it further. Similarly, the responsible tourism initiative was adapted for proper implementation with greater clarity.
- Since the major component of the project was outside the forest area, it had inbuilt features of participation of stakeholders mainly through the Village Panchayats and the Self-Help Group network of women. In fact, during the implementation phase the participation seems to have exceeded the design mainly due to the attitudes and practice of the implementation agencies and the project team. They worked closely with the people, designed interventions after due consultations and cleared doubts and misleadings then and there.

- The project established linkages with the local plans of the Village Panchayats and the Management and Working Plans of the Forest Department so that complementarities were achieved. This was particularly true of solid waste management project and tribal development projects in the case of Village Panchayat and conversion of environmentally harmful commercial plantations in forest areas.

- The project definitely had sound elements for women's empowerment, livelihoods of the poor and improved governance especially in realistic local planning informed by expert support. But in the project design, there was no systematic gender analysis or gender action plans with indicators, targets, etc. But through the institutional linkages with the Self-Help Groups, there was an automatic gendering in the project implementation.

The revised project design was more realistic and in keeping with the needs of the landscape as it came out of a thorough exercise in consultation, individually with each of the Local Governments and with other key stakeholders especially the Forest Department. Its quality improved and, in a sense, it was driven by the Local Governments.

Theory of Change

The Theory of Change prepared by the Project is extracted below:

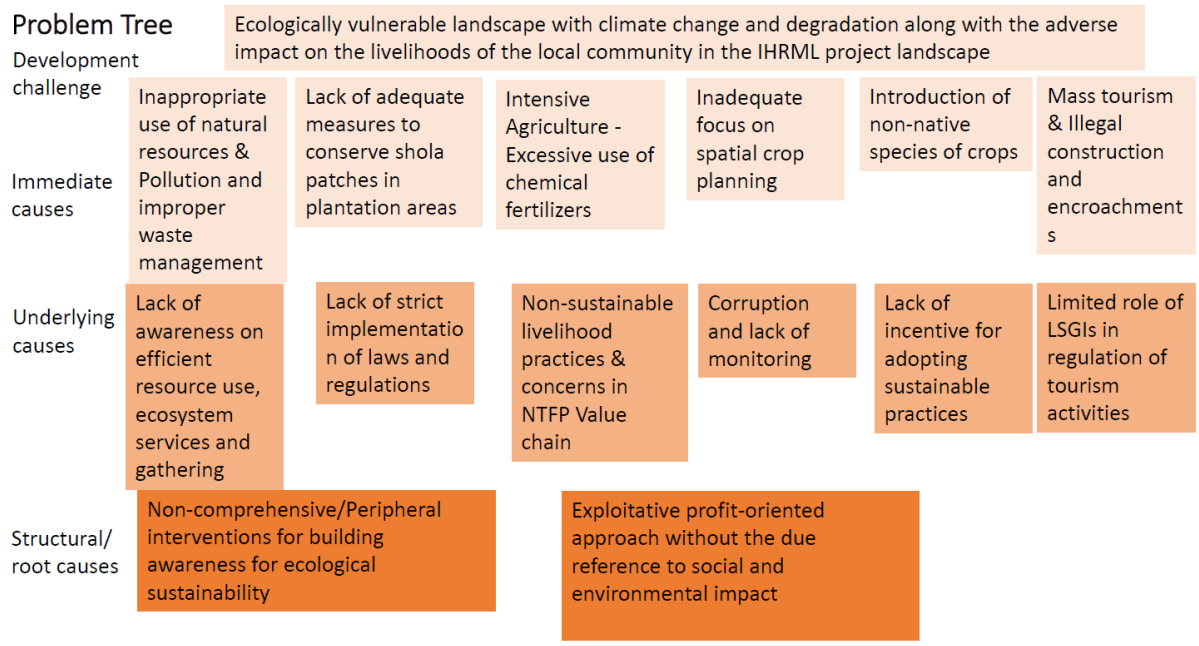
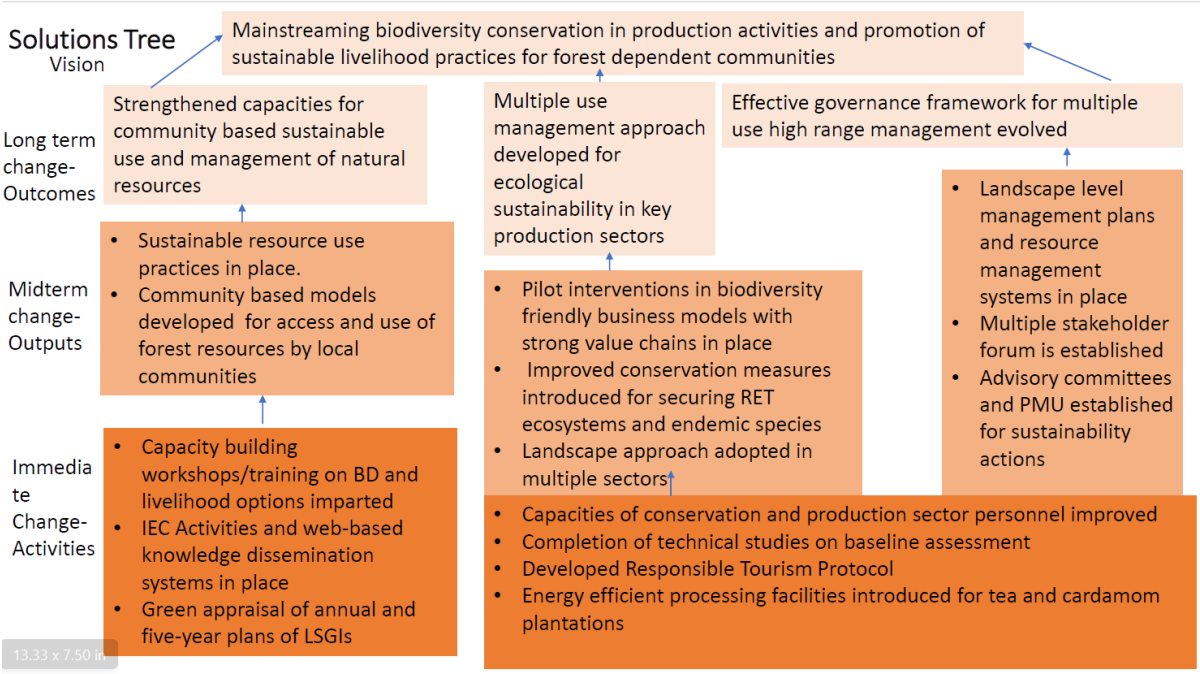


Figure 4 - Theory of Change prepared by project team



Solutions Pathways

Assumptions:

1. Adequate support and participation by the local self government bodies, community members and line departments
2. Strict monitoring and follow up mechanisms by local self government bodies such as legal actions to prevent waste littering
3. Sustainable potions are acceptable and easily replicable by the farmers and local community

Risks:

1. Disaster prone areas
2. Cultural variants and social constraints to be considered while communicating with various stakeholders

Proposed problem statement:

Ecologically vulnerable landscape with climate change threat through higher chances of temperature and water stress in the IHRML project landscape

Proposed outcome statement:

Mainstreaming biodiversity conservation in production activities and promotion of sustainable livelihood practices

b. Project Implementation

The Direct Implementation Methodology (DIM) followed to smoothen fund flows facilitated an interesting array of agencies namely, FDAs in forest areas and Professional Agencies and CSOs and Private Sector Organisations (PSO) in other areas of the Landscape to bring in their specific knowledge. More importantly, they worked very closely with the people building their capacity and also with the Village Panchayats to make them understand the activities and their local relevance. But there is a basic deficiency in this method which needs to be pointed out; that is, the direct experience of planning and doing does not rest within the usual implementing agencies of the project area like the Village Panchayats. And once the projects come to a close this may not be fully internalised to result in automatic adoption in future. But it can be partially addressed

by taking one more step by the Project Management Unit (PMU) and/or the State Government by acting as the bridge and instructing the implementing agencies (e.g. Village Panchayats) to adopt the successful methodologies and practices and incorporate them in their normal plans of action, post-project for which some additional capacity-building is necessary.

The state govt issues detailed guidelines for local planning every year. In the case of the project area, there should be additional guidelines describing the initiatives that needs to be taken forward. Of course there should be a system for enabling the panchayats to do so – and this can be done by the continuance of the PMU either with UNDP-GEF support or state support or both.

(1) The Planning Process

Learning from the experience of the original project, extensive consultations were held with the stakeholders especially the Village Panchayats and meetings were held in each of the 11 Panchayats to explain the broad project objectives and get suggestions on different components and priorities. Most of them were captured in the revised project document. Thereafter inception meetings were held with the Village Panchayats in November-December 2018 and January 2019 in which the priorities were updated within the project framework and the focus shifted to operationalisation of the project activities with special reference to the role of the Panchayats in their planning and implementation. Similarly, meetings were organized with the Forest Department.

However, it has to be noted that landscape wide Inception Workshop could not take place.

(2) Detailed Planning and Implementation on ground

Because of the Direct Implementation Mechanism, agencies were identified for carrying out different activities based on a transparent process, and these included reputed non-government organizations, private entities and government agencies like Institutions of Excellence, Universities and Forest Development Agencies. ToRs were prepared for such support organizations mostly after consultation with the partner departments and Local Governments. Once selected, the support organizations discussed with the prospective beneficiaries and the elected Village Panchayats to finalize their action plan after which Inception Reports were submitted, which detailed the plan of action with timelines.

The field level implementation was closely monitored by the Project Officers of the PMU in charge of Livelihoods, Natural Resource Management and Conservation. They observed the implementation process and supported the agencies in building rapport in the community and the Local Governments. They played an important part in coordination with the Village Panchayats and did a lot of trouble shooting in the early stages, which really helped overcome fears and doubts among the beneficiaries

Though, surprisingly, and inexplicably, Village Panchayats were not funded under the Direct Implementation Method, they were consulted on all aspects of the project. Beneficiaries were selected only with the consent of the Panchayat concerned and frequent presentations were made before the full elected council of the Panchayats.

Accountability arrangements, especially social accountability was not well-structured.The accountability aspect outside the forest areas were handled by the Project Officers and within forest areas largely by the FDAs. In this important aspect Village Panchayats were not involved. Also, there were no formal transparency arrangements in place like pro-active disclosures of information related to financing and other aspects.

While the scale of intervention is modest considering the development area and its challenges, if one views it from the pre-project situation of the landscape the improvements are significant. The nature of project is such that the results cannot be fully captured in indicators but if proper action is taken (as suggested in Recommendations) many initiatives can be scaled up, and there lies the contribution of the project.

- *Adaptive Management*

The project is an excellent example of Adaptive Management in practice. The biggest evidence is the revision of the project to address the local concerns which brought about a remarkable change in the acceptance of the project. Later, during the planning phase and the implementation phase the local actors, particularly the Forest Development Agencies, the Village Panchayats and the SHG network of Kudumbashree and even the farmer's groups were involved, and they influenced the micro planning process and contributed to the success of the implementation.

This strategy facilitated understanding of many concepts by the local development agencies which will go a long way in mainstreaming biodiversity concerns in local planning. There is a strong possibility of continued expansion of many activities and possible replication even outside the landscape because of this strategy. This was confirmed during interactions with Village Panchayats, Forest Officials and top officials who were part of the State Project Steering Committee under the Chief Secretary.

- *Stakeholder Participation and Partnership*

The level of participation has been more than adequate probably exceeding what was expected in the original design. In the 11 Village Panchayats which are political bodies, the elected heads changed in all of them in the elections held in December 2020, in three Village Panchayats, the political formation in power also changed. Yet the project did not suffer any major issues, essentially due to strong direct access of the Project team to the local governments and local communities.

The Self-Help Groups also played a larger than expected role and they proved to be the backbone behind the good performance of the solid waste management and nonfarm livelihood initiatives. The project succeeded in motivating and mobilising the SHGs and linked them to solid waste management as a livelihood opportunity by developing a good economic model mainly through user charges. Similarly, for non-farm livelihoods activities, the SHGs were involved – their collective character and existing levels of capacity, enabled adoption.

The delay in the creation and lack of empowerment of the Landscape Level Advisory Committee is a serious lacuna as, for post-project implementation, ownership of the local level committee is critical for coordination and troubleshooting. This has necessitated a special transition arrangement.

Because of the Direct Implementation Method, the professional agencies contracted became active stakeholders and their performance has been quite good, and they acted with full understanding of the project objectives and in tune with the local realities. They could serve as an effective link between the project and the Local Governments as also the beneficiaries.

The partnership of the project with the Kerala Institute of Local Administration (KILA), one of the national leaders in capacity building of elected Local Governments proved extremely beneficial

evidenced in the preparation of "Green Plan" concept and its guidelines. Other capacity building efforts particularly in training of the field functionaries of solid waste management called Haritha Karma Sena (meaning Green Task Force) were very good.

(3) Project Finance and Co-Finance

The original budgeted amount for the project was USD 6,275,000 from the GEF. Until the end of the project that is September 2022, USD 5,682,925.89 has been disbursed totalling 91 % of the intended amount.

The following Table gives the expenditure figures outcome-wise.

Outcomes	**Original Budget per ProDoc (USD)**	**Cumulative Expenditures during the TE (USD)**
Outcome-1	750,100.00	1,394,838.2
Outcome-2	3,500,600.00	2,931,030.33
Outcome-3	1,729,300.00	1,024,115.75
Project Management	295,000.00	304,234.97
Grand Total	6,275,000.00	5,682,925.89

- It may be noted that there are variances between planned and actual expenditure under the project which could be attributed to the change in the implementation strategy of the project with greater focus on participatory planning as per the revised implementation strategy. The variances have been well analysed and endorsed by the National Project Steering Committee of the project.
- Strong financial controls were established under the project by UNDP and the Government of India. The activities and associated budget and expenditure were approved and monitored by the National Project Steering Committee and UNDP (in compliance with UNDP rules and regulations).
- The projectt has demonstrated due diligence in the management of funds and the same was closely monitored by the State Project Director, Government of Kerala, National Project Steering Committee and UNDP.
- It may also be noted that the budget reallocations not only helped in adaptive management for smooth implementation of the project but also in achieving the intended outcomes despite all the odds against the project.

In addition, the project could mobilize co-financing for the specific components undertaken from the project fund as indicated below:

Table 6 - Co-financing Table

Co-financing Source	**Planned (USD)**	**Actual (USD)***
Government	28,000,000.00	2,01,64,972.25
Private sector	1,000,000.00	57,241.76
UNDP	1,000,000.00	1,000,000.00
Total	30,000,000.00	21,222,214.00

* Conversion rate 1 USD = 81.83 INR (1st October 2022 UN Exchange Rate)

Further the Local Governments and the Forest Development Agencies incurred expenditure for initiatives related to the project priorities as given below:

Table 7 - Consolidated year wise co-finance mobilised through Government/ Non-Government at state level

Heads	**2019-2020**	**2020-21**	**2021-22**	**Total (INR)**	**Total (USD)***
Panchayat - Development Fund	72,319,655.00	174,640,782.00	1,72138,000.00	419,098,437.00	5,121,574.45
Others (Non Plan Fund)			162,419,117.00	162,419,117.00	1,984,835.84
Forest Department	367,756,830.00	347,394,574.00	358,114,813.91	1,073,266,217.91	13,115,803.71
Total	440,076,485.00	522,035,356.00	692,671,930.91	1,654,783,771.91	20,222,214.00

* Conversion rate 1 USD = 81.83 INR (1st October 2022 UN Exchange Rate)

It must be noted that in the case of solid waste management beyond the specific project component, the Local Governments spent substantial funds in scaling up the project interventions.

The project has followed the financial controls prescribed and there are no significant findings from the audits which were regularly conducted.

The following components showed a significant deviation from the original proposal. The below activities which was mentioned in the indicative annual work plan developed as part of the Revised Implementation Strategy in 2018 were not taken up.

Outcome/ Output	**Activity**
Outcome-1 - Strengthened capacities for community based sustainable use and management of natural resources	
1.1. Capacities of Local Self Governments and community organizations developed to plan for sustainable resource use	Preparation of GP level Watershed Plan
1.2. Sustainable resource use practices demonstrated for improved quality of life	Preparation of plan, piloting, capacity building and policy advisory for - Floriculture
	Renovation of selected water resource structures as part of environment building activity
	Validation of traditional knowledge and developing models for equitable benefit sharing from use of genetic/biological resources

1.3. Enhanced products/services value chains developed for providing ecologically sustainable livelihoods options	Developing and piloting business models: 'Agriculture clinics' in each panchayat for providing inputs and extension services for agriculture Sustainable/organic dairy development – Kuttanpuzha and Athirappilly
	Appropriate forum for dairy farmers, training on organic dairy development, institutional capacity building for milk marketing
	Marketing strategy for location-specific unique products such as marayoor jaggery and mankulam flowers
	Appropriate insurance plan for farmers adhering to sustainable farming practices
	Converting Vattavada and Kanthaloor into 'Vegetable baskets' through promotion of vegetable cultivation
	Strengthening the capacity of Horticorp in procurement, storage, distribution, and sales promotion of vegetables and fruits
1.4. Community-based models developed for sustainable access and use of forest resources by local communities	Developing a sustainable development strategy for life and livelihoods in Edamalakudi ecosystem including last-mile connectivity
	Facilitating Forest committee and other stakeholders on formulation and implementation of CFR management plan - 3 GPs
1.5. Policies framework reviewed and harmonized for ensuring sustainable resource use and management at the landscape level	Preparation of a compendium and ready reckoner of relevant policies, legislations, statues, orders, agreements and administrative procedures
Outcome-2 - Multiple use landscape management is applied to secure the ecological integrity of the High range landscape	
2.1. Capacities of conservation and production sector personnel developed for applying landscape approaches into sectoral planning and operations	Orientation of and consultations with middle level functionaries for mainstreaming biodiversity concerns and green protocol in their approaches
2.2. Mainstreaming of bio-diversity concerns in key production sectors demonstrated	Model traffic planning in Munnar and its vicinity
	Promotion of eco-tourism and preservation of historical monuments in landscape
	Sanitation and waste management linked models - Model septage treatment plant in tourist towns
Outcome -3 - Commonly accepted governance framework for multiple-use high range landscape management evolved	

3.3. Management effectiveness of designated biodiversity rich ecosystems are strengthened to address existing and emerging challenges to ecosystem conservation and services	Facilitating preparation and implementation of management and working plans for vulnerable and degraded forests - Removal of pine plantation (Pinus sp) in the proximity of Anayirankal dam (Chinnakanal) and restoring indigenous vegetation to enhance forage to wildlife as well as biodiversity
	Identification/establishment of permanent plots for long term monitoring of different forest types in the context of climate change
	Study for conservation of unique phenomena such as elephant congregation at Anakulam

This is largely due to changes in priority brought up during the participatory planning process; so, the formal allocations reflected local need and have to be seen in that light.

(4) Monitoring and Evaluation

The monitoring and evaluation systems followed standard protocols of UNDP and GEF projects. The National Project Steering Committee (NPSC) was too distant even though it met seven times and carried out its responsibilities. The State Project Steering Committee (SPSC) also met five times. Unfortunately, it could not play any role during the days of the initial crisis nor even in the modification process. This can be seen as a serious lapse. It is necessary to give a more specific role to the SPSC in troubleshooting and exercises like modifications of project activities. However, after the project really took off, the SPSC played its role very well.

The LLAC was constituted only on 30.07.2022 just before the project closure. In fact, it should have been the first committee that should have been put in place so that it could have guided project preparation and given feedback to higher levels on different local issues. Further, for a project of this kind, spread across 11 Village Panchayats and eight Forest Divisions, greater oversight on a regular basis is required with adequate powers for coordination and troubleshooting. Therefore, an Advisory Committee alone would not do and an Empowered Committee for local coordination should have been there.

In fact, most of the monitoring was done by the PMU and here it showed excellent performance responding to all issues and sorting them out efficiently.

UNDP played its role very effectively, particularly during the initial days of crisis where it took proactive steps far beyond what is required to liaise with the highest authorities of the Kerala Government including the Chief Minister and showed flexibility and responsiveness to modify the project as suited to the people of the landscape without deviating from the core objectives.

Later, during the fund flow issues, also UNDP played an active role even though it is felt that the delay in sorting out could have been avoided, had there been a closer interaction among MoEFCC, UNDP and the Kerala Government mainly through letters identifying special issues and through issue based discussions.

During the implementation UNDP played a significant role in ensuring the quality of the project, especially:

- Substantially modifying the project components without deviating from core objectives
- Actively liaising with the state government to sort out operational issues

- Keeping in regular touch with project management unit for prompt troubleshooting
- Maintaining good relationship with PMU to clarify all issues without waiting for protracted bureaucratic processes

Table 8 - Rating for M&E

Monitoring & Evaluation (M&E)	**Rating**
M&E design at entry	4
M&E Plan Implementation	3
Overall Quality of M&E	3

Ratings for Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight, Execution, Relevance
6 = Highly Satisfactory (HS): exceeds expectations and/or no shortcomings 5 = Satisfactory (S): meets expectations and/or no or minor shortcomings 4 = Moderately Satisfactory (MS): more or less meets expectations and/or some shortcomings 3 = Moderately Unsatisfactory (MU): somewhat below expectations and/or significant shortcomings 2 = Unsatisfactory (U): substantially below expectations and/or major shortcomings 1 = Highly Unsatisfactory (HU): severe shortcomings Unable to Assess (U/A): available information does not allow an assessment

(5) Risk Management including Social and Environmental Standards

The project has risk management strategy, which was well implemented by the PMU at national. State and local level in close consultation with all relevant stakeholders. The risk registers have been quarterly updated and also informed to the NPSC to inform the decision making.

The project developed mitigation plans for all the envisaged risks and hence could deliver on the intended results despite facing operational, financial, environmental and other risks.

The SESP for the project was developed in 2020 and appropriate measures were undertaken by the State and UNDP to avoid and minimize the risks involved.

It is important to note that the unexpected fund delay could have fully derailed the project through uncertainties in starting several medium-term initiatives and it survived only because of the field level credibility of the project staff.

It has to be mentioned that the project also survived the unexpected Covid pandemic which is still continuing even though in a less severe form. Covid could be considered as both an environmental and social risk. Interestingly bulk of the activities were carried out during this period.

(6) Mid Term Review (MTR) and Response

The MTR was carried out in the first half of 2020-21 when the revised project was in its very early stages (after the delays) and was still taking final shape. Actually, it took place after the originally planned closing date. However, it was rigorous and brought out the shortfalls very clearly.

The important follow up actions taken by the Project were evaluated and in the following areas there were important changes.

(i) The internal governance arrangements improved significantly with streamlining of processes especially w.r.t implementation and regular monitoring of results

(ii) There was a serious attempt to streamline the move towards achievement of indicators in accordance with the recommendations of the MTR.

(iii) The MTR resulted in the Tribal Engagement Plan and the Gender Mainstreaming Action Plan Framework.

(iv) The Social and Environmental Screening (SES) was also fine-tuned. But it is seen that in the checklist has not been prepared with clear understanding of on-ground situation and it just highlights the perspective of the Consultant. The Project Management felt that it was due to lack of discussion with the project staff on local realities and verification of the field by the consultant. However, appropriate measures were taken by the PMU to ensure avoidance and mitigation of the risks involved. As suggested in the MTR, FPIC was also done for select project activities.

The action taken report on the MTR prepared by the PMU is attached as annexure for clarification.

Table 9 - Rating for Implementation & Execution

Implementing Agency (IA) Implementation & Executing Agency (EA) Execution	**Rating**
Quality of UNDP Implementation/Oversight	5
Quality of Implementing Partner Execution	5
Overall quality of Implementation/Execution	5

NB – If viewed over the performance over 8 years, obviously the above ratings cannot be justified but considering the de facto project period of little over 2 years, the ratings are fully justified in terms of the number of activities, progress in the implementation and possibilities of sustainability.

Ratings for Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight, Execution, Relevance
6 = Highly Satisfactory (HS): exceeds expectations and/or no shortcomings 5 = Satisfactory (S): meets expectations and/or no or minor shortcomings 4 = Moderately Satisfactory (MS): more or less meets expectations and/or some shortcomings 3 = Moderately Unsatisfactory (MU): somewhat below expectations and/or significant shortcomings 2 = Unsatisfactory (U): substantially below expectations and/or major shortcomings 1 = Highly Unsatisfactory (HU): severe shortcomings Unable to Assess (U/A): available information does not allow an assessment

c. Project Results and Impacts

The final Project Implementation Report (2022 PIR) given as Annexure 10 captures the critical achievements, most of them in physical terms. However, it is strongly felt that numbers do not speak in the case of a project of this nature, as it largely attempted to mainstream biodiversity concerns in the landscape by developing locally appropriate initiatives in different thematic areas. It demonstrated to the local people that eco-conservation and economic development can have a synergetic co-existence. Based on the multi-dimensional methodology followed by the TE, the summary of the results observed by the TE Team are presented below:

Positive Results

(i) With respect to eco-restoration of degraded forest landscapes, significant achievements were made by the Forest Department to change land use by removing exotic species like *Acacia*, *Eucalyptus*, etc., and reclaiming the grass land. And the eight restoration monitoring plots are being utilized to verify the results of the change in land use with a plan of action to restore 750 hectares of degraded eco systems in the first instance. The revival of sandal wood cultivation in eight hectares by removing invasive species like lantana has resulted in a protocol which has been accepted by the Forest Department and the potential for scaling up is huge. Similarly, the nursery to raise 35 Shola species is a good achievement. However, planting of riparian species in Vazhachal and Chalakkudy may not be enough to make it sustainable in the long run due to the small scale of the intervention. A key reason for this is the inherently unstable nature of the thin tracts of affected land and an exceptional increase in the intensity of the extreme events. Also, improvement of the aquatic bird habitat in Thattekad Bird Sanctuary is primarily of demonstration value.
Some interesting initiatives using GIS and artificial intelligence have been attempted to address the human-wildlife interface. This needs to be pursued and converted into an action plan with the involvement of the local people.

(ii) The monitoring arrangements for wildlife including birds is an innovative initiative which could continue even after the project period as a system has been established

(iii) In respect of promotion of sustainable livelihoods, commendable achievements have been made with respect of sugarcane and lemongrass cultivation. The passion fruit value chain is already sustainable, and the bamboo and reed value chains have shown some promise as pilots but require special efforts to sustain.

(iv) 'Organic Mankulam' is in a very advanced stage and is likely to reach full achievement. But the inability to convince the people and the Village Panchayat to make Mankulam carbon neutral could be seen as a failure of IEC – of course, the extenuating circumstance is the shortage of time.

(v) The revival of traditional varieties of paddy, vegetables, medicinal plants and agro forestry models again are successful micro experiments which need to be adopted in the mainstream by the Village Panchayats and the relevant Departments.

(vi) Safe to eat cardamom is gaining traction and with the new trends in the market and the support of the Spices Board, it is likely to be sustainable. The ongoing GIZ project on the same theme in Idukki is expected to strengthen this. As the UNDP GEF project area falls within the GIZ project area which is for the whole district it is understood that the GIZ team has already visited the Mankulam Village Panchayath which was facilitated by the PMU.

(vii) The Green Innovation Fund through the Kerala Start-up Mission is a significant achievement with a good potential for natural expansion. _6 initiatives has been successfully grounded and discussions with the start up owners confirmed this.

(viii) Waste management has been the outstanding success of the project, and this has very positive environmental implications since the landscape is opening up fast to tourism. All the Village Panchayats taken up for this project, namely, Munnar, Mankulam, Chinnakanal, Marayoor, Kanthalloor, Athirapilly and Devikulam have developed viable models of solid waste management fully internalized by the Local Governments. Green corridor concept in Athirapilly and Munnar is very convincing and there is a strong likelihood of its adoption by the State Government.

(ix) However, the water conservation activities have been very limited and there is need for widespread IEC post-project to ensure that the river rejuvenation taken up for Nallathanni River and the riverbank conservation taken up in Adimali are pursued.

(x) In terms of biodiversity conservation in the production sectors, the State of Sector documents are a good beginning and in the tourism sector good models have been developed in Kuttampuzha and Mankulam.

(xi) Another area of high level of success is in capacity building. Very good professional, technical and management inputs have been introduced for the first time in the landscape area which has led to adoption by the different development agencies especially the Village Panchayats and Forest Development Agencies. The Local Governments which are the major actors in the non-forest area of the landscape are now fully equipped to adapt the proven, good practices developed in the landscape area in their day-to-day development activities. Strategically, the PMU has partnered with KILA – the main institution responsible for building capacities for local governments and KILA has taken the lead in providing training on the themes related to the project.

(xii) In strengthening the management of Protected Areas, three Management Plans have already been revised and four more plans are getting ready for revision. In other territorial areas, the Working Plans are under revision. The mapping of high value biodiversity areas has brought up interesting details on species of importance in the landscape. The Management, Effectiveness, Evaluation scores and the Management Effectiveness Tracking Tools have given a fillip to these activities by establishing clear baselines in all the six protected areas.

Name of the Protected Area	Mid-term Score (METT)	End of the Project Score (METT)
Eravikulam National Park	84	85
Chinnar Wildlife Sanctuary	81	81
Pampadumshola National Pak	79	81
Anamudi Shola National Park	79	80
Kurinjimala Sanctuary	77	79

Thattekad Bird Sanctuary	78	78
	478 out of 594	484 out of 594

(xiii) A Landscape-Level Management Plan was prepared that provides a detailed roadmap for ensuring integration of efforts towards biodiversity conservation with the centrality of local community stewardship in sync with ongoing departmental schemes of the state and the centre. The draft includes background of the project landscape, ongoing stressors, categorisation of transformation stages (PA, rural-forest interface), habitation prioritisation through biodiversity scoring, menu of action portfolios, potential legitimacy mechanism, steering/coordination at the district level, fund flow, with monitoring and evaluation indicators, and summary of IHRML project actions. Additionally, the plan also includes a Multi-dimensional Biodiversity Index for monitoring actions vis-a-vis the CBD goals. The plan can be implemented in select portions of the region in a phase-wise manner to sustain the on-ground actions piloted under ongoing Government programs and the IHRML project.

Shortfalls

i) Some of the specific activities which could not be carried out include preparation of Panchayat level Participatory Environment Resource Appraisal Document (PERAD) to be integrated into an area development plan. Likewise, use of biodiversity registers for preparing action plans as per the Biological Diversity Conservation Act would require much more effort. The validation of traditional knowledge and developing models for access and benefit sharing by the local communities from use of genetic and biological resources also could not be carried out.

ii) Probably the biggest failure would be the inability to prepare a sustainable development plan for the Edamalakudi ecosystem and take forward the agenda of Forest rights, especially Community Forest Rights.

iii) Failure to demonstrate a doable model of integrated watershed management both in high rainfall and low rainfall regions is a shortcoming.

iv) Carrying capacity studies were also not fully done.

v) Had the compendium or a ready reckoner of all policies, laws and orders and procedures been prepared, it would have been of great use in the post-project activities. But this could not be done.

vi) Though the achievements have been very good in respect of responsible tourism, the failure to develop a model traffic plan for Munnar needs to be highlighted.

vii) The potential for developing a multi-species horticulture hub in the Anchunad valley remained untapped in spite of basic studies.

viii) Also not much has been done in preparation of SOPs and replication toolkits for using in other mountain landscapes.

The project results are broadly in alignment with National and State priorities and more specifically and notably, with the local priorities of the Local Governments which are very active with specific roles in Kerala. Of course, the priorities are also in line with those of the UNDP and GEF. Specifically, SDGs related to poverty, gender, sustainable consumption and environment have been addressed through the different activities especially livelihoods, waste management, responsible tourism and sustainable agriculture. In addition, strengthening the SHG network.

A remarkable feature of the project is the participation of stakeholders ranging from people belonging to Particularly Vulnerable Tribal Groups (PVTGs) like the Hill Pulayas up to activists, NGOs and professional organisations. The project has succeeded in addressing the prioritized concerns of Farmers, the Self-Help Groups of Women, Youth, Village Panchayats, Plantations and the Forest Department to a good extent.

Effectiveness

The effectiveness of the Project can be adjudged from the multiple angles:

1. Certain initiatives which were going on in the landscape at a relatively low level of efficiency especially Solid Waste Management got a big boost due to the project interventions. Now improved methods of waste management, collection of user charges and even introduction of appropriate technology for the cold climate of Munnar have been put into practice. It has made it viable for the future – auto-sustainable.
2. There is a high chance of post-project scalability in respect of sandal wood regeneration, improved cultivation and market linkages of sugarcane and lemongrass, conversion of environmentally harmful commercial plantations of the Forest Department into suitable land use.
3. There are several replicable models. Of special mention would be Responsible Tourism and Green Corridor concept in tourism areas which are environmentally fragile. And Organic Cardamom is also one such initiative.
4. Improved capacity of the stakeholders especially the Village Panchayats and the Forest Development Agencies which would help in retaining the new learnings of the Project and adopting them for regular use in their plans is evident as revealed from the direct interactions with them and in the adapting of several initiatives in the normal plans.

5. Acceptance by the people is an important sign of effectiveness that too after strong opposition in the beginning. Considerable credit for this clearly goes to dedicated UNDP PMU staff who managed this in spite of the initial delays and challenges.
6. Social inclusion particularly of extremely marginalized groups like the Hill Pulaya tribal community, is a good indicator of effectiveness.
7. The key theme of the Project is biodiversity, and it is worth examining how the Project contributed to this aspect.
    i) The Project was able to recover a few critically endangered species and pave way for their survival. The restoration of the grass lands could bring back the habitat of high-altitude birds, butterflies, etc. Also, they could provide grazing habitat for large and small herbivores. The removal of exotic species has increased the space for Nilgiri Tahr.
    ii) The scientific study on Hornbills has initiated action for planting nesting and food giving trees.
    iii) The breeding of two native forest stream fishes is a significant contribution.
    iv) Establishment of seed banks and nurseries for Sholas and ever green species and even preparation of the taxonomic inventory of Sholas in and around the tea gardens and the taxonomic inventory of orchids are significant contributions in respect of biodiversity, present and potential.
    v) Awareness creation through responsible tourism, establishing signages and mapping of elephant movement paths, can help these species by reduced conflict and increased sensitivity through coexistence.
    vi) Restoration of canal networks near waterholes has improved the habitat for aquatic birds, including migratory species.

vii) The revisions of Management Plans and Working Plans have the potential of restoration of degraded systems and establishing connectivity with the natural forest.
viii) The Green Plans of Local Government have also a huge biodiversity potential if they can be linked with the operationalisation of the Biological Diversity Act in letter and spirit.
ix) The focus on waste management will have multiple effects including reduction of pollution of rivers and reducing risky consumption of waste especially plastic by wild animals.
x) The alternative livelihoods pushed through initiatives like improved variety of lemongrass, value addition to non-timber forest produce, improved agriculture especially organic and natural, have a positive impact by reducing pressure on the eco system.
xi) Similarly, the spatial crop plans and organic cardamom can help the environment by reducing use of chemicals.
xii) Studies on improving energy consumption in plantations have a huge potential to reduce captive fuel plantations and gradually convert them into natural grass lands or even forests.
xiii) The concept of green islands established at 12 locations and the Biodiversity Resource Centre at Adimali can really educate the people on the importance of conserving biodiversity and the benefit from them.

The above points are detailed in the Note at Annexure 11.

8. A major achievement of the Project was in convincing the Forest Department to amend the Management Plans/Working Plans in the landscape area according to special importance to enhancing biodiversity. This was done through intensive mutual discussions, sharing of expert knowledge, exposure visits, field studies including preparation of inventory of flora and fauna, thematic mapping using high resolution maps and scientific zonation. The whole exercise was backed up by very good training including handholding for activities like detailed micro planning.

   In this revision, removal of invasive/inappropriate commercial species and restoration of these areas in an ecologically sustainable way finds an important place. In a sense, for the first time the Forest Department has adopted a landscape level strategy and there is an understanding of the landscape as a whole before preparing individual Management/ Working Plans.
9. The potential contribution to policy is an important achievement. They include preparation of Green Plans by Local Governments in other eco-sensitive areas of the Western Ghats, adoption of Responsible Tourism protocols in similar locations, firming up the policy decisions by the Forest Department to convert all commercial plantations which are inappropriate to the local landscape into more sound land use, etc. For these to be operationalised a transition arrangement is necessary funded by UNDP-GEF or GoK or both.

The very fact that the senior officials of Government in their interaction with the TE Team expressed their serious interest and intent to carry forward the relevant initiatives and ideas without much possibility of external funding is an acknowledgement of its effectiveness. But this needs to be translated into necessary institutional arrangements.

Though the initiatives are spread out, numerous, and some of them even small, they have succeeded in developing and validating the proof of concept in several priority initiatives. It is worth noting that most of them are of pioneering nature in the landscape and critically linked to biodiversity concerns.

During interactions with the Village Panchayats and the Self-Help Groups they clearly stated that the Project filled critical gaps and gave them capability and confidence to undertake initiatives in a more scientific, systematic, and locally relevant manner.

Of course, the effectiveness would have been more had the short falls mentioned earlier had not occurred.

In respect of gender the project succeeded in strengthening the Kudumbashree system by improving their livelihoods. It also pioneered new employment opportunities in the non-traditional sectors for local women like tourism especially in Mankulam and Athirapilly. In these initiatives concerns of safety of women and decent work were taken into account. An interesting initiative is the introduction of electric buggy cart in the Eravikulam National Park for the differently abled and the aged – with an unexpected high usage due to improved accessibility. A similar effort was provision of wheelchairs and ramps in Athirapilly waterfall area.

The note on highlights from the Dissemination Workshop held on 29th and 30th of June 2022 given in Annexure 13 reveals the effectiveness, as felt by different stakeholders.

The following classifications give a summary idea of the effectiveness.

Classification of Knowledge Products

The knowledge products are generally of good quality, and they could be classified as follows:

1	Those which are ready to use	(i)	Athirapilly – Model Eco Corridor – Detailed Project Report
		(ii)	Detailed Project Report on Developing a Solid Waste Management System in Munnar Grama Panchayat as an Action Research Programme
		(iii)	Comprehensive Sustainable Solid Waste Management Master Plan for Kuttampuzha GP
		(iv)	Comprehensive Sustainable Solid Waste Management DPR for Athirapilly GP
		(v)	Comprehensive Sustainable Solid Waste Management DPR – Chinnakkanal GP
		(vi)	Comprehensive Sustainable Solid Waste ManagementDPR – Mankulam GP
		(vii)	Comprehensive Sustainable Solid Waste Management DPR-Marayoor GP
		(viii)	Comprehensive Sustainable Solid Waste Management DPR-Kanthalloor GP
2	Those products which are of good quality but need detailing and conversion into actionable plans	(i)	Integrated Landscape Level Management Strategy for IHRML Project
		(ii)	Bamboo sector in the landscape: Baseline data and developing suitable strategies and action plan for the overall development of the bamboo sector in the IHRM landscape
		(iii)	Non-timber Forest Produce Value Chain study for developing a landscape-based strategy for improving the value chain of NTFPs in the Project Landscape
		(iv)	Study on Market Mapping and Value Chain Analysis of Fruits and Vegetables – Vattavada and Kanthalloor

		(v)	Developing a conservation and propagation plan for traditional practices and seed varieties in the selected clusters of the project landscape
3	Those requiring ownership and adoption which requires considerable follow up	(i) (ii) (iii) (iv) (v) (vi)	Study on social change among tribes – Trajectory of development - Focus on Edamalakudy Integrated Water Resource Management of HRML region – Hydrological Investigations in the High Range Mountain Landscape, Kerala Energy Audit of CTC tea factory KDHP company Energy Audit of Orthodox Tea Processing Facilities of KDHP company Development of State of Sector Document – Tea, Cardamom, Coffee, Oil Palm and Forest Plantations Edamalakkudy – A report on the resource collection and utilization by the forest dependent community
4	Those requiring widespread dissemination in the landscape area for follow up and appropriate local use, particularly in strengthening awareness of the stakeholders concerned	(i) (ii) (iii) (iv) (v) (vi) (vii) (viii) (ix)	Creation of Benchmark Socio-economic database for concurrent evaluation Documentation and compilation of existing information on various taxa (flora and fauna) and identification of critical gaps in knowledge Review of ecological and development history of various sectors and changes in selected ecological units Study on Pattern of usage of pesticides and their impact on the Ecosystem of plantations and adjacent areas Study on Diversity and current status of fish and fisheries Study on the impact of invasive plant species on Ecology Ecosystem requirements of hornbills and assess the status and distribution of selected mammals Mapping of Spatial distribution of sectors with underlying attributes in HRML Rapid Biodiversity Assessment in the High Ranges of Munnar Forest Division

Classification of Initiatives

(i) The following initiatives are sustainable on their own.

a. The production unit of Mankulam Agro Marketing Cooperative (MANCO)
b. Solid waste management in all the Panchayats where it has been initiated through the Haritha Keralam Mission
c. The Orchidarium of the Forest Department
d. The model plots for eco restoration within the forest boundaries
e. Tourism initiatives within Eravikulam National Park
f. Livelihood initiative called IDAM in Athirapilly.
g. Comfort Stations on the banks of Nallathanni in Munnar

(ii) Initiatives which are replicable within the landscape area with a little effort and ownership of the State Government
   a. Sandal Wood Plantation in Marayoor
   b. Sustainable Sugarcane Initiative
   c. Lemongrass Value Chain
   d. Development of the Green Corridors of Athirapilly and Marayoor
   e. Universalizing Solid Waste Management Facilities
   f. Completion of the degraded ecosystems in forest areas
   g. Responsible Tourism Initiatives
   h. Enhancing of Tribal Livelihoods
   i. Biodiversity Action Plan
   j. Updating of the management plans of the 3 Protected Areas

(iii) Initiatives, which may not survive unless there is ownership by the Local Governments and the State Departments which at this point of time is not automatic.
   a. Traditional agriculture including organic farming and development of riparian species
   b. Cultivation of medicinal plants
   c. Initiatives in private plantations for energy efficiency
   d. Shola Development
   e. Riverbank protection
   f. Organic Cardamom
   g. Agro forestry models for small farmers
   h. Nallathanni river rejuvenation

These can be dealt with, only if there is a post-project mechanism which works intensely with the full ownership of the State Department. Details have been spelt out in Annexure 14.

To reiterate, the biodiversity implications of most of the interventions are self-evident. For the project of such a small size it is not feasible to achieve them on scale, but it has to be stated that the proof of concept has been achieved in a large number of initiatives which can be easily scaled up and/or replicated.

The Project realized the paradigm of biodiversity for the people in synergetic partnership with biodiversity for nature by balancing ecology and livelihoods, interestingly for mutual benefit.

From a quantitative sense the following Tables reveal the performance effectiveness of the Project

Table 10 - Indicator wise performance rating

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
	HIGH				
1	Extent brought under multiple use management planning framework	0 ha	219,878 ha	206,827 ha	High

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
2	Population status of following critical species remain stable or increases: Nilgiri Tahr Grizzled giant squirrel	944 195	Remain stable or increases by project end	1039 107	High
6	Sector-specific biodiversity-plans compatible with LLLUP developed leading to effective integration of biodiversity considerations into production practices	0	At least six Sector Plans (Forestry, Tourism, Tea, Cardamom, Agriculture and Tribal Development) and Biodiversity Conservation Plans (5) in place	Five Sector Plans and Five Conservation Plans	High
10	Improved management effectiveness PAs as measured and recorded by Management Effectiveness Tracking Tool (METT) (Note: endorsed change to reduce number of PA sites)	168 out of 300 (Baselines need to be re-established as PA sites are shifting)	Increase in METT scores by 10 percent by year 3 By 20 percent by year 5	27% increase	High
12	Number of new demonstration programmes/ featuring biodiversity friendly production practices (e.g. curing units/ energy efficiency options/ farming practices) adopted	0	20	22	High
15	Number of community representatives/ PRIs trained in biodiversity mainstreaming activities	0	500	1329	High

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
16	Number of new micro-enterprises at individual/SHG/ CBO/ and other local institution levels based sustainable resource use	0	Target to be defined after design of the micro-plans	10	High
19	Number of development plans of PRIs/ CBOs that incorporate bio-diversity friendly practices (Note: was missing from Results Framework in error and added in 2019)	0	11	11	High
	MEDIUM				
4	Improvements in water quality in the water bodies of the landscape	BOD -1.5 mg/l at Neriamangalam and 1.4 mg/l at Bhoothathankett	10% improvement by project end.	33% improvement	Medium
5	Landscape Level Land use Plan (LLLUP) developed adhering to multiple use management decisions	0	1	1	Medium
7	Effective and functioning cross-sectoral, multi-stakeholder institution (including conservation, livelihood and production) established.	0	1	1	Medium
8	Number of key policy and management framework/ decisions adopted at local and state level related to sustainable mountain landscape management	0	7 (Wildlife Protection Act, Forest Conservation Act, Environment Protection Act, Forest Rights Act, Cardamom Rules, KDH	15	Medium

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
			Act, Land Assignment Act, Commodities Act), National Working Plan Code and other Management decisions		
9	Improvement in Systemic Level Indicators of Capacity Development Scorecard (Annex 19)	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 55% 2. Capacity to implement policies, legislation, strategies and programmes 42% 3. Capacity to engage and build consensus among all stakeholders 69%4. Capacity to mobilize information and knowledge 62% 5. Capacity to monitor, evaluate and report and learn at the sector and project levels. 61%	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 80% 2. Capacity to implement policies, legislation, strategies and programmes 80% 3. Capacity to engage and build consensus among all stakeholders 80% 4. Capacity to mobilize information and knowledge 80% 5. Capacity to monitor, evaluate and report and learn at the sector and project levels. 80%	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 56% 2. Capacity to implement policies, legislation, strategies and programmes 49% 3. Capacity to engage and build consensus among all stakeholders 60% 4. Capacity to mobilize information and knowledge 57% 5. Capacity to monitor, evaluate and report and learn at the sector and project levels. 60%	Medium

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
11	Proportion of degraded habitats rehabilitated within the PA system	To be established - baseline degraded areas to be measured for revised indicator (NEW baseline for revised indicator)	30% increase (NEW target for revised indicator, TBC once baseline established)	5.40%	Medium
13	Areas of forest fragments/ HVBAs in tea gardens inventorised and secured (Note: this indicator was missing from results framework and has been re-added in 2019 based on ProDoc)	0	4,000 ha	5,608 ha inventorised 66 ha – secured in 2013 2,800.43 ha proposal submitted to Govt. 2,741.57 ha – detailed survey ongoing	Medium
17	% reduction in biomass consumption in lemon grass enterprises through adoption of improved technology.	494,361 kg/ year	10 percent reduction by 3rd year and 20 percent by project end.	73% reduction in fuelwood consumption and 10% reduction in water usage	Medium
	LOW				
14	% reduction in fuel wood consumption for processing in tea and cardamom using energy efficient technology and improved design (indicator, baselines and targets will have to be re-visited once the Sector Plans are prepared by mid-term)	Baseline to be established in the first year	10% decline over baseline usage	Not achieved	Low
18	Appropriate model agreement between different agencies on the effective implementation of FRA as evidence	0	1	Not achieved	Low

Indicator No#	Description of Indicator	Baseline Level	End of project target level	End of project achievement	Performance rating*
	through sustainable use and protection of biodiversity in Edamalakudy Panchayat				
3	Percentage increase in habitats categorized as high conservation value over the baseline.	PA: 207.5 km2	10% increase by mid-term and 20 % by project end.	Not achieved	NA

- Annexure 10 can be referred for summarised PIR with remarks and Indicator number

'* - The ratings are informed judgements of the TE team after assessing the different pieces of evidence before them.

Efficiency

Considering the project period from April 2018 till date the project has spent approximately USD 5,682,925.89. During the same period Local Governments had a resource envelope of Rs 513.82 crore (USD 62.79 Mn). Thus, with a relatively small expenditure the project could catalyse many initiatives as mentioned earlier. The output of the staff in IEC was much higher than expected levels. Similarly, knowledge support through strategic studies and handholding support were again cost efficient.

With a little bit of push post-project, many of these initiatives can be taken to their logical conclusion which can yield substantial value for money.

From the records and more from the understanding developed through interactions with the stakeholders and visits to representative project sites, the allocation of resources is seen to be fair with a strong element of gender and pro-poor inclusion.

As mentioned earlier, the project extensions were inevitable. The TE team reiterates strongly that the fund flow issues should have been anticipated in advance and sorted out before the project start, which, if it had been done could have transformed the project significantly. In particular, it would have got a four-year term to work rather than an effective one of less than two years.

Considering the fact that most of the key activities on the field took place during the last period from December 2020, the overall achievement is very good.

Table 10 - Rating of Outcomes

Assessment of Outcomes	Rating
Relevance	5
Effectiveness	5
Efficiency	5
Overall Project Outcome Rating	5

NB - the rating is based on performance on the de facto period of 2 years and doesn't consider the time lost beyond the control of the PMU.

Ratings for Outcomes, Effectiveness, Efficiency, M&E, Implementation/Oversight, Execution, Relevance
6 = Highly Satisfactory (HS): exceeds expectations and/or no shortcomings 5 = Satisfactory (S): meets expectations and/or no or minor shortcomings 4 = Moderately Satisfactory (MS): more or less meets expectations and/or some shortcomings 3 = Moderately Unsatisfactory (MU): somewhat below expectations and/or significant shortcomings 2 = Unsatisfactory (U): substantially below expectations and/or major shortcomings 1 = Highly Unsatisfactory (HU): severe shortcomings Unable to Assess (U/A): available information does not allow an assessment

Sustainability

a) Financial Sustainability

Considering the regular budgeted allocations for local planning with substantial freedom to Local Governments and the possibilities of convergence with MGNREGS, the likelihood of flow of resources for scaling up and even replication of initiatives is enhanced. But they need special arrangements which can be provided by activating the landscape level committee which needs to be specifically tasked by the State Government to carry out the post-project activities for which a detailed document on the lines of the original project document needs to be prepared, ideally by the present project team which is being engaged by the Government as part of institutionalization of the project.

b) Socio Political

The buy-in by the elected Village Panchayats seems to be very good. And also the local community especially the small farmers, the tourism business groups, the Self Help Group network, seem to have accepted the initiatives and could push for their funding as the benefits are clear to them.

c) Governance Sustainability

Of course, the capacity of the Panchayats and the SHG network has been enhanced. It is expected that the main implementing agencies namely, Harita Kerala Mission (HKM) (through the Village Panchayats) and the Forest Development Agencies could carry forward the initiatives once Government gives appropriate directions as they have been provided the requisite knowledge and sufficient capacity. The project has identified some champions like the Chief Secretary, the Mission Director of HKM, the Director General of the Kerala Institute of Local Administration (KILA), the Additional Chief Secretary in charge of Home and Environment and the Additional Chief Secretary in charge of Local Self Government who could put in their efforts for sustaining the key elements especially the policy related areas and the development concepts validated on the ground which can be adopted for state wide application.

During discussions with the State Government just before writing the TE Report, the interest shown by senior officials in building on the gains of this Project particularly in taking forward the innovations, gives hope for optimism. But a nudge from UNDP in coordination with MoEFCC would certainly help.

d)Environmental

There is no obvious factor which will impede the future flow of project environmental benefits and there is no activity which can prove to be an internal threat to sustainability. The interventions made under the project especially w.r.t eco-restoration of Shola grasslands, species conservation, improvement in management effectiveness of Protected Areas, restoration of riparian vegetation etc. has started contributing to the global environment benefits and will ensure environmental sustainability in the future if sustained by the Government of Kerala which is very keen to upscale the project initiatives.

e) Country Ownership

The most important feature is the ownership of the State Government which seems to be quite high as revealed during the interaction with the top policy makers and by analysing the minutes of the State Level Steering Committee. This also came up clearly during the meeting of the senior landscape level officers particularly of the Forest Department who have internalised their new initiatives. This was further confirmed during interactions with the TE Team that they are capable of taking forward these initiatives.

The Project has resulted in considerable socio-political capital mainly through the sensitization of the Self-Help Group network and the Village Panchayats. The Forest Department has also achieved this to a significant degree. The project has acquired a certain expertise from its field level experiences which needs to be properly utilized post-project.

A satisfying finding was that the project which invited strong local opposition could be modified without compromising on the core principles and priorities and made totally acceptable to the local communities and the Local Governments, so much so, they have accepted the importance of the project elements and expressed their strong desire to carry them forward.

Prima facie, multiple activities spread across the landscape would seem to defy logic. But considering the fact that, within the limited scope, in terms of time and financial resources, there is justification for the mosaic approach, focusing on key priorities and problem areas and trying to develop feasible solutions backed up by sound knowledge and local wisdom with the reasonable expectation of their being followed up post-project.

The TE team could understand that the project team has excellent rapport with the Local Governments as well as the Forest Department which are the main implementing partners. Likewise, the project staff gained credibility and full acceptance of a range of stakeholders - Particularly Vulnerable Tribal Groups, women SHGs, especially those who worked in solid waste management, elected representatives, local NGOs, farmers, and their groups and youth.

The participation of Local Governments and more so the people of the locality, made the project interventions quite effective. It is best evidenced by the fact that even the relatively poor scheduled tribe families were willing to contribute user charges realising the importance of waste management in protecting their environment.

Interaction with the project team individually and collectively showed that they were very competent and committed to the project objectives. They showed a clear understanding of the project components and the rationale for the project intervention. The discussion revealed their knowledge of even minute issues which had implications for the project.

The project has achieved considerable convergence in a short period of time across development actors, governmental and non-governmental, resulting in pooling of knowledge, management

strengths and financial resources. This convergence seems to have enhanced the shared understanding of issues related to the landscape.

As mentioned in the Section 4.3 and the section on 'Effectiveness' above, the Landscape-Level Management Plan prepared under this project can effectively ensure continuity of the recommendations made under this project through a structure and funding mechanism supported by both, the state and the MoEFCC.

A lot of knowledge has been generated related to the landscape relevant for different outputs. Almost all of them are either new or significantly supplement existing levels of knowledge related to different priorities of the landscape. These, if used properly, by themselves, can further the project goals in a significant way. The intellectual property needs to be widely disseminated as a biodiversity project is more about creating awareness and dispelling unnecessary fears. This ecological information needs to be passed on to local agencies who need to use them in local planning supplemented by further studies to deepen the understanding, if required.

Table 11 - Rating on sustainability

Sustainability	**Rating**
Financial sustainability	3
Socio-political sustainability	4
Institutional framework and governance sustainability	4
Environmental sustainability	3#
Overall Likelihood of Sustainability	3.5

- Due to the probable future action of different stakeholders over which the village panchayat and forest department has no control.

Sustainability ratings:
4 = Likely (L): negligible risks to sustainability 3 = Moderately Likely (ML): moderate risks to sustainability 2 = Moderately Unlikely (MU): significant risks to sustainability 1 = Unlikely (U): severe risks to sustainability Unable to Assess (U/A): Unable to assess the expected incidence and magnitude of risks to sustainability

7. Conclusions

The Project is found to be very relevant both to the locality as well as to improvement of State policies. The project design, after the modification gave ample flexibility for responding to local needs and even adapting to political changes in the governance of Village Panchayats.

The adaptive management, especially by UNDP, led to the, so to say, reincarnation of the Project from one which was virulently opposed to one which was warmly welcomed and supported. Though a small project, relative to the expenditures of Local Governments and Forest Department in the landscape, following a mosaic approach of critical innovative micro experiments, trying out development concepts appropriate to the locality, it has certainly achieved value for money. Most of the development interventions were for the first time. Also, some of the interventions improved existing practices and took them to the higher levels.

The Project is remarkable for its democratic character ensuring genuine participation especially of women and the marginalized groups. In fact, during implementation, this aspect was achieved to a much higher degree than envisaged even in the Revised Project.

The Project has left a lasting impact on the development thinking of the key actors in the landscape namely, the Forest Development Agencies and the Village Panchayats. It is expected that the learnings from the Project would significantly influence their future development initiatives.

This Project, severely curtailed by reasons beyond the control of the Project team, needs to be sustained for the greater good of local level development in the landscape. Since it was a de facto two-year project, special arrangements are needed to take several initiatives to their meaningful conclusion and also scaling up and replication. The TE Team got the clear impression that the State Government has accepted this. It would be of great benefit if UNDP-GEF and MoEFCC can play a pro-active role at least for three years, more in terms of providing technical assistance and capacity building for the transition and monitoring the continuance with limited funding for these aspects alone.

It would be very useful if a Handbook is developed which details the key initiatives which need to be sustained, scaled up or replicated with special reference to processes and procedures and techniques and technology a kind of do-it-yourself toolkit, it would help development practitioners within and outside the State.

8. Recommendations

The recommendations are made with the sole objective of ensuring sustainability of certain initiatives which are extremely critical in addressing priority development issues in the landscape. It is felt that these recommendations are doable, but they need to be processed in a systematic manner and an institutional mechanism put in place as suggested.

Rec #	TE Recommendation	Entity Responsible	Time Frame
A	Category 1:	UNDP and MoEFCC	
A1	The Project interventions and micro level success are too valuable to be left abruptly. There is a strong need for a follow-on project supported by UNDP preferably in partnership with GEF, with the active involvement of MoEFCC. Many of the interventions have relevance for the entire Western Ghats eco-systems and probably for similar eco-systems in the North-East, particularly in involving Local Governments and the local people. Knowing the constraints, it is recommended that the follow-on project should be focusing on upscaling the initiatives where the proof of concept has been fully developed and for utilizing the valuable knowledge products.	UNDP	Within 6 months
A2	The MoEFCC may recommend knowledge products related to Responsible Tourism policies and protocols to the Ministry of Tourism for dissemination to the States which are interested. It would be useful if the Ministry in partnership with the Tourism	MoEFCC	Within 3 months

	Department of Kerala organizes a National Dissemination Workshop on this.		
A3	The MoEFCC should liaise closely with the State Forest Department to nudge it to adopt the landscape approach in its development activities. Funding could be provided from CAMPA, IDWP, Project Elephant, etc.	MoEFCC	Within 6 months
A4	The MoEFCC may follow up with the Forest Department to prepare a phased plan for conversion of environmentally damaging commercial plantations to grass lands and other appropriate land uses. This experience could be shared with other States as well.	MoEFCC	Within 6 months
B	Category 2:	*For State Government*	
B1	The following policies may be mainstreamed i) The following policies need to be mainstreamed a. The Green Plan of Local Governments b. Adoption of Responsible Tourism protocols for localities in eco sensitive areas c. Developing a Green Corridor concept in the Eco-tourism areas d. The Green Innovation Fund should be made a Statewide initiative as part of the Kerala Start-Up Mission. e. Adopting the landscape approach for the Western Ghats as a whole may be considered by the Government of Kerala and implementation plans prepared through coordination and joint action by Local Governments without infringing their autonomy, in partnership with the Forest Department. To start with, the present Project Landscape could be taken up for comprehensive development. An agency like Kerala Forest Research Institute could be involved as a knowledge partner. ii) Even in the absence of continued support from UNDP-GEF, the	State Government of Kerala	Within one year

	Planning & Economic Affairs Department should carve out a special area plan as part of the Fourteenth Five Year Plan. It is accepted that additional allocations may not be possible in the current situation of extreme fiscal stress in the State. But, by strategically converging available resources of the Departments, the initiatives of the Project could be scaled up and/or replicated. As there is need for meticulous integration – spatial, intra and cross sectoral, intra and inter-departmental and horizontal and vertical, pre-planning is essential, and a project mode adopted for implementation.		
B2	1. In Athirapilly, value addition to Non-Timber Forest Produce (NTFP) has been attempted which is in an incipient stage. It needs to be developed further in partnership with the Agriculture Department 2. There is a tie-up with TRIFED for marketing of certain products. This needs to be streamlined and upscaled. 3. A platform for e-marketing of tribal products has been developed. This may be adopted by the Department and utilized fully. 4. Revival of traditional millets, rice varieties and vegetables has been validated in Adimali and Mankulam. These pilots need to be up scaled considering the benefit to the tribal community; but it requires intensive local effort and joint action by the Tribal Development and Agriculture Departments. 5. In Marayoor-Kanthalloor area the project has introduced the high yielding Krishna variety of Lemongrass and improved distillation unit giving an enhanced yield of about 30%. This needs to be developed under Tribal Sub Plan with the involvement of the Forest Department, balancing the benefits to the tribal community with the need for protection of the environment.	Tribal Development Department	Within one year

B3	1. High resolution maps have been prepared for all the 11 Village Panchayats of the Project area. There is also lot of material on spatial aspects, land use, water resources, etc. Using these, LSGD may initiate a formal eco-friendly spatial planning exercise for the landscape area under the Town and Country Planning Act. 2. A lot of knowledge products have come out of the project. The important ones are:- (i) Bio-engineering techniques for land slide restoration and slope stabilization (ii) Local Biodiversity Strategies and Action Plan (iii) Role of Local Governments in Responsible Tourism (iv) Organic Mankulam These could be utilized formally through Voluntary Resource Teams and incorporated in the local plans in a systematic and phased manner. KILA could provide the necessary capacity building. 3. Green plan methodology has been developed by KILA for the 11 Grama Panchayats of the landscape. This may be adopted across other Panchayats in the state especially in eco-sensitive areas 4. A very innovative project has been implemented in Marayoor in eight hectares to rejuvenate sandal wood plantations utilizing Project Funds under the Forest Department. This may be adopted as a State Level initiative with the involvement of the Forest Department and implemented through the Village Panchayats under MGNREGS. The Forest Department could provide the necessary technical assistance. 5. Various solid waste management initiatives have been implemented in the landscape area. These may be completed in the Panchayats and the methodology may be adopted to rest of Kerala, by the Haritha Keralam Mission.	Local Self Government Department (LSGD)	Within 6 months
B4	1. DPRs for two "Green Corridors" have been prepared namely: Athirapilly and	Tourism Department	Within 8 months

	Munnar. These have to be implemented under the coordination of the Tourism Department involving Local Governments, the Forest, Transport and Police Departments with the active leadership of the District Collector. Of course, the infrastructure components of the project would take time, depending on the budget. 2. The local Responsible Tourism initiatives may be supported through the Responsible Tourism Mission in Village Panchayats like Athirapilly, Mankulam, Kuttampuzha, Marayoor, Kanthalloor and Munnar. 3. Responsible Tourism Protocols developed as part of the UNDP Project by RT Mission may be adopted in the project landscape and in similar landscapes in the state.		
B5	1. The Kerala State Biodiversity Strategies and Action Plan for 2022 to 2032, prepared by Kerala State Biodiversity Board may be formally adopted and converted into annual plans with appropriate funding. 2. Through the Kerala State Biodiversity Board, local biodiversity strategies and action plans may be prepared on priority in the 11 Village Panchayats of the project area utilizing the model developed for Athirapilly. 3. The concept of Multi-Dimensional Biodiversity Index (MDBI) may be adopted for the landscape and operationalised as a project of Kerala State Biodiversity Board. 4. A Biodiversity Knowledge Centre is being developed in Adimali Government School under the UNDP Project. The Kerala State Biodiversity Board may undertake the operation and maintenance of this centre.	Environment Department	Within 8 months
B6	1. Though Agriculture Department was not very actively involved in the project, there is one initiative which needs definitely to be up scaled up the introduction of an improved package of practices called Sustainable	Agriculture Department	

	Sugarcane Initiative leading to 25% higher yields. 2. Further, the Organic Cardamom initiative may be pushed in partnership with the Spices Board. 3. Department may play an active role in making Mankulam fully organic. 4. The Department may adopt the Spatial Crop Planning Reports prepared for Village Panchayats of Vattavada, Marayoor and Adimali in the project area for use in local planning. 5. Kanthalloor and Vattavada Panchayats and the farmers concerned have shown their willingness to shift from private eucalyptus and acacia plantations to suitable agriculture crops covering 1600 Ha. This may be taken up on a project mode in coordination with the Village Panchayaths.		
B7	1. The modifications to the Management Plans in Protected Areas and Working Plans in other areas may be completed in a systematic manner. 2. The Department should formally adopt landscape approach in the working of the different divisions with necessary systems for coordination of Wildlife and Territorial Divisions in landscapes. Technical assistance for landscape level planning needs to be made available. KFRI, Thrissur could help in this. 3. The lessons learned in converting environmentally harmful commercial plantations like eucalyptus and acacia to grass lands and other land use in selected areas of National Parks, Munnar and Marayoor Territorial Divisions may be adopted as a priority and such areas expanded. The Forest Department may consider converging with MGNREGS in accordance with the special Government Order issued in 2016 for use of MGNREGS in forest areas. 4. The project has taken up a few initiatives to mitigate man-animal conflicts. This has to be converted into an action plan in consultation with the local people.	Forest Department	Within one year

	5. The centralized information system for monitoring the wildlife and its habitat proposed at Munnar Wildlife Division may be taken ahead in Munnar, based on the piloting done under the project. 6. The habitat and health monitoring cell has been established at Thattekkad Bird Sanctuary through the Project. Operation and Maintenance may be formally taken over by the Forest Department. 7. The Department should approach MoEFCC for additional funding from CAMPA, IDWP, Project Elephant, based on the learnings from this Project.		
B8	To operationalise these department-specific suggestions, the following steps are recommended: 1. Immediately, there should be a High-Level workshop organized by the State Government with the active involvement of the Secretaries and Heads of the Departments concerned and the Local Governments and each of the points listed above discussed and adopted into their normal plans. At the same time, for the landscape area, they should be pulled out and converted into a special plan with each point mentioned above converted into a Detailed Action Plan adopting the results-based framework – indicating the objectives, activities, responsibilities, timelines, costs, support systems, risk mitigation systems, oversight institutions and mechanisms, etc. 2. For overseeing this project, the Landscape Level Committee should be duly empowered to function under the District Planning Committees (DPCs) with the District Development Commissioner as the Chief Executive. Of course, the components would be implemented by the respective Departments, Agencies and Local Governments under the coordination of the DPC and the CEO. 3. Of course, it would take time to formulate a Project focusing only on ensuring sustainability. But it certainly needs to be done within the shortest possible time. Till that	Government of Kerala	Within 6 months

	happens the present Project Team which is very lean should be continued at least till March 2025. A positive development is that the Government of Kerala have formally issued an order (Annexure 16) setting up a State Level Advisory Committee and Local Level Advisory Committee for follow up. More importantly a small Project Management Unit has been approved with a Coordinator for the landscape and two Project Associates one to be located in the landscape and other at the State level for post-project activities. 4. At the State level, the Planning and Economic Affairs Department should coordinate this Project. At the level of the landscape the Haritha Kerala Mission should coordinate all activities in the non-forest areas and the Forest Department within the forest areas.		

9. Lessons Learned

i) There needs to be regular consultations with the stakeholders even in the run up to the project with dialogue on the proposed elements and how they are to benefit the community and the landscape. Not doing this cost of project nearly four years or half the lifetime.

ii) Fund flow is a mundane administrative issue It needs to be agreed to in detail along with the approval of the project. Ideally a finance manual should be an annexe of the project document. Not doing this cost the project another two years.

iii) As soon as the project activities begin at the field, there has to be planned consultations, outreach and publicity among stakeholders to generate interest and ownership.

iv) It is always better for the project to ride on existing institutions, in this case the Village Panchayats, the Self-Help Groups network and the Forest Development Agencies, rather than create a separate project implementing entity. The idea of a Project Management Unit focussing on facilitation and value addition seems to be a valid proposition.

v) For projects of such nature, beyond the conventional monitoring and evaluation arrangements, a kind of independent concurrent monitoring would be very useful as such a system can trigger alerts at different stages especially in the early stages. Similarly formal Community Based Monitoring would enhance ownership and, finally, Social Audit would deepen the community understanding and improve credibility of the initiatives.

vi) For a project of such type in a large area with complex problems and a huge mandate, there is need for a Post Project Sustainability DPR prepared at least three months before the closure of the project discussed and accepted at the State, National and UNDP levels with an agreement on the roles and responsibilities, both financial and technical, in this phase. Here of course most or all of the financial requirements could be met by the State Government with others providing continued technical and managerial support to achieve scale and reach a stage of auto-sustainability.

vii) For any project which involves development of practices new to the landscape, the acceptability of local people and local institutions of the people is very critical. For this to happen, the quality of human resources of the Project Management Unit especially those in the field face to face with the people, is of paramount importance. The success of the Project depends, to a large extent, on the performance of these staff. This basic fact is often ignored in Projects which give more importance to top and middle level leadership.

viii) For a project addressing the big theme of biodiversity in a degraded environment which was a pristine forest not long ago, there is need for long term planning and commitment to move development through a sustainable path. A project like the present one can at best provide the road map which it has done. Also, such project with a wide canvas cannot be handled by a single department; it requires a multi-departmental, multi-disciplinary institution, which is not easy to set up in Government. Here this project offers interesting learnings. The draft Landscape Plan can be improved and adapted to serve this purpose.

ix) A general recommendation for large biodiversity – livelihood projects is to have enough grounding in an area based on small and medium sized grant studies and schemes before projects of this scale are undertaken to create evidence. It typically takes over a year to understand the themes of exact work, engaging partners and importantly, building the project team. Knowledge-based interventions through suitable partnerships can then be taken up to fulfil the goals of the project over the remaining two to three years.

x) It also may be noted that many biodiversity responses (such as species recovery, restoration of habitats) rarely happen in such short periods. This poses a very significant limitation on how the biodiversity response of the project can be assessed and thus can compromise the very conservation essence of the initiative. It is thus imperative to develop SMART indicators that can be visible at the end of the project period.

Annexures

a. Annexure 1 - NGOs/ CBOs involvement

NGOs/ CBOs were key partners for project implementation. The partnership has been at the level of providing technical assistance, capacity building and implementation support. They have also benefitted from the project's engagement in improved capacities to engage in biodiversity mainstreaming and sustainable livelihoods. The below are a list of key NGOs/ CBOs involved and the sector of involvement.

Sl No	Activity	Partner Agency	Sector
1	Windrow composting - Bio Waste	Parishad Production Centre	Waste Management
2	Action based study	IRTC	Waste Management
3	Community Tourism - Mankulam & Kuttampuzha	Kabani Community Tourism	Tourism
4	Reviving Traditional Agri Practices	Salim Ali Foundation	Livelihoods
5	Promotion of Sustainable Sugarcane Initiative	Agsri Agricultural Services Pvt Ltd.	Livelihoods
6	Organic Mankulam initiative	Kerala Agriculture Development Society (KADS)	Livelihoods
7	Athirapilly - Idam Facility	Ganga Architect representing Recycle Bin ST Constructions - for implementation of work AIFRHM - Operations and Maintenance of the facility	Tourism
8	Nallathanni - Water Quality Improvement	CDD Society	Water Quality Improvement
9	Institutional strengthening of tribal/ farmer institutions	Devalor - business consulting support Thought Factory - Design and branding support	Livelihoods
10	Reed based livelihoods	Uravu	Livelihoods
11	Solid waste management support to Grama Panchayaths	IRTC - Mankulam, Chinnakanal, Devikulam, Athirapilly Niravu - Marayoor, Kanthalloor Hi Tech - Kuttampuzha	Waste Management
12	Medicinal plant promotion	Nagarjuna Ayurveda	Livelihoods
13	GIS based IT tool for landslide prediction	Computing Freedom Collective	Capacity Building
14	Establishing Green Habitats/ biodiversity parks	Tropical Institute of Ecological Studies	Conservation
15	Supporting the 50 years of Idukki Campaign	BRCS	Responsible Tourism
16	Micro enterprises for non-bio waste collection and segregation	Haritha Karma Sena or Kudumbashree Self Help	Waste Management

		Groups at Village level across 8 Villages	

b. Annexure 2 – Private sector involvement

Private sector has been involved mainly in two broad areas – 1) The Tea Plantations for energy efficiency studies in the tea sector 2) Startups as part of the Green Innovation Fund to bring in innovations in biodiversity conservation and sustainable livelihoods

They have also benefitted from the project's engagement in improved capacities to engage in biodiversity mainstreaming and sustainable livelihoods. The below are a list of key private sector players involved and the sector of involvement.

Sl No	Private Sector Entity	Type	Sector
1	Kannan Devan Hill Plantations	Tea Plantation	Plantations – Energy conservation
2	Harrisons Malayalam Plantations	Tea Plantation	Plantations – Improved agriculture input application
3	Fuselage	Startup	Sustainable Agriculture
4	Ecodew	Startup	Water Quality Improvement
5	BhuME	Startup	Waste Management
6	Riod logic	Startup	Sustainable Livelihoods
7	Iraaloom	Startup	Sustainable Livelihoods
8	Creativiti Council	Startup	Sustainable Agriculture
9	Leopard Tech	Startup	Human Wildlife Conflict
10	Vivifica Sustainable Solutions	Startup	Waste Management
11	VIR Naturals Pvt Ltd	Startup	Waste Management
12	Zewa Feeds	Startup	Waste Management

Annexure 3 - Terms of Reference

Terms of Reference
For
Terminal Evaluation of GEF-5 funded India High Range Mountain Landscape Project

This is an adjusted standard term of reference for Terminal Evaluations of UNDP-supported GEF/LDCF/SCCF-financed projects taking into account the impact of COVID-19 *on evaluations, including consideration for COVID-19 situation assessment within countries, impact and restrictions on evaluations, alternative approaches, methodologies and considerations to mitigate the impact of COVID-19 on evaluations.*

Underlying this guidance is a principle of "do no harm", and a consideration that the safety of staff, consultants, stakeholders, and communities is paramount and the primary concern of all when planning and implementing evaluations during the COVID-19 crisis.

BASIC CONTRACT INFORMATION

Location: Home based with travel to project sites, INDIA
Application Deadline: 18 May 2022
Category:
Type of Contract: Individual Consultant
Assignment Type:

Languages Required: English
Starting Date: 30 May 2022
Duration of Initial Contract: 1.5 months
Expected Duration of Assignment: 1.5 months

BACKGROUND

1) Introduction

In accordance with UNDP and GEF M&E policies and procedures, all full- and medium-sized UNDP-supported GEF-financed projects are required to undergo a Terminal Evaluation (TE) at the end of the project. This Terms of Reference (ToR) sets out the expectations for the TE of the full-sized project titled "India High Range Mountain Landscape (PIMS 4651) implemented through GEF-UNDP-MoEFCC. The project started on the 15-05-2014 and is in its final year of implementation. The TE process must follow the guidance outlined in the document 'Guidance For Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects'. http://web.undp.org/evaluation/guidance.shtml

2) Project Description

The Munnar landscape in India's Western Ghats is a globally significant biodiversity region. It exhibits high levels of endemism and biological diversity; it is an important bird area and has many globally threatened species of fauna and flora. It is also one of the five viable tiger breeding centres in India and harbours the largest global population of Nilgiri Tahr, as well as a significant population of Grizzled Giant Squirrels (both threatened species). It is situated at the catchment of three major river systems of peninsular India and supports important economic sectors.

UNDP in close consultation with the Ministry of Environment, Forest and Climate Change is implementing GEF supported project entitled, "India High Range Mountain Landscape Project". The project aims to mainstream biodiversity concerns in key production sectors through landscape approach. The project covers an area of 2198 sq.km. spread over the Idukki, Ernakulam and Thrissur districts in Kerala.

Project Duration: 2014-2022
GEF Allocation: US$ 6,275,000
Co-finance (in-kind): Government – US$ 28 million; UNDP – US$ 1 million; Private sector – US$ 1 million
Implementation modality: Direct Implementation Modality
Project partners: Ministry of Environment, Forest and Climate Change, Government of India and State Government of Kerala – Haritha Kerala Mission and Department of Forest and Wildlife
Objective: Mainstreaming biodiversity considerations in production sectors through a landscape approach in conservation in Munnar region of Western Ghats in India

Project Outcomes:
The project would contribute in sustainable management of globally significant mountain biodiversity of India by mainstreaming the biodiversity conservation considerations into production sectors, while sustaining livelihoods of local communities. It would also address retrogressive factors including the anticipated impacts of climate change and other associated pressures.

Strengthening governance: An effective governance framework for multiple- use mountain landscape management to be in place

Environmental sustainability: Multiple use mountain landscape management is applied securing the ecological integrity of High Range Mountain Landscape

Community Empowerment: Strengthened community capacities for community based sustainable use and management of wild resources

Institutional arrangements:
The project is being directly implemented by UNDP in close cooperation with the Ministry of Environment, Forest and Climate Change. UNDP is responsible for all financial management, reporting, procurement and recruitment services.

A National level Project Steering Committee (NPSC) based in Delhi and a State level Project Steering Committee (SPSC) based in Thiruvananthapuram would be responsible for supervising the project activities.

National Project Steering Committee (NPSC)
The Additional Director General of Forests (Wildlife), Ministry of Environment, Forests and Climate Change (MoEFCC), Govt. of India and a senior official of the UNDP jointly chair the National Project Steering Committee (NPSC).

Members of NPSC include Inspector General of Forests (Wildlife), Operational Focal Point of Global Environment Facility (GEF-OFP), Joint Secretary (in charge of Biodiversity), Joint Secretary (in Charge of Mountains), representatives of the Ministries of Agriculture, Commerce, Tourism, Tribal Affairs, Panchayati Raj, Rural Development, and New and Renewable Energy, Chairman, National Bio Diversity Authority, Secretary, Local Self Government, Kerala, Secretary, Forests, Kerala, two representatives from non-governmental sector (one from private sector/ industries) nominated by the Ministry of Environment, Forests, and Climate Change and two representatives from the UNDP.

The chairman is authorised to invite experts and other officials to NPSC as per requirement. The responsibilities of NPSC include ensuring overall effectiveness of programme implementation, providing policy guidance and approval of budgeted Annual Work Plans (AWP) forwarded by the State. NPSC meets at least once a year. The MoEFCC is supported by the National Project Management Unit.

State Project Steering Committee (SPSC)
The Chief Secretary, Government of Kerala and a senior official from UNDP would jointly chair the SPSC. The Forest Secretary would be the Convener and LSG Secretary would be a member of SPSC.

The Principal Chief Conservator of Forests and Chief Wildlife Warden, and Chairman and CEO of State Forest Development Agency are the members of SPSC. Representatives of MoEFCC (that includes GEF OFP and IG-Forest), the State Planning Board, various departments (Finance, Agriculture, Animal Husbandry, Dairy Development, Rural Development, Minor Irrigation, Town and Country Planning, Environment and Climate Change, Fisheries, Tourism, Scheduled Tribe, Scheduled Caste, Soil Survey and Soil Conservation, Ground Water), Kudumbashree, Haritha Keralam Mission, Suchitwa Mission, State Biodiversity Board, State Medicinal Plant Board, Land Use Board, Tea Board, Agency for Non-Conventional Energy and Rural Technology (ANERT), Plantation Corporation, and Kerala Forest Development Corporation would be the members. The District Collectors of Idukki, Ernakulam, and Thrissur, representatives of Hindustan Newsprint Limited, and United Planters' Association of South India (UPASI) are also be the members of the SPSC.

The SPSC meets once a year or more on approval of Chair. The State Project Steering Committee endorses and forwards the AWP to the National Project Director and UNDP for approval. The other responsibilities include approval of activities related to AWP, supervision of project

activities, review and recommendations, ensuring departmental and sectoral coordination for the smooth functioning of the project, policy support and communication with NPSC. The SPSC ensures that the officials involved in the project have sufficient tenure for the smooth implementation of the project. SPSC ensures that the co-financing arrangements of the Government of Kerala and private sector are met through scheme commitments. SPSC also ensures its implementation through respective agencies are in line with the outcome and outputs of the project. All the decisions taken by SPSC will be in accordance with the standards that ensure management of development results, best value for money, fairness, integrity, transparency and effective international cooperation. This will uphold the ultimate accountability of the UNDP. The SPSC is hosted by the State LSGD, assisted by a State Project Management Unit.

The outbreak of COVID-19 in different parts of the world is a major concern. India is also FIGHTIN this very tough task for controlling the virus outbreak and has managed its growth rate through some strict measures. Collective and focused efforts for containment and management of COVID-19 by the Government of India along with the States/UTs have led to the number of recovered cases among COVID-19 patients. GoI has confirmed 6,623,815 COVID-19 cases, and 102,685 deaths. India's total recovered cases have crossed5.5 million. This takes the national Recovery Rate amongst COVID-19 to 87.4 %.

In terms of the project, several consultations and activities including the capacity gap assessments and capacity building have been put on hold due the COVID-19 pandemic. This has affected the pace of implementation of the project and the delivery of desired results as outlined in the project document. The State of Kerala in which this project operates was one of the first to be heavily impacted by COVID-19 and field activities were suspended from February to June 2020. A rapid socio-economic assessment was conducted by the project to gather information on the impacts of COVID-19, showing negative impacts on the socio-economic situations in the project landscape, especially on households that depend on the tourism sector, vegetable farming, reed product sales, tea farming, and self-help group members working in recycling and scrap network. Continued adaptation in work planning and implementation will need to continue over coming months as there are still some restrictions in place impacting the project landscape and the COVID-19 situation remains volatile.

3) TE Purpose

The TE report will assess the achievement of project results against what was expected to be achieved, and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. The TE report promotes accountability and transparency, and assesses the extent of project accomplishments.

The purpose of the TE is to provide an impartial evaluation of the project in terms of its relevance, effectiveness, efficiency, impact, sustainability, overall performance, management and achievements.

The TE consultant will develop a technical report on the assessment of the achievement of project results against what was expected to be achieved, and draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. The TE report promotes accountability and transparency, and assesses the extent of project accomplishments.

The Terminal Evaluations for GEF-financed projects have the following complementary purposes:

- To promote accountability and transparency;

- To synthesize lessons that can help to improve the selection, design and implementation of future UNDP-supported GEF-financed initiatives; and to improve the sustainability of benefits and aid in overall enhancement of UNDP programming;
- To assess and document project results, and the contribution of these results towards achieving GEF strategic objectives aimed at global environmental benefits;

DUTIES AND RESPONSIBILITIES

1. TE Approach & Methodology

The TE must provide evidence-based information that is credible, reliable and useful.

The TE team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Social and Environmental Screening Procedure/SESP) the Project Document, project reports including annual PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based evaluation. The TE team will review the baseline and midterm GEF focal area Core Indicators/Tracking Tools submitted to the GEF at the CEO endorsement and midterm stages and the terminal Core Indicators/ Tracking Tools that must be completed before the TE field mission begins.

The TE team is expected to follow a participatory and consultative approach ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), Implementing Partners, the UNDP Country Office(s), the Regional Technical Advisors, direct beneficiaries and other stakeholders.

Engagement of stakeholders is vital to a successful TE. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to:executing agencies, senior officials and task team/component leaders, key experts and consultants in the subject area, Project Board, project beneficiaries, academia, local government and CSOs, etc. Additionally, the TE team is expected to conduct field missions to the Munnar landscape, including the following project sites :
The project area consists of 11 Grama Panchayats, covering an area of 2198.78 sq. km, spread across 4 Block Panchayaths of 3 districts – Idukki, Ernakulam and Thrissur. The Grama Panchayaths have been segregated into 4 clusters:
Munnar Cluster – Chinnakanal, Munnar and Devikulam
Anchunad Cluster – Vattavada, Kanthalloor and Marayoor
Edamalakudy Cluster – Edamalakudy
Kuttampuzha Cluster – Mankulam, Adimali, Kuttampuzha and Athirappilly

The specific design and methodology for the TE should emerge from consultations between the TE team and the above-mentioned parties regarding what is appropriate and feasible for meeting the TE purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The TE team must, however, use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the TE report.

The final methodological approach including interview schedule, field visits and data to be used in the evaluation should be clearly outlined in the inception report and be fully discussed and agreed between UNDP, stakeholders and the TE team.

The final TE report should describe the full TE approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the evaluation.

4) Detailed Scope of the TE

The TE will assess project performance against expectations set out in the project's Logical Framework/Results Framework (see TOR Annex A). The TE will assess results according to the criteria outlined in the Guidance for TEs of UNDP-supported GEF-financed Projects *https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiG0cKVlJb2AhX663MBHQVqA4MQFnoECAUQAQ&url=http%3A%2F%2Fweb.undp.org%2Fevaluation%2Fguideline%2Fdocuments%2FGEF%2FTE_GuidanceforUNDP-supportedGEF-financedProjects.pdf&usg=AOvVaw2z7zus_WTqAwzOgh9u437i*

The Findings section of the TE report will cover the topics listed below.

A full outline of the TE report's content is provided in ToR Annex C.

The asterisk "(*)" indicates criteria for which a rating is required.

Findings

i. Project Design/Formulation

- National priorities and country driven-ness
- Theory of Change
- Gender equality and women's empowerment
- Social and Environmental Safeguards
- Analysis of Results Framework: project logic and strategy, indicators
- Assumptions and Risks
- Lessons from other relevant projects (e.g. same focal area) incorporated into project design
- Planned stakeholder participation
- Linkages between project and other interventions within the sector
- Management arrangements

ii. Project Implementation

- Adaptive management (changes to the project design and project outputs during implementation)
- Actual stakeholder participation and partnership arrangements
- Project Finance and Co-finance
- Monitoring & Evaluation: design at entry (*), implementation (*), and overall assessment of M&E (*)
- Implementing Agency (UNDP) (*) and Executing Agency (*), overall project oversight/implementation and execution (*)
- Risk Management, including Social and Environmental Standards

iii. Project Results

- Assess the achievement of outcomes against indicators by reporting on the level of progress for each objective and outcome indicator at the time of the TE and noting final achievements
- Relevance (*), Effectiveness (*), Efficiency (*) and overall project outcome (*)
- Sustainability: financial (*), socio-political (*), institutional framework and governance (*), environmental (*), overall likelihood of sustainability (*)
- Country ownership
- Gender equality and women's empowerment

- Cross-cutting issues (poverty alleviation, improved governance, climate change mitigation and adaptation, disaster prevention and recovery, human rights, capacity development, South-South cooperation, knowledge management, volunteerism, etc., as relevant)
- GEF Additionality
- Catalytic Role / Replication Effect
- Progress to impact

iv. Main Findings, Conclusions, Recommendations and Lessons Learned

- The TE team will include a summary of the main findings of the TE report. Findings should be presented as statements of fact that are based on analysis of the data.
- The section on conclusions will be written in light of the findings. Conclusions should be comprehensive and balanced statements that are well substantiated by evidence and logically connected to the TE findings. They should highlight the strengths, weaknesses and results of the project, respond to key evaluation questions and provide insights into the identification of and/or solutions to important problems or issues pertinent to project beneficiaries, UNDP and the GEF, including issues in relation to gender equality and women's empowerment.
- Recommendations should provide concrete, practical, feasible and targeted recommendations directed to the intended users of the evaluation about what actions to take and decisions to make. The recommendations should be specifically supported by the evidence and linked to the findings and conclusions around key questions addressed by the evaluation.
- The TE report should also include lessons that can be taken from the evaluation, including best and worst practices in addressing issues relating to relevance, performance and success that can provide knowledge gained from the particular circumstance (programmatic and evaluation methods used, partnerships, financial leveraging, etc.) that are applicable to other GEF and UNDP interventions. When possible, the TE team should include examples of good practices in project design and implementation.
- It is important for the conclusions, recommendations and lessons learned of the TE report to include results related to gender equality and empowerment of women.

The TE report will include an Evaluation Ratings Table, as shown in the ToR Annex.

5) Expected Outputs and Deliverables

The TE consultant shall prepare and submit:

- TE Inception Report: TE team clarifies objectives and methods of the TE no later than 2 weeks before the TE mission. TE team submits the Inception Report to the Commissioning Unit and project management.
- Presentation: TE team presents initial findings to project management and the Commissioning Unit at the end of the TE mission.
- Draft TE Report: TE team submits full draft report with annexes within 3 weeks of the end of the TE mission.
- Final TE Report* and Audit Trail: TE team submits revised report, with Audit Trail detailing how all received comments have (and have not) been addressed in the final TE report, to the Commissioning Unit within 1 week of receiving UNDP comments on draft.

*The final TE report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

All final TE reports will be quality assessed by the UNDP Independent Evaluation Office (IEO). Details of the IEO's quality assessment of decentralized evaluations can be found in Section 6 of the UNDP Evaluation Guidelines.[1]

6) TE Arrangements

The principal responsibility for managing the TE resides with the Commissioning Unit. The Commissioning Unit for this project's TE is UNDP India Country Office

The Commissioning Unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the TE team. The Project Team will be responsible for liaising with the TE team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

7) Duration of the Work

The total duration of the TE will be approximately 1.5 months. The tentative TE timeframe is as follows:

- 18 May: Application closes
- 30 May: Selection of TE Team
- 31 May : Prep the TE team (handover of project documents)
- 1-5 June : Document review and preparing TE Inception Report
- 6-7 June : Finalization and Validation of TE Inception Report- latest start of TE mission
- 10-16 June: TE mission: stakeholder meetings, interviews, field visits
- Mission wrap-up meeting & presentation of initial findings- earliest end of TE mission
- 17-25 June: Preparation of draft TE report
- 25-30 June: Circulation of draft TE report for comments
- 1-7 July: Incorporation of comments on draft TE report into Audit Trail & finalization of TE report
- 10 July April: Preparation & Issue of Management Response
- 15 July: April Expected date of full TE completion

The expected date start date of contract is30 May 2, 2022

8) Duty Station

Travel:

- International travel will be required to (Travel to India)during the TE mission;
- The BSAFE course must be successfully completed prior to commencement of travel;
- Individual Consultants are responsible for ensuring they have vaccinations/inoculations when travelling to certain countries, as designated by the UN Medical Director.
- Consultants are required to comply with the UN security directives set forth under: https://dss.un.org/dssweb/
- All related travel expenses will be covered and will be reimbursed as per UNDP rules and regulations upon submission of an F-10 claim form and supporting documents.

REQUIRED SKILLS AND EXPERIENCE

9) TE Team Composition and Required Qualifications

NOTE: Provide additional details on management structures and implementation if the International Consultant will work with a National Consultant and/or if the International

[1] Access at: http://web.undp.org/evaluation/guideline/section-6.shtml

Consultant is to operate remotely. Include a provision for experience in implementing evaluations remotely.

A team of two independent evaluators will conduct the TE – one team leader (with experience and exposure to projects and evaluations in other regions) and one team expert, usually from the country of the project. The team leader will be responsible for the overall design and writing of the TE report, etc. The team expert will assess emerging trends with respect to regulatory frameworks, budget allocations, capacity building, work with the Project Team in developing the TE itinerary.

The evaluator(s) cannot have participated in the project preparation, formulation and/or implementation (including the writing of the project document), must not have conducted this project's Mid-Term Review and should not have a conflict of interest with the project's related activities.

The selection of evaluators will be aimed at maximizing the overall "team" qualities in the following areas:

Education

- Master's degree in Environment Management, Social Sciences or other closely related field;

Experience

- Relevant experience with results-based management evaluation methodologies;
- Experience applying SMART indicators and reconstructing or validating baseline scenarios;
- Competence in adaptive management
- Experience in evaluating projects;
- Atleast 10 years of experience of working on natural resource management and sustainable development;
- Demonstrated understanding of issues related to gender and biodiversity, experience in gender responsive evaluation and analysis;
- Excellent communication skills;
- Demonstrable analytical skills;
- Project evaluation/review experience within United Nations system will be considered an asset;
- Experience with implementing evaluations remotely will be considered an asset.

Language

- Fluency in written and spoken English.

10) Evaluator Ethics

The TE team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This evaluation will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The evaluator must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The evaluator must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses without the express authorization of UNDP and partners.

11) Payment Schedule

- 20% payment upon satisfactory delivery of the final TE Inception Report and approval by the Commissioning Unit
- 40% payment upon satisfactory delivery of the draft TE report to the Commissioning Unit
- 40% payment upon satisfactory delivery of the final TE report and approval by the Commissioning Unit and RTA (via signatures on the TE Report Clearance Form) and delivery of completed TE Audit Trail

  Criteria for issuing the final payment of 40%
  - The final TE report includes all requirements outlined in the TE TOR and is in accordance with the TE guidance.
  - The final TE report is clearly written, logically organized, and is specific for this project (i.e. text has not been cut & pasted from other MTR reports).
  - The Audit Trail includes responses to and justification for each comment listed.

❖ *Suggested additional text*

In line with the UNDP's financial regulations, when determined by the Commissioning Unit and/or the consultant that a deliverable or service cannot be satisfactorily completed due to the impact of COVID-19 and limitations to the TE, that deliverable or service will not be paid.

Due to the current COVID-19 situation and its implications, a partial payment may be considered if the consultant invested time towards the deliverable but was unable to complete to circumstances beyond his/her control.

Annexure 4 - Documents collected from the project team

No	Document Name
	Project Documents
1	Project Document
2	Revised Implementation Strategy
3	Inception Report
4	Social Environment Screening Procedure document
5	Project information sheet
6	Theory of Change
7	Map of revised project area vs original project area
8	CEO Endorsement
9	Landscape Management Plan
10	List of assignments commissioned
	Government Orders
11	Relevant Government Orders pertaining to the Project
	Progress Reports
12	Project activity report and end results
13	Activity Report 2022
14	Activity Notes – Grama Panchayat wise
	Work Plans
15	Annual Work Plan 2019-20
16	Annual Work Plan 2020-22
	Monitoring and Evaluation

17	GEF PIR 2022
18	PIR Summary sheet
19	Mid Term Review Report
20	Mid Term Review Response
21	Audit Reports
22	GEF Tracking Tools
23	Co - finance data
24	Project key partners with fund status
25	List of consultations held
26	Field visits map and schedule
	Key Meeting Minutes
27	Minutes of Project Steering Committee Meetings – State and National
28	Minutes of meeting convened by Chief Minister Govt of Kerala – 12-08-2020
	IEC
29	List of Knowledge products
30	Trainings conducted under the Project
31	Highlights of the Dissemination Workshop
32	Data from YouTube analytics
33	Video recordings of the Dissemination Workshop 2022
34	Green Plans for Panchayats - Methodology
35	Panchayat Raj Magazine – July 2022 Edition featuring UNDP IHRML Project as cover story
36	Baseline studies
37	Project Presentation
38	Note on Biodiversity Knowledge Centre at Adimali Govt School

Annexure 5 - Online meetings with Village Panchayat representatives

Interactions were held with the 11 Village Panchayats over zoom in which elected representatives, project staff and other local officials participated

Sl No	**Date**	**Consultation**	**Participants**	**Location**	**Mode of Consultation**
1	8/19/2022	Marayoor Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
2	8/19/2022	Athirapilly Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
3	8/19/2022	Munnar Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online

4	8/19/2022	Mankulam Grama Panchayath interventions	Grama Panchayath President, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
5	8/22/2022	Kuttampuzha Grama Panchayath interventions	Grama Panchayath President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
6	8/22/2022	Devikulam Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
7	8/22/2022	Adimali Grama Panchayath interventions	Grama Panchayath President, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
8	8/22/2022	Kanthalloor Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
9	8/23/2022	Vattavada Grama Panchayath interventions	Grama Panchayath Vice President, UNDP PMU	Google meet	Online
10	8/23/2022	Chinnakanal Grama Panchayath interventions	Grama Panchayath President, Secretary, Vice President, Standing Committee Chairperson, UNDP PMU	Google meet	Online
11	8/24/2022	Edamalakkudy Grama Panchayath interventions	Grama Panchayath Secretary, Agriculture Officer, Munnar FDA representative, UNDP PMU	Google meet	Online

Annexure 6 - Field Visit Schedule of the TE Consultants

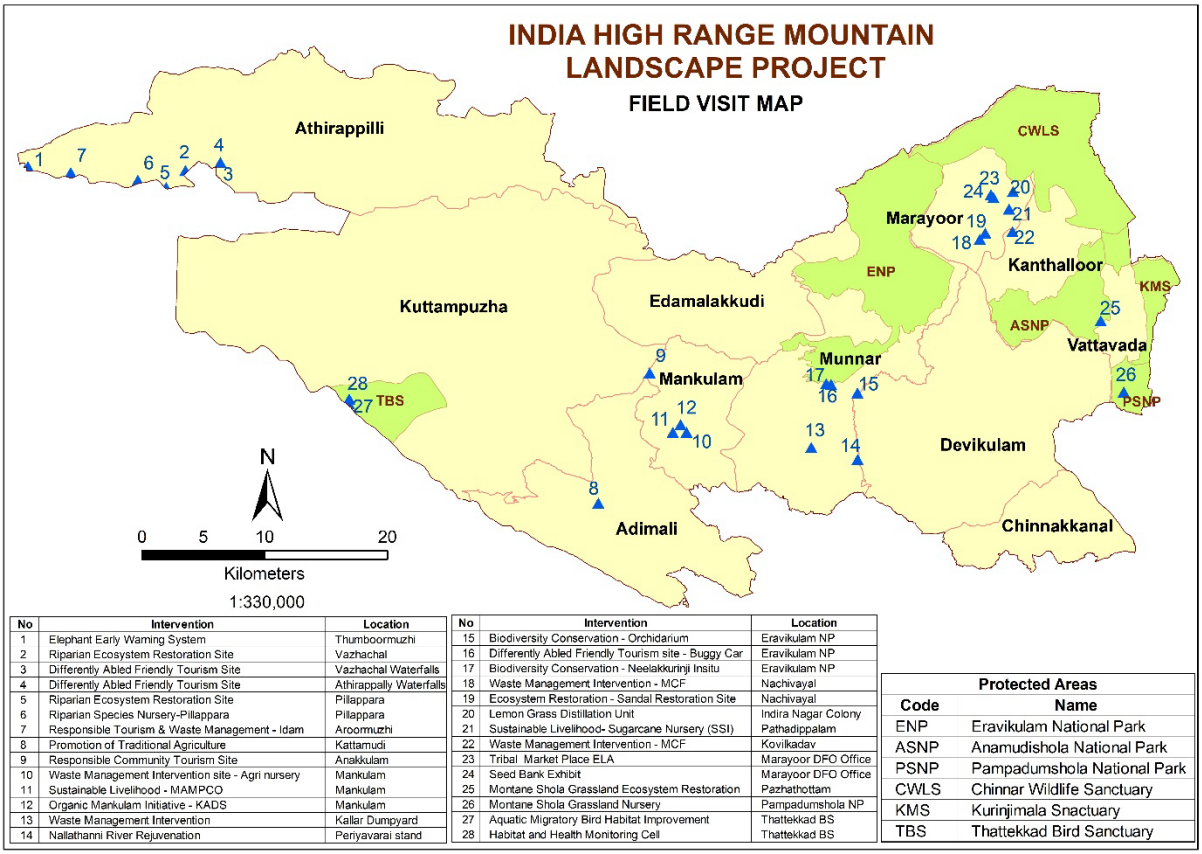
Joint Field visit plan for Terminal Evaluation of GoI-GEF-UNDP IHRML Project Shri. SM Vijayanand (IAS Retd) and Dr. Yash Veer Bhatnagar, August 2022			
Date	Time	Location	Activity
27th August 2022 (Day 1)	7.30 AM – 9.00 AM	KILA, Thrissur	Travel towards Athirapilly
Saturday	9.00 - 10.00 AM	Athirapilly (AroormuzhyCommunity Hall)	Site visit at Idam Tourist Facilitation Centre
	10.00 - 11.00 AM	Athirapilly (Aroormuzhy Community Hall)	Interaction with Café Adavi staff, Haritha Karma Sena members, Forest Post members, Athirapilly

			Tribal Valley Project members, Athirapilly Grama Panchayath Representatives
	11.00 - 01.00 PM	Kothamangalam	Travel towards Adimali
	01.00 - 02.00 PM	Kothamangalam	Lunch
	02.00 - 03.30 PM	Kattamudi, Adimali	Travel towards Adimali
	03.30 - 04.00 PM	Kattamudi, Adimali	Site visit and interaction with farmers of traditional agriculture
	04.00 - 05.00 PM	Mankulam	Travel to Mankulam
	05.00 PM	Mankulam	Stay & dinner at farmhouse of project beneficiary – Mr. Sebastien
28th August 2022 (Day 2)	08.00 - 10.00 AM	Mankulam	Community Tourism trail & interaction with service providers
Sunday	10.00 - 10.30 AM	Mankulam	Interaction with Haritha Karma Sena at Agri Nursery
	10.30 - 11.15 AM	Mankulam	MAMPCO value addition unit site visit and interaction with Secretary & President - Mankulam Cooperative Bank
	11.30 - 12.30 PM	Mankulam	Interaction with organic farmers, KADS &Mankulam Panchayath representatives
	12.30 - 01.30 PM	Munnar	Travel to Munnar
	01.30 - 02.30 PM	Munnar	Lunch
	02.30 - 03.00 PM	Munnar	Travel to Kallar Dump Yard
	3.00 - 03.30 PM	Munnar	Site visit and interaction with staff, Panchayath representatives & IRTC representatives
	03.30 - 04.30 PM	Munnar	Nallathanni river interventions - site visit
	05.00 PM	Munnar	Stay at Munnar
29th August 2022 (Day 3)	07.45 - 08.15 AM	Munnar	Travel to Eravikulam National Park – Orchidarium
	08.15 - 09.45 AM	Munnar	Orchidarium &Eravikulam National Park visit (project interventions)
	10.00 - 11.00 AM	Marayoor	Travel to Marayoor
	11.00 – 11.15 AM	Marayoor	Interaction with Haritha Karma Sena – Marayoor at Nachivayalmini Material Collection Facility
	11.15 - 11.45 AM	Marayoor	Nachivayal Sandalwood restoration site
	11.45 – 12.15 PM	Marayoor	Travel to Chandana Resort
	12.30 – 01.00 PM	Marayoor	Interaction with Marayoor Panchayath representatives
	01.00 – 01.30 PM	Marayoor	Lunch
	01.30 – 02.30 PM	Marayoor	Lemongrass Distillation at Indira Colony

	02.30 – 03.15 PM	Marayoor	Sugarcane Nursery and SSI demonstration plot and interaction with sugarcane farmers
	03.30 – 04.15 PM	Kanthalloor	Interaction with Haritha Karma Sena members and Panchayath representatives at Material Collection Facility and recovered dumpsite
	04.30 - 05.00 PM	Marayoor	Tea break at Marayoor Forest Department Inspection Bungalow & interaction with DFO & Punarjeevanam (seed conservation) coordinators
	06.30 PM	Munnar	Stay at Munnar
30th August 2022 (Day 4)	08.00 - 04.00 PM	Munnar	Travel to Thiruvananthapuram

Field visit for Terminal Evaluation of GoI-GEF-UNDP IHRML Project undertaken by Dr. Yashveer Bhatnagar alone, August 2022			
Date	Time	Location	Activity
26th August 2022 (Day 0)	10.30 AM	Mysore	Flight to Cochin
	12.00 - 2.30 PM	Athirapilly	Travel towards Athirapilly
	2.30 - 4.30 PM	Athirapilly	Riparian eco system restoration site visits
	05.00 PM	Athirapilly	Stay & dinner at Athirapilly
30th August 2022 (Day 4)	08.00 - 09.30 AM	Pazhathottam	Travel to Pazhathottam
	09.30 - 11.00 AM	Pazhathottam	Field visit and interaction at Pazhathottam restoration site
	11.00 - 1.00 PM	Munnar	Travel to Munnar
	01.00 - 02.00 PM	Munnar	Lunch
	02.00 - 04.00 PM	Kuttampuzha	Travel to Thattekad
	04.00 - 05.00 PM	Kuttampuzha	Interaction with DFO and visit to Habitat Monitoring Centre
	05.30 PM	Kuttampuzha	Stay at Kuttampuzha
31st August 2022	07.00 - 09.00 AM	Kuttampuzha	Thattekad Bird Sanctuary - Site visit to Water holes and canal related work
	09.00 – 9.30 AM	Kuttampuzha	Breakfast
	9.45 - 11.15 AM	Kuttampuzha	Travel to Cochin Airport
	12.45 PM	Cochin	Flight to Bangalore

Annexure 7 - Field visits shown on the map of project area

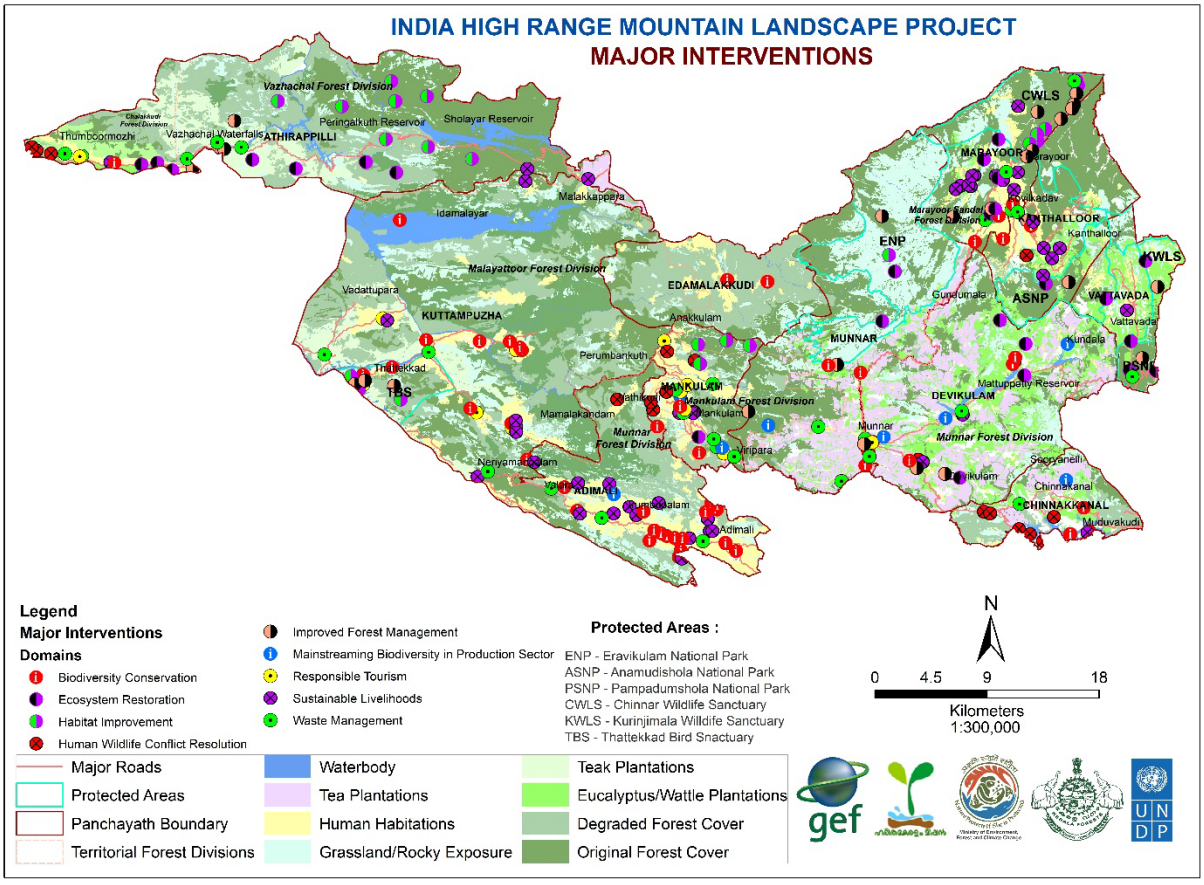


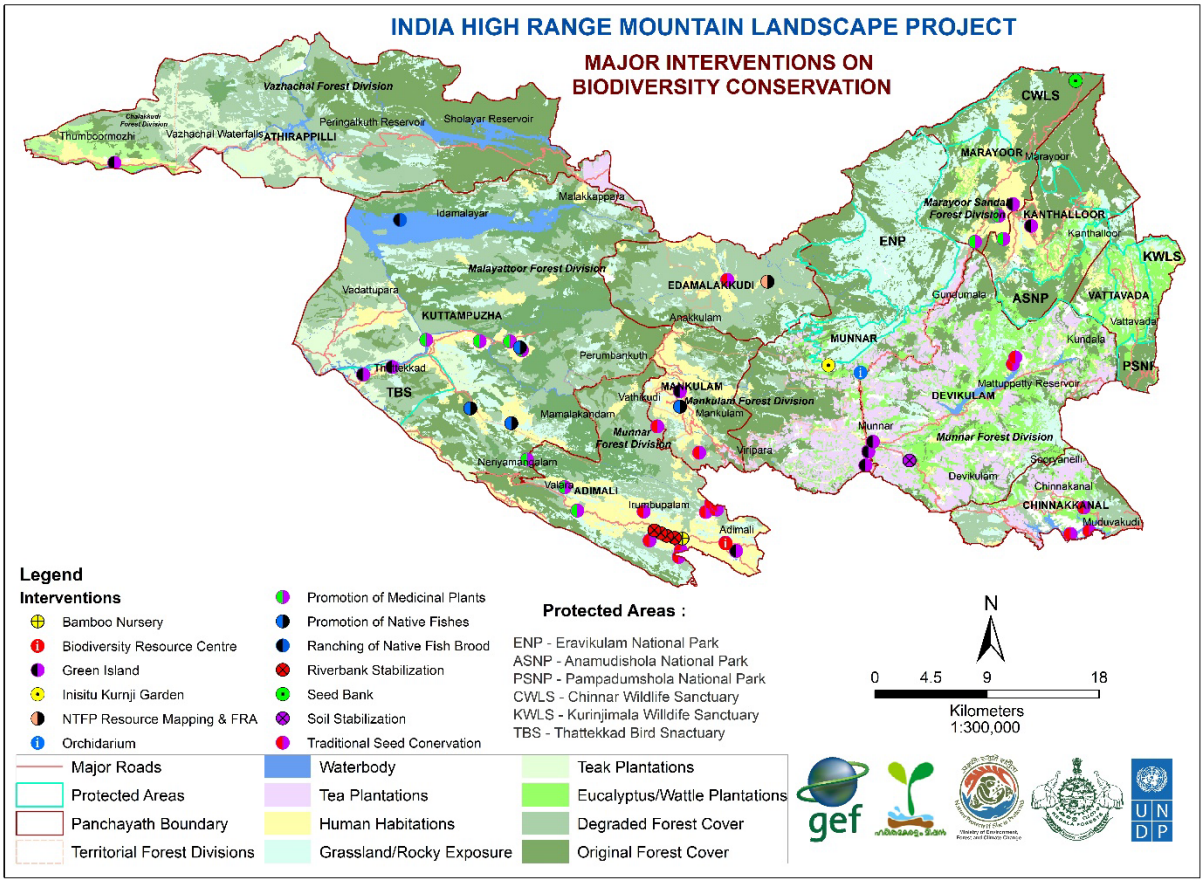
No	Intervention	Location
1	Elephant Early Warning System	Thumboormuzhi
2	Riparian Ecosystem Restoration Site	Vazhachal
3	Differently Abled Friendly Tourism Site	Vazhachal Waterfalls
4	Differently Abled Friendly Tourism Site	Athirappally Waterfalls
5	Riparian Ecosystem Restoration Site	Pillappara
6	Riparian Species Nursery-Pillappara	Pillappara
7	Responsible Tourism & Waste Management - Idam	Aroormuzhi
8	Promotion of Traditional Agriculture	Kattamudi
9	Responsible Community Tourism Site	Anakkulam
10	Waste Management Intervention site - Agri nursery	Mankulam
11	Sustainable Livelihood - MAMPCO	Mankulam
12	Organic Mankulam Initiative - KADS	Mankulam
13	Waste Management Intervention	Kallar Dumpyard
14	Nallathanni River Rejuvenation	Periyavarai stand

No	Intervention	Location
15	Biodiversity Conservation - Orchidarium	Eravikulam NP
16	Differently Abled Friendly Tourism site - Buggy Car	Eravikulam NP
17	Biodiversity Conservation - Neelakkurinji Insitu	Eravikulam NP
18	Waste Management Intervention - MCF	Nachivayal
19	Ecosystem Restoration - Sandal Restoration Site	Nachivayal
20	Lemon Grass Distillation Unit	Indira Nagar Colony
21	Sustainable Livelihood- Sugarcane Nursery (SSI)	Pathadippalam
22	Waste Management Intervention - MCF	Kovilkadav
23	Tribal Market Place ELA	Marayoor DFO Office
24	Seed Bank Exhibit	Marayoor DFO Office
25	Montane Shola Grassland Ecosystem Restoration	Pazhathottam
26	Montane Shola Grassland Nursery	Pampadumshola NP
27	Aquatic Migratory Bird Habitat Improvement	Thattekkad BS
28	Habitat and Health Monitoring Cell	Thattekkad BS

Protected Areas	
Code	Name
ENP	Eravikulam National Park
ASNP	Anamudishola National Park
PSNP	Pampadumshola National Park
CWLS	Chinnar Wildlife Sanctuary
KMS	Kurinjimala Snactuary
TBS	Thattekkad Bird Sanctuary

Annexure 4B - Maps illustrating Project Activities




INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON
BIODIVERSITY CONSERVATION
Vazhachal Forest Division
Peringalkuth Reservoir
Sholayar Reservoir
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Vathikudi
Mankulam Forest Division
Mamalakandam
Munnar Forest Division
Nenyamandalam
Valara
ADIMALI
Irumbupalam
Adimali
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthalloor
ENP
KWLS
Gundumala
ASNP
VATTAVADA
Vattavada
MUNNAR
Kundala
PSNP
Mattuppetty Reservoir
DEVIKULAM
Munnar
Viripara
Devikulam
Seeyaneli
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Interventions
Bamboo Nursery
Biodiversity Resource Centre
Green Island
Inisitu Kurnji Garden
NTFP Resource Mapping & FRA
Orchidarium
Promotion of Medicinal Plants
Promotion of Native Fishes
Ranching of Native Fish Brood
Riverbank Stabilization
Seed Bank
Soil Stabilization
Traditional Seed Conervation
Protected Areas :
ENP - Eravikulam National Park
ASNP - Anamudishola National Park
PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Willdife Sanctuary
TBS - Thattekkad Bird Snactuary
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Protected Areas
Panchayath Boundary
Territorial Forest Divisions
Waterbody
Tea Plantations
Human Habitations
Grassland/Rocky Exposure
Teak Plantations
Eucalyptus/Wattle Plantations
Degraded Forest Cover
Original Forest Cover
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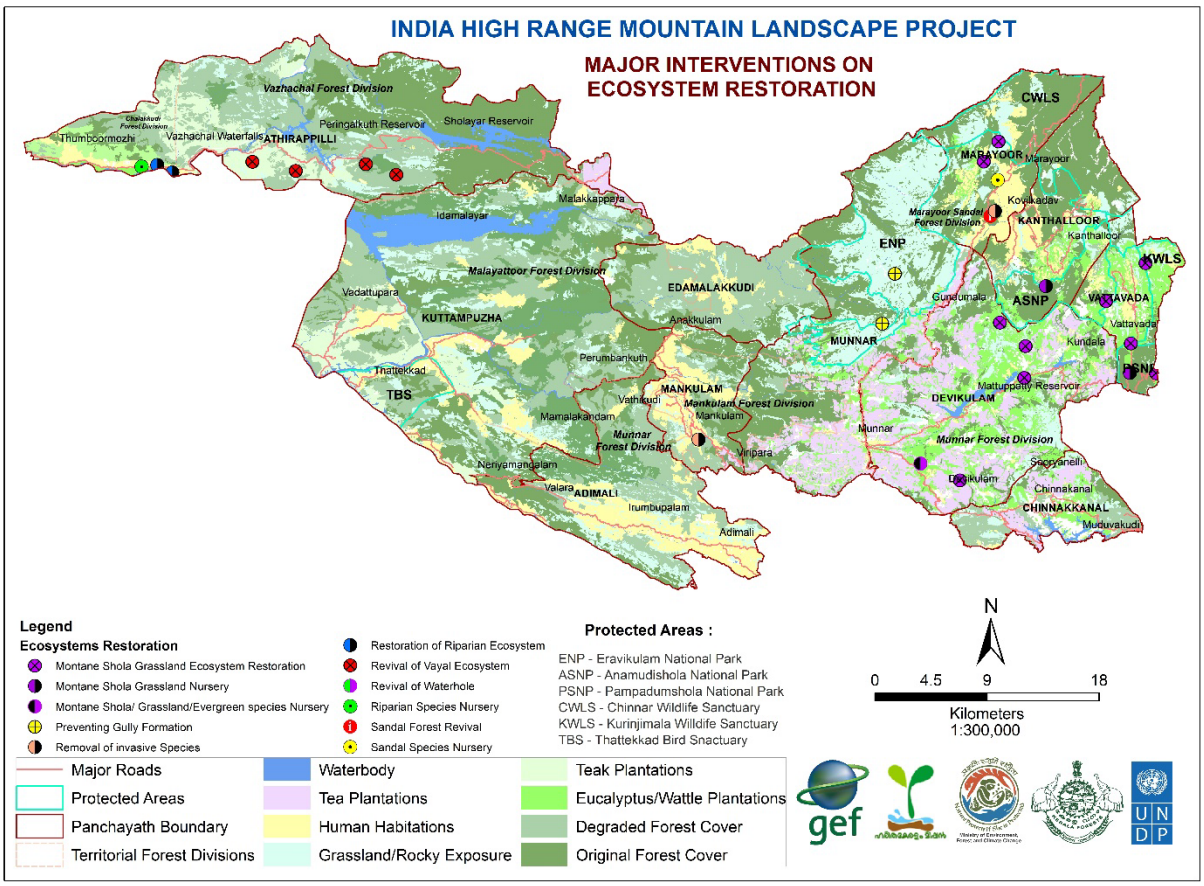
UNDP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Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Vathikudi
Mankulam Forest Division
Mamalakandam
Munnar Forest Division
Nenyamandalam
Valara
ADIMALI
Irumbupalam
Adimali
CWLS
MARAYOOR
Marayoor
Kovilkadavu
Marayoor Sandal Forest Division
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Kanthalloor
ENP
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VATTAVADA
Vattavada
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Kundala
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Mattuppetty Reservoir
DEVIKULAM
Munnar
Viripara
Devikulam
Seeyaneli
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Ecosystems Restoration
Montane Shola Grassland Ecosystem Restoration
Montane Shola Grassland Nursery
Montane Shola/ Grassland/Evergreen species Nursery
Preventing Gully Formation
Removal of invasive Species
Restoration of Riparian Ecosystem
Revival of Vayal Ecosystem
Revival of Waterhole
Riparian Species Nursery
Sandal Forest Revival
Sandal Species Nursery
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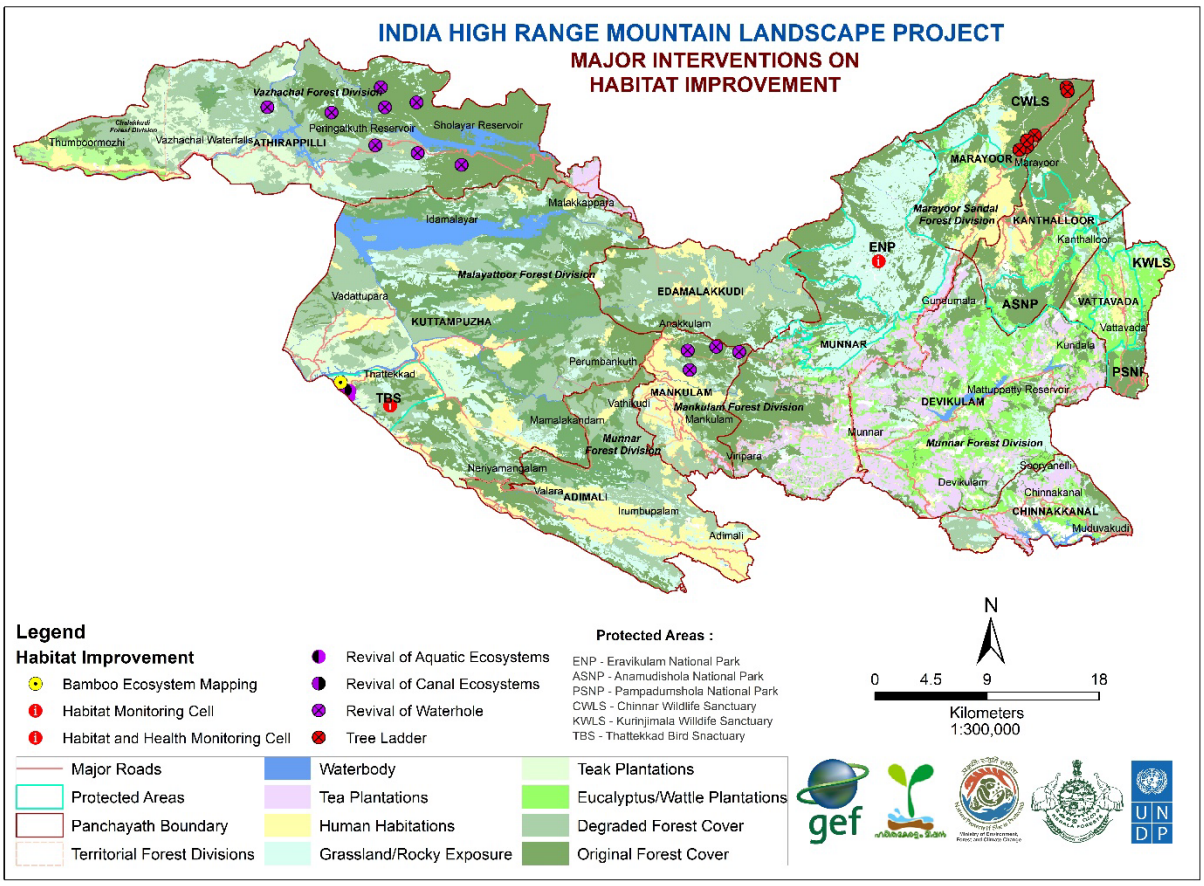
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Munnar
Vrnpara
Seeyanelli
Devikulam
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Habitat Improvement
Bamboo Ecosystem Mapping
Habitat Monitoring Cell
Habitat and Health Monitoring Cell
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Revival of Canal Ecosystems
Revival of Waterhole
Tree Ladder
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Original Forest Cover
gef
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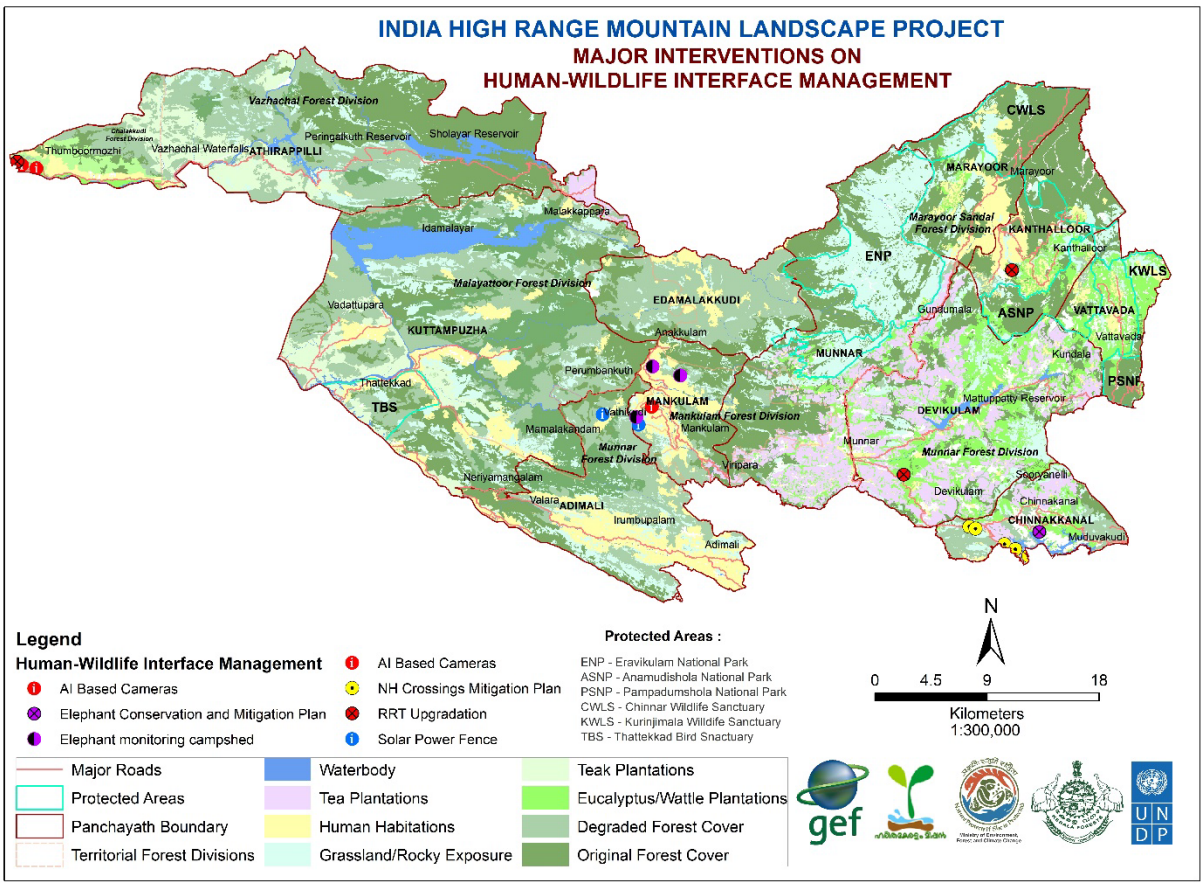
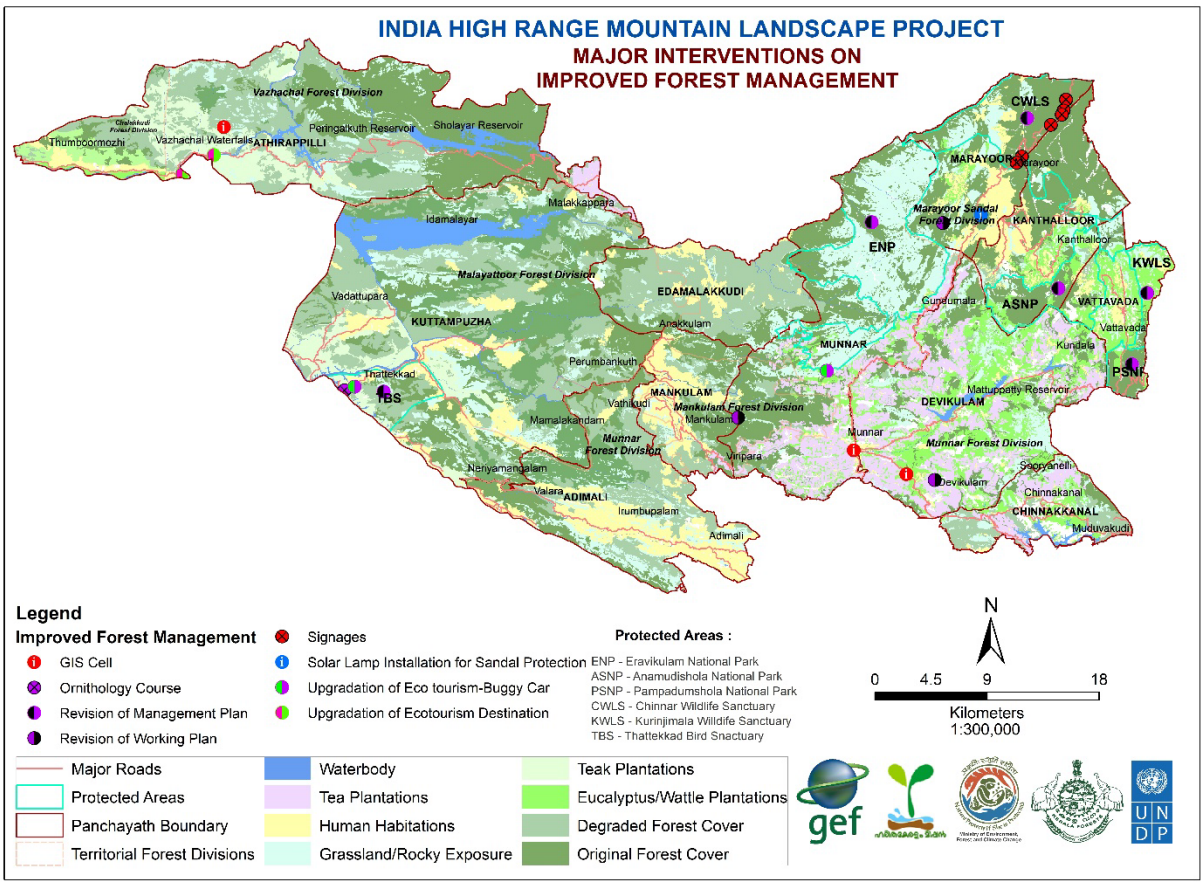

INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON
HUMAN-WILDLIFE INTERFACE MANAGEMENT
Vazhachal Forest Division
Peringalkuth Reservoir
Sholayar Reservoir
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Mankulam Forest Division
Vathikudi
Mamalakandam
Munnar Forest Division
Neriyamangalam
Valara
ADIMALI
Irumbupalam
Adimali
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthalloor
ENP
KWLS
Gundumala
ASNP
VATTAVADA
Vattavada
MUNNAR
Kundala
PSNP
Mattuppatty Reservoir
DEVIKULAM
Munnar
Vrnpara
Seeyanelli
Devikulam
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Human-Wildlife Interface Management
AI Based Cameras
Elephant Conservation and Mitigation Plan
Elephant monitoring campshed
AI Based Cameras
NH Crossings Mitigation Plan
RRT Upgradation
Solar Power Fence
Protected Areas :
ENP - Eravikulam National Park
ASNP - Anamudishola National Park
PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Willdife Sanctuary
TBS - Thattekkad Bird Snactuary
N
0 4.5 9 18
Kilometers
1:300,000
Major Roads
Protected Areas
Panchayath Boundary
Territorial Forest Divisions
Waterbody
Tea Plantations
Human Habitations
Grassland/Rocky Exposure
Teak Plantations
Eucalyptus/Wattle Plantations
Degraded Forest Cover
Original Forest Cover
gef
UNDP


INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON
IMPROVED FOREST MANAGEMENT
Vazhachal Forest Division
Peringalkuth Reservoir
Sholayar Reservoir
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Mankulam Forest Division
Vathikudi
Mamalakandam
Munnar Forest Division
Neriyamangalam
Valara
ADIMALI
Irumbupalam
Adimali
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthallool
ENP
KWLS
Gundumala
ASNP
VATTAVADA
Vattavada
Kundala
MUNNAR
PSNP
Mattuppatty Reservoir
DEVIKULAM
Munnar
Devikulam
Seeriyanelli
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Improved Forest Management
GIS Cell
Ornithology Course
Revision of Management Plan
Revision of Working Plan
Signages
Solar Lamp Installation for Sandal Protection
Upgradation of Eco tourism-Buggy Car
Upgradation of Ecotourism Destination
Protected Areas :
ENP - Eravikulam National Park
ASNP - Anamudishola National Park
PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Willdife Sanctuary
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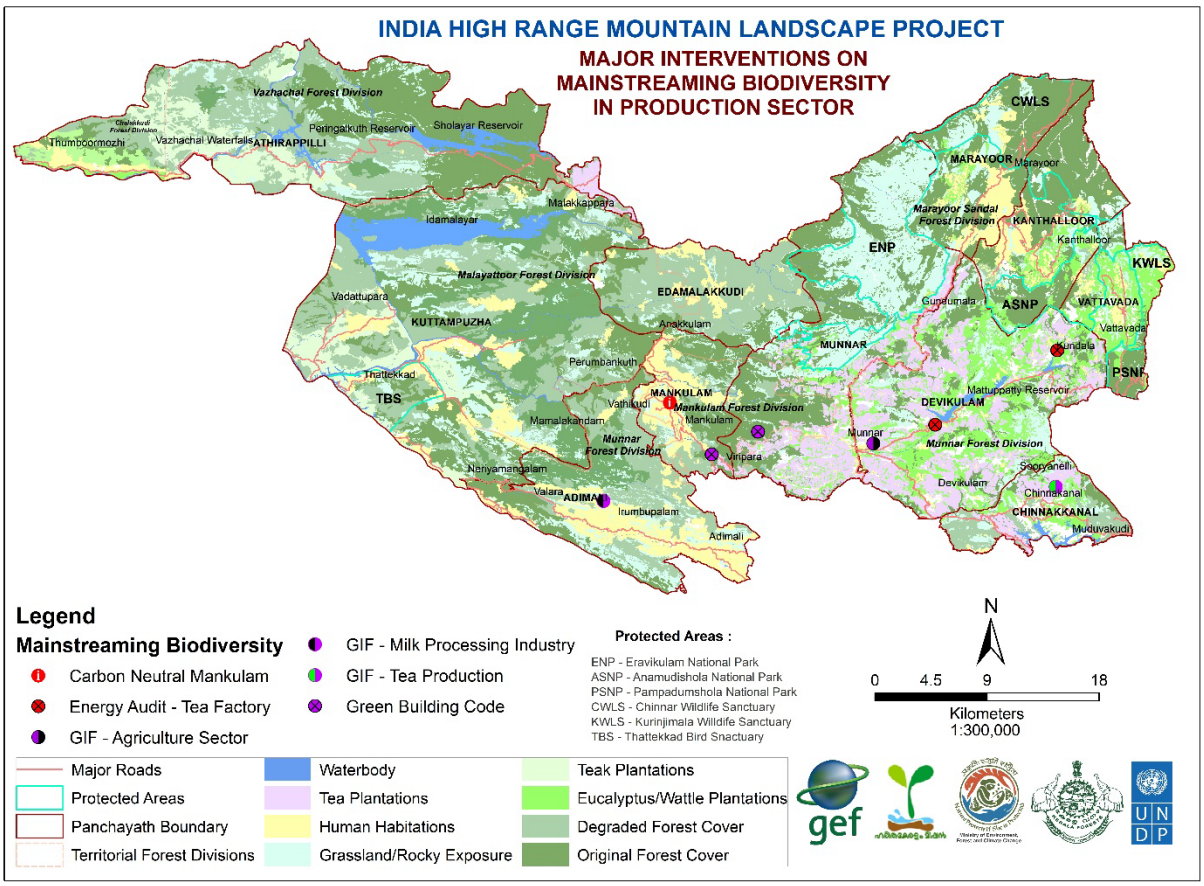
Territorial Forest Divisions
Waterbody
Tea Plantations
Human Habitations
Grassland/Rocky Exposure
Teak Plantations
Eucalyptus/Wattle Plantations
Degraded Forest Cover
Original Forest Cover
gef
UNDP


INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON
MAINSTREAMING BIODIVERSITY
IN PRODUCTION SECTOR
Vazhachal Forest Division
Peringalkuth Reservoir
Sholayar Reservoir
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Mankulam Forest Division
Vathikudi
Mamalakandam
Munnar Forest Division
Neriyamangalam
Valara
ADIMALI
Irumbupalam
Adimali
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthallool
ENP
KWLS
Gundumala
ASNP
VATTAVADA
Vattavada
Kundala
MUNNAR
PSNP
Mattuppatty Reservoir
DEVIKULAM
Munnar
Devikulam
Seeriyanelli
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Mainstreaming Biodiversity
Carbon Neutral Mankulam
Energy Audit - Tea Factory
GIF - Agriculture Sector
GIF - Milk Processing Industry
GIF - Tea Production
Green Building Code
Protected Areas :
ENP - Eravikulam National Park
ASNP - Anamudishola National Park
PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Willdife Sanctuary
TBS - Thattekkad Bird Snactuary
N
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Kilometers
1:300,000
Major Roads
Protected Areas
Panchayath Boundary
Territorial Forest Divisions
Waterbody
Tea Plantations
Human Habitations
Grassland/Rocky Exposure
Teak Plantations
Eucalyptus/Wattle Plantations
Degraded Forest Cover
Original Forest Cover
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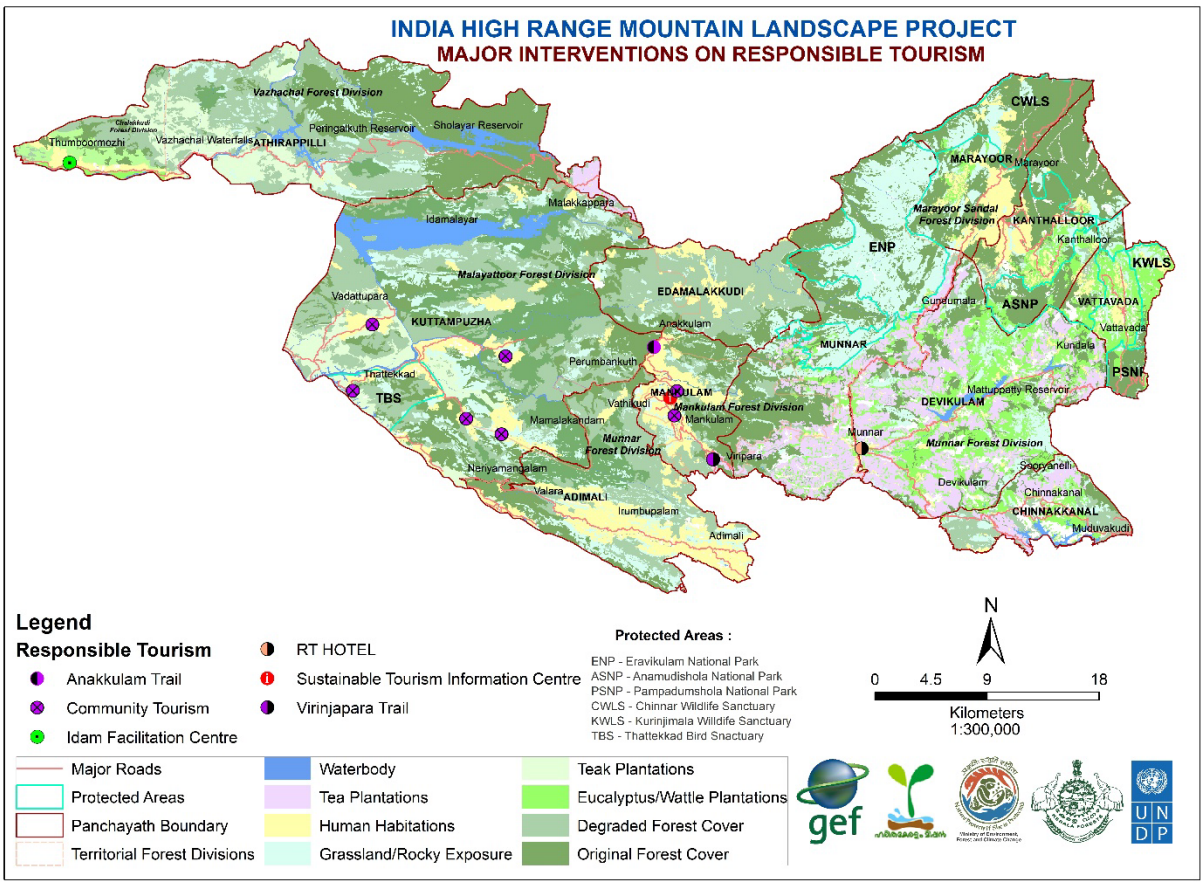
UNDP


INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON RESPONSIBLE TOURISM
Vazhachal Forest Division
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Peringalkuth Reservoir
Sholayar Reservoir
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Mankulam Forest Division
Vathikudi
Mamalakandam
Mankulam
Munnar Forest Division
Neriyamangalam
Valara
ADIMALI
Irumbupalam
Adimali
Vrnpara
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthalloor
ENP
KWLS
Gundumala
ASNP
VATTAVADA
Vattavada
MUNNAR
Kundala
PSNP
Mattuppatty Reservoir
DEVIKULAM
Munnar
Devikulam
Soopyanelli
Chinnakanal
CHINNAKKANAL
Muduvakudi
Legend
Responsible Tourism
Anakkulam Trail
Community Tourism
Idam Facilitation Centre
RT HOTEL
Sustainable Tourism Information Centre
Virinjapara Trail
Protected Areas :
ENP - Eravikulam National Park
ASNP - Anamudishola National Park
PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Wildlife Sanctuary
TBS - Thattekkad Bird Snactuary
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Tea Plantations
Human Habitations
Grassland/Rocky Exposure
Teak Plantations
Eucalyptus/Wattle Plantations
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Original Forest Cover
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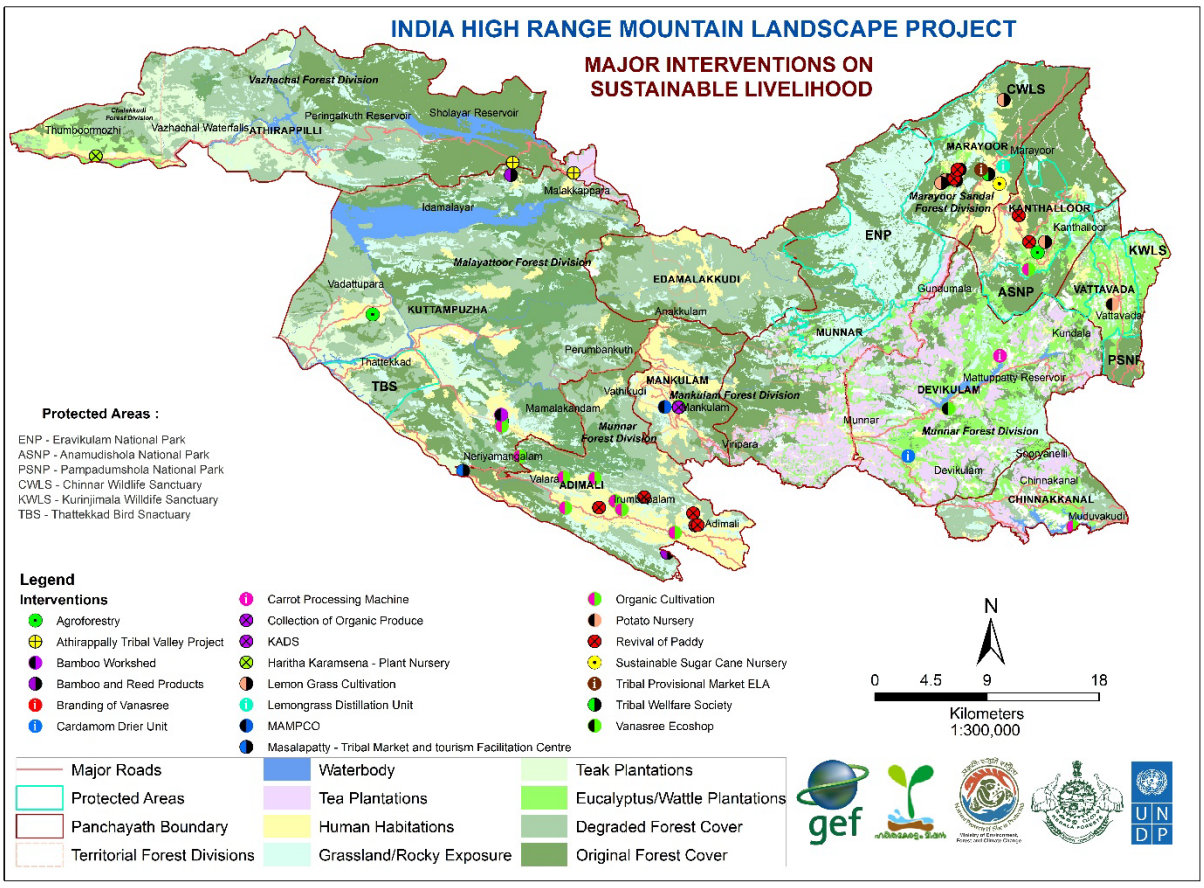
INDIA HIGH RANGE MOUNTAIN LANDSCAPE PROJECT
MAJOR INTERVENTIONS ON SUSTAINABLE LIVELIHOOD
Vazhachal Forest Division
Thumboormozhi
Vazhachal Waterfalls
ATHIRAPPILLI
Peringalkuth Reservoir
Sholayar Reservoir
Malakkappara
Idamalayar
Malayattoor Forest Division
Vadattupara
KUTTAMPUZHA
EDAMALAKKUDI
Anakkulam
Perumbankuth
Thattekkad
TBS
MANKULAM
Mankulam Forest Division
Vathikudi
Mamalakandam
Mankulam
Munnar Forest Division
Neriyamangalam
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ADIMALI
Irumbupalam
Adimali
Vrnpara
CWLS
MARAYOOR
Marayoor
Marayoor Sandal Forest Division
KANTHALLOOR
Kanthalloor
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KWLS
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ASNP
VATTAVADA
Vattavada
MUNNAR
Kundala
PSNP
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CHINNAKKANAL
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PSNP - Pampadumshola National Park
CWLS - Chinnar Wildlife Sanctuary
KWLS - Kurinjimala Wildlife Sanctuary
TBS - Thattekkad Bird Snactuary
Legend
Interventions
Agroforestry
Athirappally Tribal Valley Project
Bamboo Workshed
Bamboo and Reed Products
Branding of Vanasree
Cardamom Drier Unit
Carrot Processing Machine
Collection of Organic Produce
KADS
Haritha Karamsena - Plant Nursery
Lemon Grass Cultivation
Lemongrass Distillation Unit
MAMPCO
Masalapatty - Tribal Market and tourism Facilitation Centre
Organic Cultivation
Potato Nursery
Revival of Paddy
Sustainable Sugar Cane Nursery
Tribal Provisional Market ELA
Tribal Wellfare Society
Vanasree Ecoshop
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Kilometers
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Major Roads
Protected Areas
Panchayath Boundary
Territorial Forest Divisions
Waterbody
Tea Plantations
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Original Forest Cover
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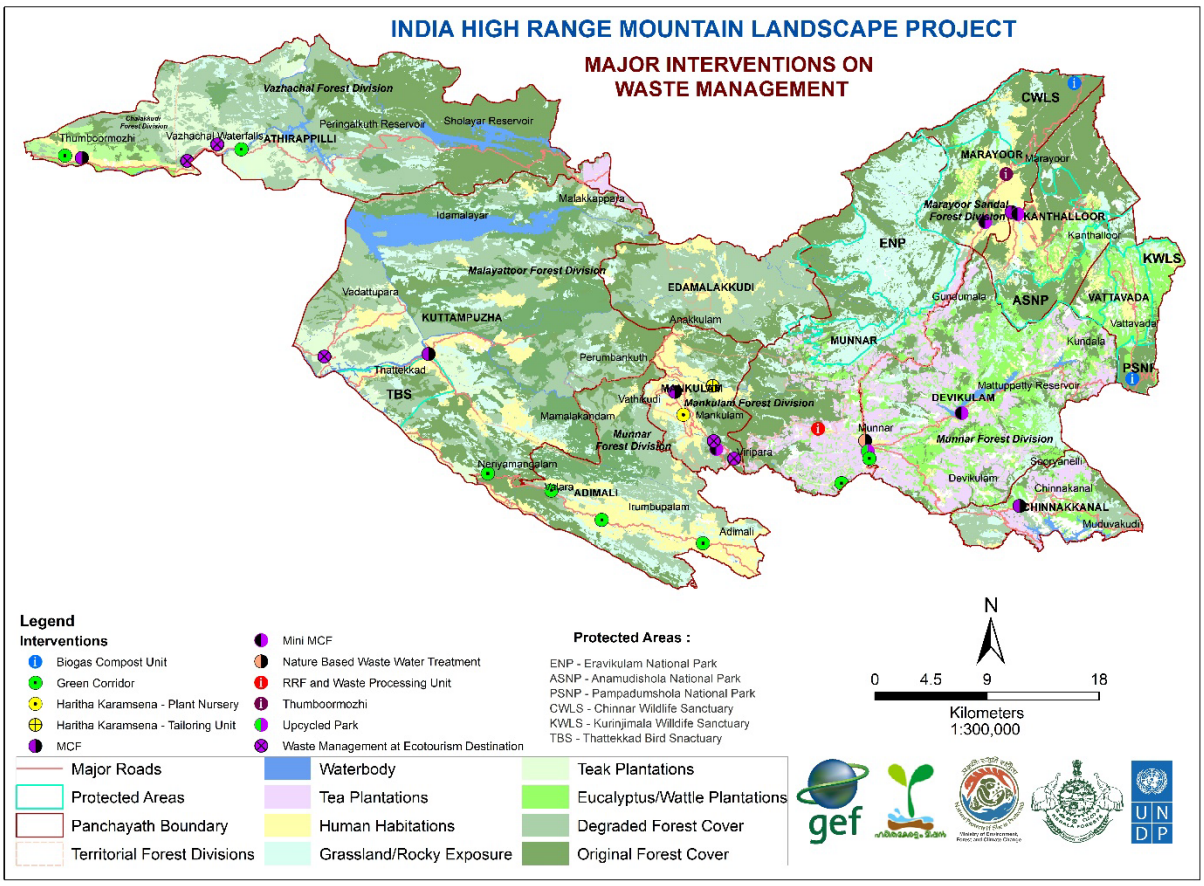
UNDP



Annexure 4C - Photos of project interventions at field visit sites undertaken by the TE

Figure 5 - Cafe Adavi at Idam Tourist Facilitation Centre at Athirapilly

Figure 6 - Revival of traditional paddy at Kattamudi, Adimali

Figure 7 - Organic outlet at Mankulam

Figure 8 - Resource Recovery Facility for non-bio waste at Munnar

Figure 9 - Windrow composting facility for bio waste at Munnar

Figure 10 - Orchidarium at Eravikulam National Park

Figure 11 - Lemongrass distillation unit in Marayoor

Figure 12 - At the park recovered from a waste dumpyard at Kanthallor

Figure 13 - Grassland restoration site at Anaimudi Shola National Park

Figure 14 - Thattekad bird sanctuary

Figure 15 - Habitat Monitoring Cell - Thattekad

Annexure 8 - Knowledge products & baseline studies of the project that were collected and studied

Knowledge Products

No	Name	Prepared by/Technical Partner
1	Hornbill - The resonators of forest health	SACON & Sujith V Gopalan
2	Manual on Bioengineering Techniques for Lanslide Restoration and Slope Stabilization	KFRI
3	Riverbank Stabilization - Malayalam	KFRI
4	Local Biodiversity Strategies and Action Plan	KSBB
5	State Biodiversity Strategies and Action Plan	KSBB
6	Guidelines for Range Forest Officers toenforce regulatory provisions of Biological Diversity Act 2002 in Kerala	KSBB
7	Experiences Of Biodiversity Documentation in Peoples Biodiversity Register - Munnar Landscape Area	KSBB
8	Methodology Manual Biodiversity Documentation and monitoring-PBR	KSBB
9	ABS - Access and Benefit Sharing	KSBB
10	Biodiversity Acts and Rules - Obligations of Researchers	KSBB
11	Biodiversity Heritage sites (BHS)	KSBB
12	National Biodiversity Targets	KSBB
13	Other Effective Area Based Conservation Measures (OECMs)	KSBB
14	Spatial Crop Planning for Sustainable Resource Use and Conservation of Ecological Resources	NBSS
15	Spatial Crop Planning for Sustainable Resource Use and Conservation of Ecological Resources - Soil Profiles on Adimaly	NBSS
16	Soil Resources of Marayoor Sandal wood Forest Ecosystem	NBSS
17	Socio-Economic Status of Farm Households in Marayoor	NBSS
18	Socio-Economic Status of Farm Households in Vattavada	NBSS
19	Socio-Economic Status of Farm Households in Adimali	NBSS
20	Orchids of Eravikulam National Park	JNTBGRI
21	Balsams of Munnar Hills	FDA
22	Responsible Tourism Protocol for Anchunad Landscape	RT Mission
23	Guidelines for Community Tourism Service Providers	Kabani Community Tourism Services
24	Did You Know - Flora and fauna	Project Team
25	Activity Report 2022	Project Team
26	Brochure	Project Team
27	Community tourism leaflet	Project Team
28	Medicinal plants leaflet	Nagarjuna Ayurveda
29	Paddy Cultivation Leaflet	Salim Ali Foundation
30	Green Plan Methodology for Grama Panchayaths	KILA

Baseline studies

Sl. No.	Baseline studies conducted as part of the GoI-GEF-UNDP IHRML Project	Agency/Consultant	Sector
1	Creation of Benchmark Socio-economic database for concurrent evaluation	KILA	Livelihoods
2	Study on social change among tribes - Trajectory of development - Focus on Edamalakudy	KILA	Livelihoods
3	Integrated Water Resource Management of HRML region -Hydrological Investigations in the High Range Mountain Landscape, Kerala	CWRDM	Natural Resources
4	Documentation and compilation of existing information on various taxa (flora and fauna) and identification of critical gaps in knowledge	KSBB	Natural Resources
5	Review of Ecological and development history of various sectors and changes in selected ecological units	KSBB	Natural Resources
6	Study on Pattern of usage of pesticides and their impact on the Ecosystem of plantations and adjacent areas	KFRI	Natural Resources
7	Study on Diversity and current status of fish and fisheries	KFRI	Natural Resources
8	Study on the Impact of Invasive plant species on Ecology	KFRI	Natural Resources
9	Ecosystem requirements of hornbills and assess the status and distribution of selected mammals	SACON	Natural Resources
10	Energy Audit of CTC tea factory KDHP company	EMC	Production Sector
11	Energy Audit of Orthodox Tea Processing Facility of KDHP company	EMC	Production Sector
12	Development of State of Sector Document-Tea, Cardamom, Coffee, Oil Palm and Forest Plantations	IIPM	Production Sector
13	Mapping of Spatial distribution of sectors with underlying attributes in HRML	SACON	Natural Resources
14	Athirapilly - Model Eco Corridor – Detailed Project Report	Ar.Ganga	Tourism
15	Bamboo sector in the landscape: Baseline data and developing suitable strategies and action plan for the overall development of the bamboo sector in the IHRM landscape	Surendranath C	Livelihoods
16	Rapid Biodiversity Assessment in the High Ranges of Munnar Forest Division	Munnar FDA	Natural Resources
17	Detailed Project Report on Developing a Solid Waste Management System in Munnar Grama panchayath as an Action Research Programme	IRTC	Waste Management
18	Edamalakkudy – A report on the resource collection and utilization by the forest dependent community	Munnar FDA	
19	Tourism State of Sector Study	Sumesh Mangalassery	Tourism

20	Non-timber Forest Produce Value Chain study for developing a landscape-based strategy for improving the value chain of NTFPs in the Project Landscape	Jyotsna K	Livelihoods
21	Study on Market Mapping and Value Chain Analysis of Fruits and Vegetables - Vattavada and Kanthalloor	Madhusudhanan	Livelihoods
22	Developing a conservation and propagation plan for traditional practices and seed varieties in the selected clusters of the project landscape	K P Illyas	Livelihoods
23	Comprehensive Sustainable Solid Waste Management Master Plan For Kuttampuzha GP	Hi Tech	Waste Management
24	Comprehensive Sustainable Solid Waste Management DPR for Athirapilly GP	IRTC	Waste Management
25	Comprehensive Sustainable Solid Waste Management DPR-Chinnakkanal GP	IRTC	Waste Management
26	Comprehensive Sustainable Solid Waste Management DPR-Mankulam GP	IRTC	Waste Management
27	Comprehensive Sustainable Solid Waste Management DPR-Marayoor GP	NIRAVU	Waste Management
28	Comprehensive Sustainable Solid Waste Management DPR-Kanthalloor GP	NIRAVU	Waste Management

Annexure 9 - Online interaction with Start-ups as part of the Green Innovation Fund supported by the project

Sl No	Date	Participants	Mode of Consultation
1	9/13/2022	Abhijith/ Prajit - Kerala Startup Mission Representatives, UNDP PMU, Startups	Online
2	9/13/2022	Fuselage	Online
3	9/13/2022	Ecodew	Online
4	9/13/2022	BhuME	Online
5	9/13/2022	Riod logic	Online
6	9/13/2022	Iraaloom	Online
7	9/13/2022	Creativiti Council	Online
8	9/13/2022	Leopard Tech	Online
9	9/13/2022	Vivifica Sustainable Solutions	Online
10	9/13/2022	VIR Naturals Pvt Ltd	Online

Annexure 10 - Special online interactions with technical support agencies

Sl No	Date	Consultation	Participants	Location	Mode of Consultation
1	10/15/2022	Green Plans of Grama Panchayats	Kerala Institute of Local Administration	Zoom meeting	Online
2	10/15/2022	Promotion of Lemongrass	Central Institute of Medicinal and	Zoom meeting	Online

			Aromatic Plants (CIMAP)		
3	10/15/2022	State Biodiversity Strategy and Action Plan	Kerala State Biodiversity Board	Zoom meeting	Online
4	10/15/2022	Promotion of Agro forestry	Kerala Agriculture University	Zoom meeting	Online
5	10/15/2022	Demonstration of RT practices in the landscape	RT Mission	Zoom meeting	Online
6	10/15/2022	Mapping of spatial distribution of sectors with underlying attributes in HRML	SACON	Zoom meeting	Online
7	10/15/2022	Carbon Neutral Mankulam	CESEE - College of Engineering - Kannur	Zoom meeting	Online
8	10/15/2022	Spatial Crop Planning	ICAR - NBSS	Zoom meeting	Online
9	10/15/2022	Energy Audit of two facilities of KDHP company	Energy Management Centre	Zoom meeting	Online

Annexure 11 - Consultation meeting with Forest Development Agencies

Sl No	**Date**	**Consultation**	**Participants**	**Location**	**Mode of Consultation**
1	10/15/2022	Interaction with Forest Development Agencies	Malayatoor FDA	Zoom meeting	Online
2	10/15/2022	Interaction with Forest Development Agencies	Chalakudy FDA	Zoom meeting	Online
3	10/15/2022	Interaction with Forest Development Agencies	Vazhachal FDA	Zoom meeting	Online
4	10/15/2022	Interaction with Forest Development Agencies	Marayoor FDA	Zoom meeting	Online
5	10/15/2022	Interaction with Forest Development Agencies	Mankulam FDA	Zoom meeting	Online
6	10/15/2022	Interaction with Forest Development Agencies	Idukki FDA	Zoom meeting	Online
7	10/15/2022	Interaction with Forest Development Agencies	Munnar FDA	Zoom meeting	Online
8	10/15/2022	Interaction with Forest Development Agencies	Anamudi FDA	Zoom meeting	Online

Annexure 12 - Evaluation Matrix

Sl. No.	**Themes**	**Sub-themes**	**Sources of Information**	**Methods of Interpretation**
1	Relevance	Whether the project components are relevant to the	Project documents Base line studies	Content analysis

		needs of the landscape and its people particularly the vulnerable sections. Whether it addresses the changed priorities of the State after the floods of 2018 which caused massive havoc in bulk of the landscape area Whether it promotes local action to combat climate change Whether it is in keeping with the priorities of the Local Governments	State Plan documents Local Government Plans Report of Mid-term evaluation Report of the Monitoring &Evaluation Committee of Ministry of Environment & Forests	Qualitative assessment from dialogue with the stakeholders
2	Effectiveness	Whether the project of objectives have been achieved with special reference to the outcomes and outputs Whether the project has added value to the ongoing efforts of the State and Local Governments in the landscape Whether the project has contributed to improvement of processes in local planning Whether it has succeeded in mainstreaming biodiversity Whether it has created a better understanding of ecology-related issues among officials including elected officials and other stakeholders Whether it has enhanced the ownership of different stakeholders of the innovations tried out Whether it has contributed to policy	Project documents Progress reports Evaluation reports Technical studies done by the Technical Support Agencies Working plans and Management plans of Forest Department.	Content analysis Conversations with the stakeholders especially implementing officials and Local Government leaders Triangulation through field visits and direct interaction with beneficiaries Discussions with the project staff.
3	Efficiency	Level of convergence with the programmes and resources of different development agencies in the landscape especially the Local Governments and Forest Department Convergence with local institutions like the network of Self-Help Groups of women Cost efficiency and value for money especially in accessing technical support and implementation	Conversation with the stakeholders involved in implementation of programmes Analysis of the documents of the PMU Mid-term evaluation Analysis of costs vis a vis result Knowledge and motivation of staff and their acceptance among the stakeholders	Content study Verification of financial reports Qualitative assessment

		Quality of technical assistance received Quality of human resources of the project Innovative project interventions especially techniques and technologies	Co-financing through documents	
4	Sustainability	Whether the initiatives started would get completed or taken to a level where the resources spent would not be infructuous Whether the Local Governments would expand coverage of the initiatives taken up Whether the capacity created in institutions and key stakeholders would be utilized and transmitted Whether the integrated development of the landscape would continue through an appropriate mechanism of co-ordination Whether the policy interventions would be fully adopted by the Government Whether the institutional mechanisms especially the Haritha Kerala Mission and the Forest Development Agencies would internalize the learnings and adapt them within the landscape area or even outside Whether new technologies introduced would be properly adopted and the machines and systems properly maintained What are the risks in sustaining the positives of the project and the means to offset them	Interaction with the stakeholders Examination of relevant documents Government orders	Qualitative assessment of conversations/ discussions Verification of records Discussions with top policy makers at the District and State levels Assurances given by policy makers and proof of decisions taken
5	Factors of performance	Whether the funds flow was smooth and timely Whether the local planning process was sound and in harmony with the existing processes and systems Whether the project management was efficient Whether the co-ordinating and supervisory systems	Relevant documents Interaction with officials Finance related documents	Verification Qualitative assessment based on interactions Field visits

		performed according to their terms of reference Whether the capacity building efforts were systematic and relevant Whether knowledge management including Information, Education and Communication (IEC) was adequate Whether the partnerships developed for the project were adequate and whether they are likely to continue beyond the project period		
6	Inclusion and Equity	Whether the project was gender sensitive covering attitudes, design of programmes and flow of benefits Whether the project addressed marginal groups especially the Scheduled Tribes, Scheduled Castes, landless, people with disabilities, elders, etc. Whether needs of youth especially those unemployed were addressed	Official records Interactions Reports	Content analysis Qualitative assessment
7	Larger Impact especially scalability and replicability	Whether the micro initiatives would be expanded through local action to cover larger areas Whether the proofs of concept developed by the project would be adapted and used by agencies like Kerala Institute of Local Administration (KILA) and Harita Kerala Mission for Local Governments and the Forest Department in the forest area	Interaction with beneficiaries Interaction with Local Governments Policy commitments by District and State officials Relevant documents including Government orders Discussion with top policy makers at the District and State levels Assurance given by policy makers	Qualitative assessment of conversations Verification of records.
8	Lessons for future programmes	Whether there are important lessons for the National and State levels, both positive and negative	Mid-term evaluation Report of the M&E Committee Interaction with project staff Interaction with the senior policy makers	Qualitative judgments

			Interaction with UNDP	

Annexure 13 - Project Results Framework – Summary

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
Objective - To protect biodiversity of the High Range Mountain Landscape of the southern Western Ghats in peninsular India from existing and emergent threats through building an effective collaborative governance framework for multiple use management						
1	Extent brought under multiple use management planning framework	0 ha	*(not set or not applicable)*	219,878 ha [Target revised with exceptional approval of PTA on justification of safeguards grievance; it was 300,000 ha. The grievance-related landscape has been removed]	206,827 hectares	Spatial mapping done through the project has identified the project area to be 206,827 Ha
2	Population status of following critical species remain stable or increases: Nilgiritahr Grizzled giant squirrel [Indicator revised with exceptional approval of PTA on justification of safeguards grievance; tiger was originally an indicator species but was removed along with omission of the grievance-related landscape]	944 195 [Tiger omitted; baseline was 34]	*(not set or not applicable)*	Remain stable or increases by project end	1039 107	Source of baseline population measurement for Grizzled giant squirrel could not be accessed by the PMU; Communication from Munnar Wildlife Division indicate the population status of GGS in 2016 to be 104 and in 2019 to be 107. A detailed survey has not been conducted thereafter.

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
3	Percentage increase in habitats categorized as high conservation value over the baseline. [Indicator replaced - see Outcome 2. Indicator revised with exceptional approval of PTA on justification of safeguards grievance; indicator replaced with 'Proportion of degraded habitats rehabilitated within the PA system' which had already been added under Outcome 2 and is omitted here to avoid the duplication in indicators]	PA: 207.5 km2 Non-PAs: 846 km2 [Indicator replaced - see Outcome 2]	*(not set or not applicable)*	10% increase by mid-term and 20 % by project end. 10 % increase by mid-term and 15% by project end [Indicator replaced - see Outcome 2]	Not achieved	Target revised as "Proportion of degraded habitats within the 6 PAs rehabilitated"; Please refer #11
4	Improvements in water quality in the water bodies of the landscape	BOD -1.5 mg/l at Neriamangalam and 1.4 mg/l at Bhoothathankett	*(not set or not applicable)*	10% improvement by project end.	33% improvement BOD Neriyamangalam (Neriamangalam Bridge) - 1 mg/l Bhoothathanket t (Ramaswamy Aiyar Headworks) - 0.9 mg/l	

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
Outcome 1 - Effective governance framework for multiple-use mountain landscape management in place						
5	Landscape Level Land Use Plan (LLLUP) developed adhering to multiple use management decisions	0	*(Not set or not applicable)*	1	1	
6	Sector-specific biodiversity-plans compatible with LLLUP developed leading to effective integration of biodiversity considerations into production practices	0	*(not set or not applicable)*	At least six Sector Plans (Forestry, Tourism, Tea, Cardamom, Agriculture and Tribal Development) and Biodiversity Conservation Plans (5) in place	Five Sector Plans and Five Conservation Plans	Sector specific Plans – 1) Responsible Tourism Protocol, 2) Spatial Crop Plan, 3) Green Plans of Grama Panchayats, 4) Detailed Project Reports for Solid Waste Management for Grama Panchayats, 5) Energy Efficiency Plan for Tea Factories Biodiversity Conservation Plans – 3 Management plans (Pampadumshola National Park, Anamudishola National Park and Mathikettanshola National Park) 1 Kerala State Biodiversity Strategies and Action Plan 2022-32 (and Resource Mobilisation Strategies) 1 Local Biodiversity Strategy and Action Plan for Athirapilly Grama Panchayat
7	Effective and functioning cross-sectoral, multi-stakeholder	0	*(not set or not applicable)*	1	1	

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
	institution (including conservation, livelihood and production) established.					
8	Number of key policy and management framework/ decisions adopted at local and state level related to sustainable mountain landscape management	0	*(not set or not applicable)*	7 (Wildlife Protection Act, Forest Conservation Act, Environment Protection Act, Forest Rights Act, Cardamom Rules, KDH Act, Land Assignment Act, Commodities Act), National Working Plan Code and other Management decisions	15	
9	Improvement in Systemic Level Indicators of Capacity Development Scorecard (Annex 19)	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 55% 2. Capacity to implement policies, legislation, strategies and programmes 42% 3. Capacity to engage and build consensus among all stakeholders 69% 4. Capacity to mobilize information and	*(not set or not applicable)*	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 80% 2. Capacity to implement policies, legislation, strategies and programmes 80% 3. Capacity to engage and build consensus among all stakeholders 80% 4. Capacity to mobilize information and knowledge 80% 5. Capacity to monitor, evaluate and report and learn at the sector	1. Capacity to conceptualize and formulate policies, legislations, strategies, programme 56% 2. Capacity to implement policies, legislation, strategies and programmes 49% 3. Capacity to engage and build consensus among all stakeholders 60%	Baseline measurement was done in 2019. The Elections to the Grama Panchayats was held in December 2020 and a new set of members took charge from January 2021. The final evaluation has been undertaken with elected members who are relatively new to the process of decentralized planning compared to the set of people who were assessed during baseline measurement; Hence improvement in capacity scorecards is not seen. However, considering that there is no reduction in score for a new set of members, this might

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
		knowledge 62% 5. Capacity to monitor, evaluate and report and learn at the sector and project levels. 61%		and project levels. 80%	4. Capacity to mobilize information and knowledge 57% 5. Capacity to monitor, evaluate and report and learn at the sector and project levels. 60%	be considered as an achievement.
Outcome 2 - Multiple use mountain landscape management is applied securing the ecological integrity of HRML						
10	Improved management effectiveness PAs as measured and recorded by Management Effectiveness Tracking Tool (METT) (Note: endorsed change to reduce number of PA sites)	168 out of 300 (Baselines need to be re-established as PA sites are shifting)	*(not set or not applicable)*	Increase in METT scores by 10 percent by year 3 By 20 percent by year 5	27% increase	
11	Proportion of degraded habitats rehabilitated within the PA system (NEW Indicator approved; it was 'Increase in area under PA system')	To be established - baseline degraded areas to be measured for revised indicator (NEW baseline for revised indicator)	*(not set or not applicable)*	30% increase (NEW target for revised indicator, TBC once baseline established)	5.4%	Restoration of degraded habitats within PA system is a long drawn process; Project could successfully initiate the same in 158 Ha total within and outside Pas which is being scaled up by the Forest Department;
12	Number of new demonstration programmes/ featuring biodiversity friendly production	0	*(not set or not applicable)*	20	22	

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
	practices (e.g. curing units/ energy efficiency options/ farming practices) adopted					
13	Areas of forest fragments/ HVBAs in tea gardens inventorised and secured (Note: this indicator was missing from results framework and has been re-added in 2019 based on ProDoc)	0	-	4,000 ha	5,608 ha inventorised 66 ha – secured in 2013 2,800.43 ha proposal submitted to Govt. 2,741.57 ha – detailed survey ongoing	Securing is a long-drawn out process. 5,608 Ha – survey & taxonomic inventory has been completed 66 Ha – has already been declared as per Ecologically Fragile Land in 2013 2,800.43 Ha – proposal has been submitted to the Govt of Kerala for notifying as Section 4 for getting protection status 2,741.57 Ha – detailed survey is ongoing for submission of proposal to Govt of Kerala
14	% reduction in fuel wood consumption for processing in tea and cardamom using energy efficient technology and improved design (indicator, baselines and targets will have to be re-visited once the Sector Plans are prepared by	Baseline to be established in the first year	--	10% decline over baseline usage	Not achieved	Engagement with tea sector stakeholders is a long-drawn process; The project could not take up because of tight timelines

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
	mid-term) (Note: this indicator was missing from results framework and has been re-added in 2019 based on ProDoc)					
Outcome 3 - Strengthened community capacities for community based sustainable use and management of wild resources						
15	Number of community representatives / PRIs trained in biodiversity mainstreaming activities	0	*(not set or not applicable)*	500	1329	Green planning for PRI representatives – 1050 Training and handholding Haritha Karma Sena (Kudumbashree women SHGs in waste management and other green livelihoods) – 146 Sustainable Tourism initiatives related trainings for community representatives/ PRIs – 110 Advanced course on woodwork for tribal youth – 5 Visual media course focusing on biodiversity conservation for tribal and underprivileged youth – 18 In addition to the above, farmers & other beneficiaries trained on multiple farm-based livelihoods interventions – 2500+. This has not been

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
						counted in the end-term reporting.
16	Number of new micro-enterprises at individual/SHG / CBO/ and other local institution levels based sustainable resource use	0	*(not set or not applicable)*	Target to be defined after design of the micro-plans	10	
17	% reduction in biomass consumption in lemon grass enterprises through adoption of improved technology.	494,361 kg/ year	*(not set or not applicable)*	10 percent reduction by 3rd year and 20 percent by project end.	73% reduction in fuelwood consumption and 10% reduction in water usage	Successful demonstration done
18	Appropriate model agreement between different agencies on the effective implementation of FRA as evidence through sustainable use and protection of biodiversity in Edamalakudy Panchayat	0	*(not set or not applicable)*	1	0	IFR rights provided to 6 tribal families Resource mapping done Access to Edamalakudy was blocked during Covid-19 lockdown; Also intermittent rainfall and recurrent landslides in the area made interventions in Edamalakkudy difficult for the PMU; As a result the process could not be taken up in a timely manner
19	Number of development plans of PRIs/ CBOs that incorporate bio-diversity friendly practices	0	*(not set or not applicable)*	11	11	

Sl No	Description of Indicator	Baseline Level	Midterm target level	End of project target level	End of project achievement	Remarks
	(Note: was missing from Results Framework in error and added in 2019)					

Annexure 11 – Specific contributions of the project to biodiversity

Direct contribution to biodiversity- at Species Level

1. Two species of ***Strobilanthes*** *(Strobilanthes matthewiana* R.W. Scotland and *Strobilanthes orbiculata* S. Thomas, B. Mani & S. J. Brittto) have been recovered from the Anjunattupara **ecosystem restoration site** in Marayoor Forest Division. Both these narrow restricted Endangered Species are having a limited area of occupancy in the Western Ghats (especially in the southern part of Palani Hills) (less than 100 sq km and an area of occupancy is less than 10 sq km) and foreseeing threat of exotic invasion and habitat destruction, these species may be categorized CR (Critically Endangered-IUCN standards and Petitions Subcommittee 2016). Conservation of these species at Anjuanttupara has been initiated by the Marayoor Forest Division by establishing monitoring plots at the restoration site. As a pilot demonstration 40 ha of *Acacia mearnsii* (Black wattle)- infested areas are being restored into montane shola grassland ecosystem.
2. **Breeding Protocols of two native forest stream fishes** (IUCN Red Listed-LC category), the Filament Barb (*Dawkinsia lepida*) and Olive Barb (*Systomus sarana*) were developed. The technical support has been provided by the Kerala University of Fisheries and Ocean Technology (KUFOS), Govt of Kerala. More than 2200 brood stock were developed and produced nearly one lakh seedlings which used for release in the reservoir as well as for promoting aquaculture of native species. This intervention not only would improve the native fish population in the reservoir as well as it opens the scope of livelihood improvement for the forest-dependent communities. Most of the reservoirs in high ranges were invaded by some exotic species which escaped from the farmers and even through various government schemes to promote fish production in the reservoir. Now the Fisheries Department, Govt of Kerala has requested KUFOS to share the breeding protocol and have initiated collaboration to promote native fish population and diversity. The seedlings were also distributed to about 140 farmers of Kuttampuzha, Marayoor and Mankulam. The ranching of the brood stock and the seedlings were done and, in the fish recatch assessment it was observed that a greater number of native fishes were captured. The farmers confirmed this in their daily fishing practices. The hatchery established under this project would support the development of the breeding protocol for more native fishes (especially fishes that can be promoted in the reservoirs).
3. The intervention in **establishing signages and canopy bridges** by the Anamudi Forest Development Agency across the inter-state road passing through the center of Chinnar Wildlife Sanctuary could reduce the number of **roadkill** incidents of arboreal animals including Grizzled Giant Squirrel, Langurs and Macaque. It is reported that no roadkill incidents of such arboreal animals happened after this.

4. The **course on ornithology and community-engaged responsible tourism** in Thattekad and its adjoining areas could regulate unscientific birding practices such as making artificial bird calls to attract birds, for the visitors to see the birds very near at their cottages/homestays. These initiatives could reduce the threat to bird species such as Ceylon Frogmouth (*Batrachostomus moniliger*).
5. The **ecosystem restoration effort at Shola** National Park Ranges in Munnar Wildlife Division through Anamudi Forest Development Agency could recover a **White Rhododendron** species and its genetic level studies are ongoing with the support of Botanical Survey of India to know the uniqueness of the species. The conservation measures to preserve this unique species are taken by the Munnar Wildlife Division. Similarly, about 100,000 seedlings of Neelakurinji (*Strobilanthes kunthiana*), endemic to Western Ghats have been raised and planted in the grassland restoration sites.
6. Establishment of a **seed bank** and revival of traditional seeds and cultivation practices in and around Anjunad could identify, preserve and revive about 75 varieties of seeds including rice, finger millet, Kodo millet, little millet, foxtail millet, maze, beans, spinach, mustard etc. The entire settlement inside the Sanctuary and most of the tribal hamlets in and around Anjunad valley now became part of reviving the traditional seeds and their cultivation.

Direct contribution to biodiversity- at the Ecosystem and Habitat Level

1. The **restoration of high-altitude montane shola** grassland initiatives at Anamudishola National Park could bring back the habitat of endemic **high-altitude grassland birds** such as Nilgiri Pipit (*Anthus nilghiriensis* IUCN VU), Palani Laughing thrush (*Montecincla fairbanki* IUCN NT) and Nilgiri Flycatcher (*Eumyias albicaudata* IUCN NT) and high-altitude grassland butterflies including Palani Thavidan (*Telinga davisoni*).
2. The **montane grassland restoration** initiatives (pilot demonstration) also created **grazing habitats** for various wild animals including large herbivores (Elephant and Indian Bison) and other herbivores including Sambar Deer, Barking Deer, Mouse Deer and black-naped hare. These revived ecosystems also act as habitats for sloth bears (*Melursus ursinus*) and carnivores such as Dhole, Tigers and Leopards. Presently, pilot restoration is going on 75 ha (Anamudishola National Park 50 ha, Pampadumshola National Park 19 ha and in Kurinjimala Sanctuary 6 ha). For the first time in Kerala, an exclusive Eco Development Committee (EDC) on ecosystem restoration has been formed named as "Haritha Vasantham" and is actively involved in the restoration of montane shola grassland ecosystem by establishing mother bed nurseries on tussock kind grass (*Chrysopogon zeylanicus*).
3. The **Ecosystem restoration** initiatives in Meesapulimala by **removing the exotic and invasive tree species** from 20 ha by Kerala Forest Development Agency (KFDC), Govt of Kerala improves the habitat of the second largest population (around 120 individuals) of **Nilgiri Tahr**, outside the Protected Area. Similarly, the Territorial Munnar Forest Division has also initiated restoration of high-altitude grasslands including Nilgiri Tahr habitat to an extent of 53.5 ha. This will also improve the habitat of elephant and gaur population in the landscape.
4. The **revival of aquatic ecosystems** through establishing canals network in the existing waterholes have ensured the presence of water during the crucial migration period, which was otherwise affected by the unscientific dam operation for irrigation purposes.

Fourteen waterholes inside the Sanctuary and the canal system of 500m has been scientifically revived utilizing the gravitational flow of water to recharge these habitats. These canal systems are now also acting as breeding ground of fishes, which also improves the prey density inside the waterholes for the bird population. This intervention could improve the **migratory bird** habitats, especially the aquatic birds in Thattekkad Bird Sanctuary. Presently there are 32 aquatic birds of which 14 are migratory species.

5. The **waste management** intervention at Kanthalloor Grama Panchayath improved the **aquatic ecosystems** of Pambar River, the east-flowing river in Kerala that drains into Cauvery. The waste was usually dumped into the river and its catchment, and this has been systematically managed through the project intervention. This would also improve the habitat of High-altitude Freshwater Fish, Pambar Banded Loach (*Mesonoemacheilus pambarensis* IUCN VU) which got its name after its discovery from this River. Similarly, the waste management intervention at Munnar and Chinnakanal would help to control **waste-eating incidents by wild animals**, especially by the elephants and Gaurs, which will reduce the chances of ruminal impaction due to plastic inside the stomach.
6. The **nurseries** established for 35 **shola and evergreen species** at Devikulam Central Nursery will be able to supply the seedlings to the **cardamom** growers in Chinnakanal and nearby areas. This has promoted the planting of shade trees belonging to evergreen species instead of planting commercial exotic trees like Silver Oak. This will improve the microclimate of the region and preserve the biodiversity in the Cardamom Hill Reserve. Similarly, propagation methods of 10 IUCN Red-listed and endemic shola species have been studied to promote its conservation.
7. The **habitat health monitoring cell established** at Thattekkad Bird Sanctuary and Eravikulam National Park could monitor the health of both wild animals (including Nilgiri Tahr, an Endangered species) and its environment. This could identify the potential risk of spread of **zoonotic** diseases to humans and vice versa.
8. The study on the **distribution of Hornbill species** in the landscape identified the nesting locations, nesting trees and major food species. Based on the recommendations of the study for improving the Hornbill Habitats, the forest department through Vana Samrakshana Samithies (VSS) has initiated **planting nesting trees and food species** along Chalakkudy River and its catchments.
9. The **mapping and taxonomic inventory of shola** in and around the tea gardens of Munnar has been done through this project covering **around 5608 ha of shola forests with 331 patches** having different ownership statuses (Forest, Revenue and KDHP leased out land). The taxonomic inventory revealed 21 species of mammals, wherein 4 are endangered and 4 are Endemic; 303 birds with 17 of high conservation priority; 15 species of Reptiles including 9 of which are Endemic; 20 species of Amphibians out of which 10 are Rare, Endangered and Threatened species; 101 Flora species with 30 Endemic. The Forest department along with other stakeholders have initiated action to secure these high-value biodiversity areas by notifying them as ecologically fragile areas. This will help to preserve this biodiversity in the future. These shola patches were also acting as a steppingstone for wild animal movement.
10. The **resource utilization map** prepared for Edamalakkudy Tribal Settlement could be used to conserve and preserve the **NTFP resources** through the forest-dependent community itself, once the Community Forest Resource Right is implemented. Similarly, the study conducted by Kerala State Biodiversity Board on bio-resource and traditional knowledge can be effectively utilized through BMCs during PBR updation.

11. The concept of "**Green Islands**" established at 12 locations in the landscape in various forms could improve the local biodiversity as it acts as a temporary shelter for invertebrates and small vertebrates. Presently 12 such plots have been developed in 8 Village Panchayats. Around 1220 saplings, including medicinal plant varieties and native fruit trees planted across the locations generally linked to the local educational institutions. This will create **awareness** in the local community including students on biodiversity and also increase the population of beneficial insects such as bees, butterflies and moths' populations in those locations.
12. The **riparian ecosystem restoration** initiatives along Chalakkudy River in long run, will significantly contribute to the preservation of **braided bars**, which were formed inside the river over its course of time. A riparian species nursery has been set up and it has produced 11,000 riparian plant seedlings belonging to 11 species. Planting of about 10,000 saplings has been completed in 54 acres with soil stabilizing mechanism and measures have been taken protect from grazing by wild animals for few years. One of the restoration islands has been named as "Punarjanee" meaning "Reborn one." This will act as steppingstones for wildlife and improve the microenvironment inside the river and aquatic life forms.
13. Taxonomic inventory of Orchids in the high-altitude grassland, Orchidarium developed at Eravikulam national park, the **book published o**n Orchids and Balsams of Munnar Hills can create conservation **awareness** and educate the public about diversity of Orchids and Balsams of high ranges.

Indirect Contribution to Biodiversity/ Ecosystems/ Landscape of Activities Undertaken to Secure People's Livelihoods

1. Mapping of the present and past **elephant movement corridors** and local movement paths in Munnar and Mankulam will help to restore the connectivity of various natural habitats from a landscape perspective.
2. The **scientific way of installing barriers** without disturbing the local movement paths and corridors can reduce the retaliatory killing of wild animals, especially through electrocution. A total of 6.5 km long solar power fence has been installed in the severe conflict locations falling under the jurisdiction of Mankulam and Munnar Forest Divisions and a system for participatory monitoring and maintenance has been established through forming "Jana Jagratha Samithies" (Peoples Surveillance Units) at each location.
3. Cultivation of an **improved variety of lemongrass with a fuel-efficient distillation unit** installed at two locations in Marayoor with the technical support of CSIR - Central Institute of Medicinal and Aromatic Plants (CIMAP)will reduce the dependency on the forest by the forest-dependent community.
4. The value addition in various aspects such as branding, marketing, skill development, community engaged responsible tourism etc., provides alternative livelihood options instead of traditional gathering systems to the forest-dependent tribal communities.
5. Towards improving the livelihoods of the people living at Edamalakkudy, deep in the forest, a cardamom drier has been installed at Devikulam with a capacity of 300kg. This is a hybrid drier in which electricity and fuel wood are the sources of energy. The main objective of installing the cardamom processor at Devikulam is to use biomass of eucalyptus trees from the various restoration sites of Munnar Forest and Wildlife Division. This will reduce the use of forest trees as a source of energy for processing the

cardamom. This centralised unit can also act as a collection point for the cardamom from other locations in the landscape also. The system of collection of cardamom, processing and its marketing will be done by the Edamalakkudy VSS itself.

6. The initiatives on **safe-to-eat and organic cultivation** in Mankulam Grama Panchayat will improve the **health of various environments** including air, soil and water and the ecosystems associated with it.
7. The **removal of exotic tree species** especially wattle, eucalyptus and pine from the natural ecosystems can **improve the ecosystem services** for humans, primarily in the form of water and wildlife in the form of natural habitat.
8. The **spatial crop plan** developed for three Grama Panchayaths (Marayoor, Vattavada and Adimali) with the technical support of ICAR-National Bureau of Soil Survey &Land Use Planning can be effectively used by the farmers through the Agriculture Department, which will improve the agriculture practices in a more scientific way and also can reduce the **indiscriminate use of various chemicals** in the form of fertilizers and pesticides.
9. The intervention in the major production sector, the **tea** estate, especially to convert the **manufacturing system in an energy-efficient** way, can substantially contribute to the environment as the present captive plantations used for fuel during the tea manufacture can be converted into natural grassland/forests to a greater extent. This will further improve the ecosystem services and wildlife habitats. The energy audit results and its recommendations need to be adopted by the company to achieve this objective.
10. The high-resolution **geospatial map** prepared by the technical agency Salim Ali Centre for Ornithology and Natural History (SACON, MoEFCC) for the landscape can be used for planning and development by considering the sustainable way of the utilization of natural resources. The **GIS cell** established under the project can use this opportunity to improve **forest management practices** and protection aspects.
11. The **revised Management Plans and Working Plans** (ongoing) of the Protected Areas and Territorial Forest Divisions are expected to develop Annual Plan of Operations from a **landscape perspective**, especially in the restoration of **degraded ecosystems and establishing connectivity** with the natural forest.
12. Similarly, **integrated water resource plans** developed by the KSCSTE Centre for Water Resources Development and Management **and green plans** prepared by Kerala Institute of Local Administration (KILA) incorporating biodiversity considerations and their use by the Local Self Governments would promote more sustainable development.
13. The **Biodiversity Resource Centre** at Adimali imparts knowledge to the students/ general public visiting Munnar. The interactive platforms with videos on the floral, faunal, ecosystem, tribal, and agro biodiversity richness of the Munnar landscape would spread **awareness** about the landscape.

Annexure 12 - Key Highlights from the Dissemination Workshop

The highlights from the Dissemination Workshop held on 29th and 30th of June 2022 29 June 2022 (Day 1) is given below:

Inaugural session

Dr T N Seema, Coordinator, Navakeralam Karma Padhathi& State Project Director, GoI–GEF–UNDP IHRML project

Dr T N Seema welcomed the chief guests, dignitaries and personnel associated with the project from across the country. She mentioned that despite facing numerous obstacles, including Covid-19 related hurdles and natural calamities that affected Idukki District, the project flourished owing to the support of the various stakeholders associated with it. She expressed her gratitude to all associated personnel who had dedicated their time, energy and effort in the successful implementation of the project.

VP Joy, IAS, Chief Secretary, Government of Kerala

In his inaugural speech, V P Joy briefed the delegates on the aim and objectives of the project. He described the importance of the project for the Western Ghats—one of the UNESCO World Heritage Sites in the country and the need for sustainable development as well as environmental protection for this unique ecosystem. He recounted the evolution of the IHRML project which started with 11 panchayats, in the "Anchunad" region, to be expanded further. He also indicated that the results obtained can be used as a model for other similar upcoming projects in the future. His address also emphasised the critical role of reducing man-nature conflicts in order to protect the region's biodiversity and ecological hotspots through initiatives which facilitate their co-existence. Kerala's exemplary performance in indicators for Sustainable Development Index, Poverty Alleviation, and HDI provides a concrete foundation for holistic development of the region and the state. In this regard, the state government's plan to initiate one lakh micro projects to create jobs in the Green sector was also highlighted.

Shoko Noda, Resident Representative, UNDP India

In her address, Shoko Noda congratulated the government on meeting the project's aims and objectives and its successful implementation with the help of 6,000 conservation champions who have been trained to work in association with local communities in the region. The role played by the Haritha Keralam Mission and the Forest Department of Kerala government in guiding the project's implementation by path breaking initiatives including decentralized waste management, eco-restoration, community tourism, climate entrepreneurship, and sustainable agriculture was underscored and appreciated. The UNDP representative expressed her gratitude to all stakeholders and indicated optimism for the partnership to further upscale the project.

Sarada Muraleedharan, IAS, Additional Chief Secretary, Department of Local Self Government, Government of Kerala

Sarada Muraleedharan focused on the impact created by the project which benefited the farmers in the region. Not only did the availability of clean drinking water rise, but the region also recorded a higher percentage of conversion of waste land to agricultural land. At the heart of these improvements was expert and timely technical guidance, which has been lacking in other Natural Resource Management Projects implemented so far. The potential of the project to be a technical, financial, and infrastructural model for future projects at national and international level was also reiterated. The IHRML project is an exemplar of achieving sustainable development while also conserving biodiversity and ecosystem of the highly vulnerable region. The speaker acknowledged that local bodies have played a central role in the project's success by generating awareness among local communities, and she hoped to see this trend continue in upcoming projects.

Dr Joy Elamon, Director General, Kerala Institute of Local Administration

Dr Joy Elamon's address was focused on the replication of IHRML's success in other ongoing projects including the Nava Keralam Karma Padhathi. Local bodies were urged to create fool proof masterplans for implementation of projects – both existing and upcoming – with the help

of the risk-informed Green Plan Guide as well as the Disaster Risk and Climate Action Tracking Tool. The critical role played by local bodies in improving the lives of people, especially during natural calamities—like the floods in 2018—was also reiterated.

Jiji K Philip, President, Idukki Zila Panchayath

Jiji Philip lauded the IHRML for its resilient implementation in the challenging time of the corona pandemic as well as two subsequent floods in Kerala in 2018. The project's extended vision not only conveyed the predominance of ecology over economics, but also made people more familiar with the concept of sustainable development. While the UNDP was fully supportive of the people in the identified area in Idukki, Jiji K Philip highlighted that it was the most neglected of all 14 districts in the state. Even though five percent of Kerala's tribal population lives in Idukki, a significant portion of the local community, especially the tribal peoples, suffer from the lack of good living conditions. Not only is the district more prone to natural calamities, it has also witnessed reverse migration in recent years. Sustainable projects like the IHRML project and increased financial support to local bodies are therefore necessary to address these grievances and improve the lives of people in the region. The project is estimated to benefit 11.5 lakh people in Idukki. The district has big dams, Marayoor jaggery, tea, cardamom, Nilgiritahrs, and substantial tourism potential.

Anandarani, President, Devikulam Block Panchayat

Anandarani highlighted that people's representatives in Idukki have evolved in its 50-year journey, especially as a result of the Kudumbasree mission. Devikulam Block panchayat area has implemented the Haritha Keralam and Nava Keralam projects well. The expertise of previous projects has helped them to join the IHRML project with confidence and has also shown significant results. However, a lot remains to be done. Munnar, Kerala's own mini-Kashmir as a tourist destination, requires more infrastructure projects and assistance in overcoming issues related to land availability. Moreover, Idukki needs an effective retailing mechanism for products like Marayoor jaggery and Kanthalloor vegetables.

Soman, President, Adimali Block Panchayat

Soman underlined the need to extend the project in order to preserve its initial gains for a sustainable future.

Special Address: Adv. A Raja, MLA, Devikulam (relocated here from a different session)

A Raja lauded local self-governments for playing a pivotal role in the creation of Navakeralam through their innovative approach. However, since large-scale development of the state is the focus area, it must not be ignored while highlighting the protection of water, soil, air, and nature. The UNDP project provides numerous avenues to achieve the same through an inclusive approach.

Stories of Change

Reviving nature's water towers through eco-restoration, S V Vinod, Munnar Wildlife Warden

The wildlife region of Munnar is comprised of six protected areas including sholas and rolling grasslands. Eco-restoration in Munnar had been facing constant threat from invasive and exotic species for a long time. The trouble began in 1914 when eucalyptus was planted widely in the area. In 1958, wattle trees were introduced in the entire district of Idukki, which spread at astonishing speed and soon supplanted the region's grasslands.

Since wattle seeds are dormant, their seeds remain intact even if wildfires destroy vast stretches of wattle trees. They get buried in the land and soon resurface, thus posing a considerable riskto the local ecology including the natural forests of Kurinjimala, Anamudi and Pampadum Shola. Moreover, they affect water availability and pose a significant challenge to eco-restoration activities.

In this context, the DFO recounted a massive wildfire in the Pazhathottam region in 2019 which affected a large area. Realising that the wattle seeds buried in the region would turn into seedlings by the next monsoon, forest officials did nothing at the time. However, once they sprouted, they uprooted the seedlings. As a result of this tactical move, no seeds were left in the identified area. The department also created check dams to prevent soil erosion and then planted the locally available natural grass. Introduction of the grass under eco-restoration attracted wild animals to the Pazhathottam region, which had erstwhile stayed away.

At present, 40 people work under the eco-development committee at Pazhathottam with UNDP support. The Haritha Vasantham project has also become a success. It not only prevented soil erosion, but also ensured a support system for adjoining shola forests. A mini tourism project with regulated trekking to witness the wildlife movement has been launched recently.

A circular economy approach in Munnar, Praveena Ravikumar and M Rajendran, president and vice-president of Munnar Grama Panchayath

The speakers addressed the colossal issue of garbage management in Munnar, a globally renowned tourism spot with a huge rush of visitors. To address the same, the panchayat launched a spirited campaign for waste segregation and scientific disposal under the UNDP scheme. Under this campaign, the Haritha Karmasena visited houses, resorts, and commercial establishments, and apprised them about the garbage menace. This was followed by waste segregation and collection, and conversion of bio-waste into biofertilizer.

The Munnar Grama Panchayath is confident of achieving the UNDP goal of making Munnar a zero-waste destination. The speakers highlighted that the help of Kannan Devan Hills Plantation Company has been solicited in the process, and also made note of efforts like training for the waste-collecting workers on segregation and fire safety. Significantly, `2 lakh worth of plastic waste collected has been sold.

Climate-smart agriculture and sustainable development, Illiyas, Salim Ali Foundation

As part of the IHRML project, Thrissur-based Salim Ali Foundation helps in the revival of lost and traditional agricultural practices of the local communities. To recapture traditional farming practices, traditional seeds (like rice) have been collected and made available and various traditional millet varieties have been reintroduced. Thirty-two traditional millet varieties, lost in transition over the years, have been rediscovered and reintroduced In Marayoor Grama Panchayath alone. Under the project, SAF has reintroduced about 70 traditional varieties of rice seeds and as well as rejuvenated traditional farming methods of tubers and vegetables.

Engaging youths for conservation, Anekh Bose

A visual media student from Kuttampuzha Grama Panchayath, Anekh Bose shared his experience of working with the IHRML project and how it boosted his morale to pursue his long-cherished dream of joining a media study course. He is now helping the project achieve its aims in whatever ways possible and emphasized the engagement of youth in conservation efforts.

Moving Towards Green Economy through Sustainable Livelihoods (Coordinator: Tony Jose, Project Officer, UNDP; Session chair: Dr Jiju P Alex, Planning Board member, Kerala)

Theme introduction and project intervention, Tony Jose, Project Officer, UNDP

Tony Jose called for a scientific and inclusive intervention for local communities engaged in agriculture since climate change challenges have rendered agriculture non-profitable. Cardamom's price has fallen from `3,000 per kg to `600/-. Pepper and sugar cane farmers are also inacrisis situation due to substantial price fluctuations. To this, is added the challenge of the lack of a trained workforce.

Comments, Dr Jiju P Alex, Planning Board Member, Govt. of Kerala

The IHRML project has generated specific insights on agriculture, local economy, fisheries, forestry, and green entrepreneurship. The lessons learnt must be placed before the state of Kerala as a valuable learning experience for evolving equivalent strategies.

Punarjeevanam—Promoting sustainable farming and self-sufficiency, Dhanush PK &Minimol KV, Social Workers, Chinnar Wildlife Sanctuary

The Punarjeevanam project was initiated to address the long-term food and nutrition deficiency of traditional forest dwellers in the Chinnar wildlife sanctuary area. A medical camp in 2016 had confirmed high level of nutrition deficiency among children and youth below the age of 23. To address this, Punarjeevanam reinvented traditional nutritional intake practices of the local tribal community. Their earlier food intake of different varieties of millet, wild fruits, and tubers had been replaced and was now dominated by rice.

Along with UNDP, a campaign was initiated to make millets a part of the daily food intake, at least in the morning. As a result, eight local varieties of millets which had disappeared from their menu were reinstated under the project and the seeds were supplied to interested farmers. Interestingly, the region now cultivates 35 different varieties of millets, along with15 varieties of beans, and an equal number of tubers. The project's efforts therefore, resulted in better nutrition for the communities.

New vision for agriculture—experiences from Mankulam, Antony Kandirikal, Director KADS

This entailed a discussion of the transformations brought about by the project in Mankulam. The Grama Panchayat near Munnar is surrounded by forests and has six rivers flowing through; agriculture is the mainstay. The project propagated organic cultivation and has yielded considerable results. Over the years, Mankulam became the first certified organic village panchayat in the state. It now cultivates supreme varieties of organic pepper, cardamom and cocoa. Cocoa, which earlier fetched `16 per kg is now between `42 and `75 per kg. Organic pepper is also being ordered in bulk from other parts of the state, and also sells at higher prices. Not only this, vegetables cultivated in the area are sold 30 percent higher than the market price. Recently, the panchayat has also started working on farm tourism.

Driving local economy in Marayoor, Usha, President, Marayoor Grama Panchayat

The UNDP project helped Marayoor in the evolution of a proper waste management system in the area. It also helped the panchayat make great strides in traditional lemon grass oil production. Sugar cane farmers, inland fish growers, and herb cultivators have benefited immensely from the project.

Inland fisheries sector in Kerala - need for Native fish species - KUFOS experience, Dr Anvar Ali, KUFOS

Inland fish cultivation was one of the focus points of the IHRML project and was promoted in the Kuttampuzha, Marayoor, and Chinnakanal Grama Panchayats. As a result, commercial cultivation

of locally available fish varieties has been initiated and scientific expertise in fish cultivation has been provided to the farmers. Meanwhile, native fish varieties were prioritized, and hatcheries have been established in identified areas.

NTFP based economy for livelihood security, Bindu Sivan, Community member / Dr Manju Vasudevan, Dhaara Livelihood

Forest-dwelling tribal communities such as Kadars, Malayars, and Muthuvans largely depended on sale of minor forest produce for their sustenance. A scarcity of products for various reasons led to decrease in dependence on forests by these communities. The project ensured value addition of minor forest products to increase their demand and also revived retailing channels. Simultaneously, cleaning and packing systems were enhanced. As a result, minor forest producers now receive part of earnings from responsible tourism as happy livelihood enterprises. In this process, the tourists get quality products, and a steady income is ensured for the forest-dwelling tribal communities.

Promoting green entrepreneurs—Green Innovation Fund, Ashok Kurian Panjikaran, Head – Business Development &Startup Lifecycle, Kerala Startup Mission

The Kerala Startup Mission is focused on green and social entrepreneurs and has 15 years of experience in promoting innovative small-scale entrepreneurship for bringing qualitative change. Green entrepreneurship holds the future, as can be from the areas where the project has been implemented.

Audience Interaction

The audience raised issues related to challenges faced by sugarcane farmers, poor price realisation for Marayoor jaggery, vegetable farming and government procurement, and the invasion by alien fish species, replacing the native fish population.

Comments, Dr Jiju P Alex, Planning Board member, Kerala

Food security-related challenges of the near future can be addressed only by focusing more on millets, tubers, and other sources of nutrition since only they can bridge the gap in the availability of wheat and rice. Additionally, along with biodiversity conservation, climate-resilient agricultural practices must be evolved and implemented.

Mainstreaming biodiversity in development planning (Coordinator: Arun Ramachandran G, Project Officer, UNDP; Session chair: P K Raveendran, Retd Professor & Former Director of IRTC)

Mainstreaming biodiversity in local level planning, Dr Joy Elamon, Director General, Kerala Institute of Local Administration

The IHRML project has turned into a model for Kerala's local bodies in inculcating biodiversity concerns in local level planning. It has assessed biodiversity of all the areas under it in a proper fashion and ensured their protection through eco-restoration and other activities.

Promoting community-led sustainable tourism, Sumesh Mangalassery, Managing Director, Kabani, Abhijith PP and Akhila Community beneficiaries, Kuttampuzha Grama Panchayath

Kerala lacks planned and innovative tourism initiatives. Therefore, the state must evolve a sustainable tourism model which benefits the local communities and involves them in all aspects of planning and implementation. The project in Kuttampuzha is expected to prompt other panchayats to initiate sustainable and innovative tourism projects by experts on sustainable tourism.

Kuttampuzha has been evolved as a farm tourism model in which local food varieties have been highlighted. Farm visits and trekking through forest fringes also form part of the initiative. The model is attracting a lot of visitors, translating into benefit for the local families. Retail of value-added products including spices can yield remarkable earnings for organic cultivators.

Going Green through Green Corridors—Athirapilly experience, Rijesh K K, President Athirappilly Grama Panchayat

He said the project must be continued as it gave us a new perspective. The UNDP project has provided a new perspective to the state in general, and hugely inspired the carbon-neutral mission of the Athirapilly Panchayat in particular. The Athirapilly Green Corridor is an innovative attempt to instil Responsible Tourism approaches in the minds of tourists. A tourist facilitation centre has been setup in an underutilised space owned by the Grama Panchayat. A café has also been started as part of the same.

Managing liquid waste in a tourist hotspot—Munnar experience, J Andrews of DEWATS

The Nallathanni river in Munnar had been contaminated for a long time due to dumping of solid waste (wastewater and garbage) by Munnar residents and the local commercial establishments. At present however, the Nallathanni river cleaning initiative has become a model for the whole state. Solid wastes have been removed following an awareness campaign along with the cooperation of concerned individuals and organizations. A comfort station is being renovated with a model nature-based wastewater treatment system shown as a demonstration project.

Spatial planning—A tool for better Natural Resource governance, P V Karunakaran, Senior Principal Scientist at Salim Ali Centre for Ornithology and Natural History (SACON)

P V Karunakaran explained the methodology for preparation of the economic, environmental, and social maps of the 11 panchayats under the IHRML project. Additionally, changes in land-use patterns have been identified and incorporated in the map. The organisation was faced with numerous challenges in this regard.

Energy management in production sectors, Suresh (Shri Johnson Daniel, Energy Technologist), Energy Management Centre (EMC)

Energy-related challenges of two factories of Kannan Devan Hills tea estates in Munnar, producing Orthodox Tea, and CTC tea respectively were discussed. The technology used is over 100 years old and highly energy-consuming. There is an urgent need for modernization, and regulation of the energy-intensive practices at tea factories.

Comments, P K Raveendran, Retd Professor and former director of IRTC

The IHRML project has proved that waste management is one of the critical pillars of responsible tourism promotion. Therefore, Kerala must focus more on scientific waste management, check unplanned and unscientific tourism initiatives, and promote planned and responsible tourism. Apart from this, river rejuvenation and eco-restoration are two critical areas on which the project has made significant progress. These cumulative experiences serve as models to be emulated elsewhere.

The day's programmes ended with tribal cultural programmes from the project landscape of Malapulayattam and Mannan Koothu.

Malapulayattam

This is the dance form of the Malapulaya community, a tribal group of Idukki. This dance is performed during celebrations like weddings, festivals, harvests, etc. In ancient times it was mostly performed during harvest rituals.

Mannan Koothu

Mannan community is a dominant tribal community in Idukki. Mannan Koothu is mostly performed in association with agriculture, New Year, festivals etc. Different songs and characters are played according to the rituals. This tribal community lives in all areas of Idukki.

30 June 2022 (Day 2)

Improving management effectiveness of Protected Areas (Coordinator: Dr M Rameshan, Project Officer, UNDP; Session chair: P K Kesavan IFS (Retd), Ex-HOFF)

Restoration initiatives in Marayoor, M G Vinod Kumar, DFO, Marayoor FDA & DFO, Marayoor Sandal Division

The UNDP project has helped to transform the Marayoor sandalwood division which faced challenges of both man-animal conflict and unprecedented growth of invasive species. The project has helped the division to ease man-animal conflict and address invasive species in the area. The wattles were removed, and grasslands were created in their place on an 8kilometre stretch. Moreover, installation of solar lights in crucial areas of the sandalwood area with UNDP support has enhanced night-time security. The division has been implementing eco-restoration with the help of the Muthuvan tribal community; it also implements various welfare measures for tribals, including a weekly market for their farm produce.

Improving habitat and wildlife health through monitoring stations, Rahul B, CEO, Idukki FDA &Wildlife Warden, Idukki Wildlife Division; Neelima Ramachandran, Microbiologist, Thattekkad Bird Sanctuary

The area is rich in bird population and was identified by world-known ornithologist Salim Ali in 1935. It officially became a bird sanctuary in 1989. UNDP has helped establish a bird monitoring cell to assist habitat monitoring apart from scientifically tracking bird movements. The sanctuary has 340 species of water birds and over 30 varieties of migratory birds. UNDP has also helped to implement a canal system to ensure year-round water availability. A drive against invasive species has also been implemented with the help of UNDP.

Efforts made through the project have ensured the sanctuary's survival despite prevalence of various zoonotic diseases across the state. The bird monitoring facility has helped with scientific tracking and monitoring of birds which may carry disease-causing viruses. UNDP has also contributed to research on zoonotic diseases in the sanctuary by procuring the best laboratory equipment for its microbiology lab.

Restoring riparian ecosystem, Dr Mahesh Mohan, Assistant Professor, School of Environmental Sciences, M G University

UNDP has assisted with restoration activities in the riparian ecosystem of the Chalakudy river basin. Kerala has very few riparian forests, and the Chalakudy river basin is the largest of its kind. In the face of global warming, eco-restoration in such areas assumes greater significance. The project prioritized restoration of lost vegetation on the riverbanks, revitalization of river fringe forests, and planting of thousands of saplings in the forest area whose growth is effectively monitored with the help and involvement of the local community.

Sustainable management of forest resources in Edamalakkudy, Raju K Francis, IFS, CEO, Munnar FDA & DFO Munnar

Edamalakkudy Grama Panchayath inside the Munnar reserve consists of 23 different settlements and is the lone tribal local body in Kerala. Implementation of the Forest Rights Act has started very recently here and the local community faces survival concerns regarding electricity, livestock rearing, collection of minor forest produce, and agriculture. In collaboration with the UNDP, the Forest Department has implemented several schemes to find access to proper retail outlets and ensure a fair market price for their products which include both crops and minor forest produce. A welfare scheme for tribal communities has also been launched under the project.

Use of innovative technologies for human–wildlife interface management, Sambudha Majumder IFS, CEO, Chalakkudy FDA & DFO Chalakkudy

The Chalakkudy–Athirappilly–Malakkappara state highway connects central Kerala with Tamil Nadu's hill station Valparaivia the crucial Athirappilly-Vazhachal forests. This has led to a direct human-animal conflict and accidents are frequent. The area is interspersed with animal crossings on the road,plantation areas between forests, and elephant areas like the Sholayar and Idamalayar Plantation. Only in February 2022, a small kid travelling with her father on a two-wheeler was killed in an elephant attack.

The area needs more watchers, an excellent workforce, vehicles, and infrastructure to avoid conflict incidents. While certain areas require fencing, electrocution due to fencing must be avoided. There is also an urgent need of surveillance cameras, LED signals, and a solar-powered system with a graphical processing facility for the division. Eco-restoration facilities also face a massive challenge because of invasive and alien species. The area, therefore, is need of increased participatory action.

Through the project, a solar powered Elephant movement monitoring system has been installed in Chalakudy. The camera is able to detect the movement of animals and differentiate it from the movement detected due to people/vehicles. LED boards provide flash warning lights/messages.

Discussion: Eco-restoration by eradication of invasive species

Ranjan Mathew, State Head of WWF

While chemical solutions may be used to remove invasive species like Senna, the adverse impact of the chemical solutions on the environment pose a significant concern. Using the rural employment guarantee scheme for removing invasive species and for eco-restoration presents an innovative solution. The possibility of student involvement and volunteering through NSS, NCC, Eco Clubs, etc. may also be explored.

M G Vinod Kumar, DFO, Marayoor FDA & DFO, Marayoor Sandal Division

He seconded the suggestion. He reflected that with students such activities can be undertaken on a small scale, whereas with adults it could be taken up on a larger scale. He also expressed concern about boarding and lodging of volunteers as well as the challenges in reaching the area.

P K Kesavan IFS (Retd), Ex-HOFF

He emphasized the need for clarity of thought and responsive action along with the requirement of manpower and resources for large scale projects such as eco-restoration from invasive species that do not remain confined to forests alone. He conceded that in case of invasive animal species the situation is different.

Audience 1

The participant spoke about other such smaller isolated experiments with clubs and volunteer groups and sought support for action at the state level.

Neelima Ramachandran, Microbiologist, Thattekkad Bird Sanctuary

She mentioned that due to the release of a toxin the Kathumpa specie had no competition in infesting the area and how this made its removal difficult.

Dr Vinod, Programme Coordinator, Centre for Environment and Development

He emphasized the need to consider the entire landscape instead of divisional boundaries. He also underscored the need for continuity of programmes beyond the first few years. He also pointed out that in any man–animal conflict situation human beings are part of the ecosystem.

Dr Karunakaran, Salim Ali Centre for Ornithology and Natural History, Coimbatore

He asked that if the floods caused the degradation of the river island, will this restoration withstand another such flood. He felt that passive restoration is more suitable for the ecosystem of these river islands.

Dr Mahesh Mohan, Assistant Professor, School of Environmental Sciences, M G University

He outlined the river water flow, sedimentation, flooding and the development of resistant species. He also mentioned that due to reduced flow of river water, sedimentation is slower and therefore active restoration may be undertaken more effectively.

Prakash, Coordiantor, Haritha Keralam, Kozhikode division

He wanted to know (from Raju K Francis, IFS, CEO, Munnar FDA & DFO Munnar) about the income generated by the intervention at Edamalakkudy and the marketing strategies to reach the products to cities. He also suggested the development of machinery that can remove invasive species from deeper areas in Thattekad that are difficult to reach for humans. He also spoke about removal of Wattle Acacia by leveraging MGNREGS and plantation of fruits and medicinal plants with support from Department of Forests, Kerala as well as Haritha Keralam. He also suggested that while river islands are rich in biodiversity, flood management should be scientifically carried out and at places such islands may even need to be removed.

Raju K Francis, IFS, CEO, Munnar FDA & DFO Munnar

He informed that marketing activities have just been initiated and people from the art and craft village had shown interest in purchasing cardamom and pepper from Edamalakkudy. He also spoke about a UNDP-supported planned cardamom drying unit. He also shared the idea of geographic indication for Edamalakkudy pepper and cardamom.

He also positively viewed the island formation from natural flow of river owing to the rich biodiversity it fosters. He also argued that human wildlife conflict is on the rise due to removal of traditional corridors that animals frequented.

Rajendran, District Panchayat Member, Devikulam Division

He supported community participation and suggested that small SHGs and eco-development groups may be formed in the tribal areas. He further recommended that such groups can be provided revolving fund from the panchayats to specifically focus on small plots carved out from forest land that may later be planted and reconverted.

Kesavan, Recommendations

He thanked the people's representatives for their presence and encouraged them to take up these activities in a big way to scale up the small beginning made by the UNDP supported IHRML project.

Felicitation of Chief Guests

Anoop K R, Chief Conserver of Forest, Department of Forests

He spoke about activities such as those in Munnar wildlife sanctuary, Pazhathottam eco-restoration, Punarjeevanam project, artificial-intelligence cameras in Chalakkudy to track human-wildlife conflict, etc. to outline the advantages of financial flexibility. In these projects participation of local populations including school children on a nearly permanent basis was advantageous.

George Eppan Mathews IFS

He felt that although camping groups or eco-tourists may not be ideal candidates to carry out eco-restoration activities, they are important in taking the message of invasive species back to their places of residence. In terms of resources, he felt that maybe, after this project is over, CAMPA could take over the eco-restoration activities.

Surendrakumar, IFS (Retd), Technical Advisor, UNDP

He suggested that the `50 lakh taken from Reliance for eco-restoration purposes while allowing passage to their underground cable available with the department may be made available to the concerned divisions of Munnar, Edamalakkudy, etc. to carry forward the work. He also reiterated the scope for convergence with MGNREGS, such as what is undertaken by Karnataka Forest Department for lantana removal.

Way Ahead

Sustainability Plan, Arun Ramachandran, State Project Coordinator, UNDP

The IHRML project has proved that the way ahead involves achieving sustainable livelihood and eco-restoration to the maximum extent possible. It has ensured the participation of the local communities, especially the tribal people. The organic agricultural schemes started in Mankulam hold a lot of promise, as do the changes suggested for the sugarcane sector. Another remarkable achievement is the focus on native fish species. In the waste management area, the project has made more significant strides with Munnar as its perfect example. Some areas need considerable financial help to carry the existing projects forward. Financial self-sustainability will be a larger goal for the communities under all these local bodies. The Athirappilly and Munnar green corridor project must be revived and implemented as it can address the garbage issues and enhance responsible tourism. The carbon neutral initiatives in Athirappilly and Mankulam have made substantial gains and therefore need to be continued. The river regeneration and desilting at Nallathanni in Munnar is an extraordinary project gain. Finally, invasive species must be removed using lasting scientific solutions.

A project management unit under the Navakeralam Karma Padhathi has been proposed to sustain the activities with funding from CSR and Government sources.

P K Raveendran (Retd) Professor and former director of IRTC

The tremendous results created by the UNDP project dictate that it must be carried forward. However, local-level assessment of achievements and failures is essential. Since the areas in

which the project has been implemented have huge tourism potential, clean water, garbage processing and overall cleanliness must be emphasized. The green corridor between Munnar and Athirapilly is a laudable initiative. Nevertheless, environmentally sustainable infrastructure development, livelihood restoration, eco-restoration, and the improvement in the living conditions of the Adivasis should remain central to all initiatives.

P K Kesavan IFS (Retd), Ex-HOFF

The project is innovative, flexible, and is supported by a time frame. The landscape and forest management efforts undertaken under the project have already yielded results. The future depends on integrating the local bodies and government departments to continue with the follow-up work. The way ahead of the project may not be limited to the Anchunad landscape alone but can be extended to other similar landscapes in Kerala.

S U Sanjeev

He underscored the role of village, block and district panchayats in reintroducing millet varieties. He also spoke about the significance of value chains in selling high quality products. He suggested the linking of local government bodies, local cooperative institutions and state agencies to produce best results for farmers. State agricultural department has also been making similar interventions. He emphasized that a shift towards carbon-neutral (net-zero emission) agriculture will improve the life of all citizens along with offering new livelihood opportunities.

Surendrakumar, IFS (Retd), Technical Advisor, UNDP

The UNDP project is a model for the whole country. Participatory initiatives involving communities and local bodies have a vital role to play in carrying this forward. However, the land-use changes must be implemented based on expert assessment.

Anusha Sharma, Project Officer, UNDP

The IHRML Project is an excellent model that ensured women's empowerment and sustainable growth. While the UNDP had just the role of handholding, the real credit for the success goes to local communities. Nevertheless, long and short-term plans are required to carry forward the project's achievements. Finally, this model can be emulated in other local bodies of the state with creation of more self-sustainable models for the future.

Monish, Global Tiger Forum

He sought grouping the various activities under the project into priority actions such as food security, livelihood, green jobs, etc. He suggested that the government, along with UNDP and other agencies, should consider going for a GCF funding to sustain and upscale three or four priority actions emerging from the project.

Tony Jose, UNDP

He suggested that the local autonomous bodies should take the lead in tackling the various challenges around sustainable livelihoods and natural resources by leveraging their project experience and linking up with technical agencies to find viable solutions.

Dr Ramesh

He outlined how the IHRML project helped empower and built capacity of local bodies, forest department, grassroots workers, etc. He also added a word of caution for the functionaries in these entities to adequately prepare for the exit of UNDP, GEF and other agencies from the project.

Dr T N Seema, Coordinator, Navakeralam Karma Padhathi& State Project Director, GoI–GEF–UNDP IHRML project

The project faced serious opposition and challenges in its initial phase in 2014. But by 2016, the challenges had been addressed. Implementation of the IHRML project has left many lessons in its wake. The local communities provided extensive cooperation and involvement and the local bodies were taken in complete confidence. The special purpose vehicle under the Haritha Kerala Mission coordinated various departments outside the protected areas to implement the project. In protected areas, the Forest department played its role effectively.

In the future, concerted efforts are required to retain public support for sustainable development. Moreover, since resource mobilization is a challenge, the future of the project needs to explore the possibility of availing CSR funds. At the same time, local-level possibilities must also be explored. Seed protection and garbage management must come through massive people-oriented movements. Many such suggestions have been included in the 14th five-year plan concept note and efforts are on to reintroduce this project in areas like Wayanad.

Closing ceremony

Welcome speech, Abraham Koshy, Consultant, Haritha Kerala Mission

The project successfully empowers the local communities to enhance their potential in water management, agricultural growth, and finding a market for their products.

Dr T N Seema

She commended the team effort and especially mentioned the role played by the local bodies. She further emphasized the grave challenge posed by climate change that calls for collective state-wide action, which will be taken up at the highest level in the state based on the deliberations at the dissemination workshop.

Soman, Block panchayat president

He spoke about how the loss of traditional cropping practices and patterns due to emerging situations and rules is impacting food security, health, and livelihoods. He called for all-round support to allow villagers in the region to return to traditional farming.

Anandarani, Devikulam block panchayat president

She mentioned how waste management in the village was made possible by Haritha Keralam. She reassured that given the opportunity the knowledge gained at the workshop will help the next generation execute the projects in a better manner.

Bhavya, District panchayat member

She admitted that the project gave the Grama Panchayath a good perspective—more than what they had anticipated. They have been encouraged to think about what can be done for agriculture, fisheries, etc. She requested inclusion of more activities to involve more people in the second phase.

Rajendran, District panchayat member

As part of the research team for the project, he felt that the people in the mountain landscape are not aware of the importance of preserving nature and highlighted the pitiable living standards of the tribal people in these landscapes. The experience with community tourism demonstrated that forest and nature are the biggest resource that could be instrumental in the uplifting of the

Adivasis. For waste management he identified coordination across agencies as a necessity. He asked for more such projects in the area.

Paul Raj, Farmer

The UNDP intervention helped reinitiate paddy cultivation on 22 acres of land which had been lying abandoned for over 22 years. Farmers have received enormous encouragement through UNDP's efforts to facilitate tiller machines, equipment and other facilities, provide best quality rice seeds, and assist in protection of yield from wild elephants and wild boars.

Neelamma, Woman farmer

Reintroduction of paddy to her agricultural land – a task she thought impossible – was made possible only because of the encouragement from UNDP officials. The paddy seedlings have now grown, and preparations for replanting are being made.

Sreeramakrishnan, Farmer

UNDP intervention helped reintroduce paddy on 35 acres of land in his native village. Farmers there have now started planting bananas and tapioca as well. Officials also prompted the farmers to use only the traditional paddy seeds. While sourcing the right and authentic seed was a challenge, it was overcome with UNDP's support. However, crop raiding by wild animals continues to be a crucial concern.

Sini, Farmer

Paddy cultivation in Pettimudi of Adimali happened after a long gap of 12 years in the locality due to UNDP intervention.

Antony Ozhukathadam, Farmer

The main villain for agriculture in the area was excess rains since stagnated water in farmlands for a large part of the year makes agriculture an impossible task. After the UNDP project helped create canals using JCBs, he and fellow farmers ensured water management and draining. They subsequently moved to seed quality identification and cultivation.

Anu Sunil, President, Haritha Karma Sena, Kanthalloor

The UNDP project facilitated Anu Sunil's transformation from a housewife to a social worker and gave her direction in life. While she first got involved with the project by chance, she later took it up as a challenge to keep Kanthalloor garbage free. The rapid strides made in this direction boosted her morale and have led her to attending a seminar in Delhi and share her experiences with delegates from across India.

Book and map release

'Orchids of Eravikulam National Park', a book by Dr Mathew Dan and Dr Salim M was released by Dr T N Seema.

'Kerala thile nadikalude jaivapunarjeevanathinu oru amukham' compiled by Surya S was released by Anusha Sharma.

Spatial map prepared by Dr P V Karunakaran and Nandhu V S was also released.

Dr T N Seema handed over mementos to representatives of Grama Panchayaths and forest development agencies who cooperated with the project.

Representatives for forest development agencies received mementos from Anusha Sharma.

Vote of thanks: Anusha Sharma

- She took the opportunity to thank:
- Government of India, the Ministry of Environment, Forest and Climate Change
- Global Environment Facility
- Government of Kerala, the Haritha Keralam Mission and the forest department
- Technical agencies, partners and civil society organisations
- Community-based organisations, the Grama Panchayaths, and the forest development agencies
- Arun Ramachandran, Liji George, Zakir, project officers Tony and Jerin, and also Rameshan, Karthika, Shilpa, Jobin, Tijo, Ambady
- Consultants, Simran, Sahej
- Dr Ruchi Pant, UNDP India senior management

Annexure 13 - Action Plan for Sustainability of Key Initiatives

I SANDAL WOOD PLANTATION IN MARAYOOR

i. The project has been able to assist the Forest Department in developing a viable methodology for rearing Sandal Wood Plantations on scale at affordable cost. Utilizing this knowledge, an action plan may be prepared jointly by the Forest Department, the State MGNREGS Mission, the District Collector who is the Programme Officer of MGNREGS and the Marayoor Village Panchayat. To start with, the project could attempt to start Sandal Wood Plantations in about 150 hectares. The key elements of this project would be:

(a) Rearing of nurseries using MGNREGS fund under the technical supervision of the local Forest Division by SHGs of Kudumbashree

(b) Preparation of land including pits for planting by the SHG groups using MGNREGS fund

(c) Maintenance of plantations for three years following the norms of MGNREGS by the SHG groups

(d) Normal maintenance of the plantations after three years by the Forest Department

(e) Special Social Audit every six months facilitated by an agency to be identified by the District Collector

II SUSTAINABLE SUGARCANE INITIATIVE (SSI)

(i) The Project Team should develop the protocols and package of practices for SSI covering all stages from extension to post-harvest.

(ii) The Project Team should create a resource group in the sugarcane areas in Marayoor and Kanthalloor consisting of experts from Kerala Agriculture University, the Agriculture Department, lead farmers and a few civil society organizations.

(iii) The resource group should train farmers and the field level staff of the Agriculture Department on the protocols for the improved cultivation method.

(iv) Community resource persons or barefoot extension workers could be created out of the SHG network, particularly from the families of sugarcane farmers.

(v) A special project may be prepared to cover the entire sugarcane area in a phased manner for which funds could be pooled from the Agriculture Department and the three tier Panchayats.

(vi) The resource group could guide the transformation by suitable monitoring and troubleshooting.

III LEMONGRASS VALUE CHAIN

(i) The lessons learned from the project should be converted into protocols by the Project Team.

(ii) A joint exercise may be carried out by the Village Panchayats, Tribal Department, Local Agricultural Officers of Krishi Bhavans and the Forest Department to identify areas which can be earmarked for growing lemongrass, without encroaching into protected forests or areas with natural vegetation.Thiscould be supported by an agency like SACON.

(iii) A conversion plan to adopt the better yielding variety may be developed with the required backward linkages.

(iv) For the forward linkages a market study may be got done through a reputed professional organization.

(v) Based on the results of the market study, more energy efficient distillation units may be supplied using the Tribal Sub-Plan funds or funds under National Rural Livelihoods Mission (NRLM), to be run by the Self-Help Groups from the marginalized tribal communities as livelihood activities.

Funds could also come from Tribal Sub-Plan for other components.

IV DEVELOPMENT OF THE GREEN CORRIDORS OF ATHIRAPILLY AND MARAYOOR

(i) Submit the DPRs already prepared to the Tourism Department and get an in-principle clearance.

(ii) A high-level Coordination Committee may be set up under the Chief Secretary consisting of the Departments of Tourism, Forests, Local Self Government Department (LSGD), Environment, Transport and the District Collectors of Idukki and Trissur.

(iii) A similar Empowered Committee may be set up under the District Collector in the two districts of Idukki and Trissur consisting of District Level Officers of the Departments mentioned above.

(iv) The State Planning Board may identify funds from State Plan Schemes for different components of the project. Similarly, the Panchayats in the corridor area may allocate the resources which they can spare. A funding plan may be approved.

(v) LSGD may, utilizing the provisions of the Kerala Panchayati Raj Act, design the collection of a reasonable "green fee" from tourists.

(vi) The District Tourism Promotion Council could be the implementing agency and the District Development Commissioner could be the Chief Executive Officer of the project in each of the districts.

V UNIVERSALIZING SOLID WASTE MANAGEMENT FACILITIES

(i) The solid waste management plans prepared for Munnar, Chinnakkanal, Mankulam, Marayoor, Kanthalloor, Athirapilly and Kuttampuzha may be converted into a detailed action plan by the Harita Kerala Mission (HKM) with the involvement of the Village Panchayats concerned.

(ii) The HKM may assign a special Project Officer to coordinate the implementation of the project which would largely be funded by the Village Panchayats and the Block Panchayats, supplemented by funds from MGNREGS and NRLM.

VI COMPLETION OF THE CONVERSION OF DEGRADED ECO SYSTEMS IN FOREST AREAS

This requires special efforts by the Forest Department. A DPR should be prepared for using a combination of MGNREGS funds and the funds of Forest Department and in the first phase 750 hectares covered following the protocols developed out of the project experience.

VII RESPONSIBLE TOURISM INITIATIVES

The responsible tourism initiatives are more or less final in Mankulam and Kuttampuzha. These need to be taken over by Responsible Tourism Mission and expanded and replicated particularly in Anchunad Valley and Munnar, in partnership with the Local Governments under the overall leadership of the District Tourism Promotion Council.

VIII ENHANCEMENT OF TRIBAL LIVELIHOODS

This is at an early stage but probably in the right direction. This needs to be taken over by the District Collector and pushed under the Tribal Sub Plan of the Tribal Development Department and the Athirapilly Tribal Valley Project of the Agriculture Department. For this a DPR needs to be prepared.

IX BIODIVERSITY ACTION PLANS

Utilizing the maps of biodiversity resources, the Local Governments need to be guided to update/prepare People's Biodiversity Registers and move on to creation of Local Biodiversity Fund and also action plan to protect and upgrade biodiversity. This has to be led by the Local Self Government Department (LSGD) and implemented through the Village Panchayats with the professional support of the Kerala State Biodiversity Board

and the Kerala Institute of Local Administration (KILA). The Plan developed for Athirapilly Panchayat can be used as the model.

X UTILISATION OF KNOWLEDGE PRODUCTS

(i) Integrated Landscape Level Management Strategy for HRML Project

This is a good base document for District Plan Preparation in respect of the landscape with focus on biodiversity prepared by the Global Tiger Forum. It outlines the planning process and lists out the key actions both current and envisaged in the landscape with separate details for the three Districts within the project area. It has an excellent set of monitoring indicators and has also developed an innovative multi-dimensional biodiversity index.

Of course, it requires further detailing through local planning and costing and phasing and, more importantly, institutional arrangements. It is recommended that the State Government could include this as a multi-District Plan to be coordinated as a single project with detailed plans done by Local Governments, co-ordinated at the level of the DPC. Of course, the State Government has to take a decision on the activities within the forest area.

(ii) Promotion of Traditional Practices for Sustainable Farming

The Report prepared by the Salim Ali Foundation after extensive field visits and consultations with the local farmers and elected leaders has done a documentation of different traditional varieties of millets, rice, tubers and vegetables which were brought out in the baseline study. Details in these two studies should be split Village Panchayat wise and handed over to them with a request that they be considered by the Working Group on Agriculture and plans of action prepared, learning from the models developed.

(iii) Manual on Bio Engineering Techniques for Landslide Restoration and Slope Stabilization

This is a very useful technical document prepared after analyzing issues related to landslides in the landscape by Kerala Forest Research Institute. It needs to be given to the Village Panchayats and the Forest Department and detailed local projects prepared by teams to be trained for the purpose by KFRI. KFRI should handhold these teams at least for one year till they are able to design and implement the initiatives suggested on their own. The funds for field level initiatives could be met from MGNREGS and the plan funds set apart for the productive sector.

XI OTHER INITIATIVES

i. Updation of the Management Plans of the remaining Protected Areas - these has to be formally vetted by the Forest Department and adopted at the earliest.
ii. The high resolution geo-spatial map prepared for five Village Panchayats should be utilised by them for their plan preparation. This could be intermediated by KILA with the field support of the Project Management Unit (PMU). Also, they need to be developed into formal Spatial Plans to be notified under the Town and Country Planning Act for which Local Self Government Department has to suitably instruct the Town and Country Planning Department.
iii. Similarly, the Integrated Water Resource Management plan for the Landscape should be linked into the preparation of the MGNREGS plan and the projects for the productive sector of the Panchayat plan. This has to be got done through trained resource persons to be mentored jointly by KILA and the PMU.
iv. The project has developed only micro level models for promoting traditional agricultural practices through conservation of traditional varieties especially millets, tubers, rice and vegetables and also in cultivation of medicinal plants. Here again the lessons from experience need to be converted into implementable protocols and the

capacity of the Agriculture Office (Krishi Bhavan) specifically developed to continue this.

v. Some significant work has been done to regulate human-animal conflict and this needs to be discussed with the local population and a participatory plan of action developed by the Forest Department, mentored by the District Administration to take it further. This should be given special priority.

Terminal Evaluation

GoI-GEF-UNDP India High Range Mountain Landscape Project

SUSTAINABLE LIVELIHOOD AND BIODIVERSITY CONSERVATION THROUGH MULTIUSE MANAGEMENT OF ANCHUNAD AND ADJOINING LANDSCAPE

Inception report

SM Vijayanand
YashveerBhatnagar

September 2022

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1. Brief Project background

The project is aimed at conserving globally and nationally significant biological diversity in the High Ranges of the Western Ghats. The strategy includes putting in place a cross-sectoral land use management framework, and compliance monitoring and enforcement system. This is to ensure that development in production sectors such as agricultural produce of crops such as tea, cardamom and development of tourism is congruent with biodiversity conservation needs. The landscape management framework is visualised to establish a conservation compatible matrix of land uses, anchored in a cluster of protected areas, managed to protect wildlife and corridor areas on production lands.

This project, before being groundeddue to misapprehensions and fears invited local opposition from political and Local Government leaders and some people's groups. UNDP and the State Government intervened and after exhaustive consultations modified some of the components without deviating from the core objectives and managed to convince all the stakeholders. This special feature has to be noted.

The project is operating under a direct implementation modality (DIM), with a revised planned closing date of 14 September 2022. Under various constraints of governance and Covid 19, the project that technically began in 2014 was initially extended from the original planned closing date of 14 May 2019 to 14 March 2022 and then to 14 September 2022. The GEF project grant is USD 6,275,000 (excluding agency fee), with confirmed co-financing at project entry of USD 30,000,000.

The Project Area

The project area covers one of the most backward regions of Kerala which is also affected by severe eco-degradation and is vulnerable to droughts as well as to floods. The 11 Village Panchayats (Local Governments) within the landscape have relatively larger geographical areas with more of tribal population with a substantial section of the society depending on farming, almost all of them small and marginal farmers. The area has also several plantations which are largely owned by companies. Of late, the area has become a favorite eco-tourism destination.

Goal and Expected Outcomes:

The long-term goal of the project is the sustainable governance of globally significant biological diversity of India by mainstreaming conservation considerations into production activities in the mountain landscapes, while also considering development imperatives needed for sustaining livelihoods and also addressing retrogressive factors including impacts of climate change.

The immediate objective of the project is to conserve the biodiversity of High Ranges of the Western Ghats in peninsular India from existing and emerging threats through building an effective collaborative governance framework for multiple use management of mountain landscapes. This was to be achieved through the following Outcomes and associated Outputs.

- Outcome 1: Effective **governance framework** for multiple-use mountain landscape management in place.

Output 1.1: Strengthened knowledge generation and dissemination system improves decision making related to sustainable land and resource use
Output 1.2 Landscape level land-use plan prepared and sustainable resource management systems in place
Output 1.3 Biodiversity considerations are mainstreamed into sector plans and practices
Output 1.4 A dedicated cross - sectoral landscape level institutional platform ensures sectoral compliance with management prescriptions of Landscape and Sector Plans
Output 1.5: Replication strategy developed for multiple use management of mountain landscapes
Output 1.6: Policies and legal framework reviewed and harmonized for ensuring sustainable management of mountain landscapes

- Outcome 2: Multiple use mountain landscape **management** is applied securing the **ecological integrity** of HRML

Output 2.1: Capacities developed among conservation and production sector staff for applying
landscape approaches to biodiversity conservation into sectoral operations
Output 2.2: Management effectiveness of PA system strengthened to address existing and emerging
threats to PA systems
Output 2.3: HVBAs secured through improved conservation focus and interventions
Output 2.4: Biodiversity mainstreaming demonstrated in key production sectors

- Outcome 3. Strengthened **capacities** for community based **sustainable use and management** of wild resources

Output 3.1 Community based organizations (Panchayats, JFMCs, Self Help Groups (SHGs)) haveadequate capacities to plan sustainable resource use
Output 3.2 Support to sustainable resource use practices accentuate positive resource Dependency
Output 3.3 Community-based natural resource management governance model for the uniquetribal local self-government (Edamalakudy Panchayat)

The **revised implementation strategy** had re-ordered and reworded the Outcomes and Outputs as follows:

- Outcome 1: Strengthened capacities for community based sustainable use and management of natural resources

Output 1.1: Capacities of Local Self Governments and community organizations developed to plan for sustainable resource use
Output 1.2: Sustainable resource use practices demonstrated for improved quality of life
Output 1.3: Enhanced products/services value chains developed for providing ecologically sustainable livelihoods options
Output 1.4: Community-based models developed for sustainable access and use of forest resources by local communities
Output 1.5: Policies framework reviewed and harmonised for ensuring sustainable resource use and management at the landscape level

- Outcome 2: Multiple use management is applied to secure the ecological integrity of the high range landscape

Output 2.1: Capacities of conservation and production sector personnel developed for applying landscape approaches into sectoral planning and operations

Output2.2: Mainstreaming of biodiversity concerns in key production sectors demonstrated

Output 2.3: Best practices documented and disseminated for improving decision making on sustainable resource management and use

Output 2.4: Replication strategies developed for use and management of mountain landscape resources

- Outcome 3: Appropriate and effective governance framework for multiple-use high range landscape management evolved

Output 3.1: Landscape level management plans and sustainable resource management systems in place

Output 3.2: Institutional platforms of multiple stakeholders evolved and strengthened at appropriate levels for planning and reviewing sustainable resource use (sectoral integration)

Output 3.3: Management effectiveness of designated biodiversity rich ecosystems are strengthened to address existing and emerging challenges to ecosystem conservation and services

Output 3.4: Rare, endangered, and threatened (RET) ecosystems and endemic species are secured through improved conservation measures

Purpose of the evaluation

As per the ToR, the overall objective of Terminal Evaluation (TE) is to review the achievements made to deliver the specified objectives and outcomes of the project titled *India High Range Landscape Project - Developing an effective multiple-use management framework for conserving biodiversity in the mountain landscapes of the High Ranges, Western Ghats, India.* During the TE we are looking to establish the effectiveness,

efficiency, relevance, performance, and success of the project, including the sustainability of results and the project exit strategies. The TE draws and synthesises lessons learned through the project and best practices pertaining to the strategies employed, and implementation arrangements, which may then be utilised to inform future programmes by UNDP. The TE report promotes accountability and transparency and assesses the extent of project accomplishments.

More specifically, as for most such evaluations, the TE will:

- Assess to what extent the Project has contributed to address the needs and problems identified during programme design, i.e. conserve the biodiversity of High Ranges of the Western Ghats from existing and emerging threats through building an effective collaborative governance framework for multiple use management of mountain landscapes
- Assess how effectively the project has achieved its stated development objective or purpose
- Measure how efficiently the outcomes were realized, and outputs delivered in attaining the development objective/purpose of the project
- Assess both negative and positive factors that have hampered and facilitated, respectively the progress in achieving the project outcomes, including external factors/environment, weakness in design, management, and resource allocation
- Assess the extent to which the application of the rights-based approach and gender mainstreaming and social inclusion and equityare integrated within the planning and implementation of the project
- Identify and document substantive lessons learned, good practices and also opportunities for scaling up in future
- Provide forward-looking programmatic recommendations for the project and the relevant portfolio of UNDP.

Kerala is known for its strong Local Governments both in the rural and urban areas with substantial funds devolved to them for decentralized participatory planning called People's Plan. All the Village Panchayats in this landscape carry out this process-intensive exercise every year. In addition, Kerala is probably the leader in the country in

strengthening Self Help Groups of Women through its special programme called *Kudumbashree*. As strengthening both these democratic formations is critical for achieving project outcomes and ensuring their sustainability, the evaluation will specifically address this feature.

The evaluation wouldfurther assess:

- The role played so far by the Local Governments in the project implementation and their future role in sustainability.
- The level of integration of resources from different sources to achieve the project objectives.
- The quality of the technical assistance provided to the Local Governments to enhance their capacity to achieve the project results
- The synergy between the Local Governments and the Self Help Groups of *Kundumbashree* in local level development with specific reference to project activities, especially Social Enterprises.
- Beneficiary involvement, interest, satisfaction, and ownership.
- Being a multi department project, the ownership of the departments and level of convergence in their activities.
- A probable scenario without the project.

Scope

This TE aims to assess the relevance, effectiveness, efficiency, factors affecting project performance and cross-cutting dimensions - considerations such as gender, indigenous and minority issues, human rights; social and environmental safeguards applied to the project. The TE will place particular emphasis on the findings and recommendations provided in the Mid Term Evaluation as a relevant starting point for assessing the project's achievements. In delivering on the assignment, the team will follow GEF guidelines in terms of ranking the performance of key criteria: 1) Relevance; 2) Effectiveness; 3) Efficiency; 4) Sustainability; 5) Factors affecting performance. The team will also assess the relevant cross cutting issues such as risks and social and environmental safeguards (6), gender (7), progress towards impact and capacity strengthening (8).

It is expected that the evidence generated from this evaluation exercise will inform decision making processes of UNDP and key stakeholders including the potential of a new phase of the project. The evaluation will cover the time span from 2014 (the beginning of the project), but especially since the MTE (June 2021) to date.

Intended users

The primary users of the evaluation results will be UNDP and GEF, but the evaluation results will equally be useful to the relevant ministries of the Government of India, development partners and donors. More specifically, the Departments of the State Government like Forests&Wildlife,Environment, Local Self Government and Tourism would benefit from the evaluation as also the Local Governments in the project area.

2. Evaluation approach and methodology

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects. The evaluation will be delivered using a mixed methods approach. The process will broadly constitute: 1) review of secondary literature that will entail a context and content analysis of relevant documents. This will serve as a source of secondary data (qualitative and quantitative); 2) Data collection: this will entailprimary data collection from key stakeholders through interviews and consultations, focus group discussions and field visits and 3) reporting which will be an interactive process led by the team lead working with the rest of the team.

We propose a three-phase review: (i) Inception phase, (ii) data collection and analysis phase and (iii) close out phase. The final review report will be submitted at the end of the close out phase.

To achieve the objectives of TE described above, we reviewed relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document,

project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and other materials that we obtained from the UNDP team and stakeholders for this evidence-based review). We reviewed the baseline and midterm GEF focal area Core Indicators/Tracking Tools to start the TE field mission on 26 August 2022.

We followed a highly participatory and consultative approach engaging in dialogues with the implementing agencies and other stakeholders. These include:

- Detailed video consultations with all the elected heads of the Village Panchayats, relevant elected members, and officials on different aspects of the project.
- Direct interaction with beneficiaries of the project during field visits, particularly from the marginal or excluded groups.
- Assessment of project activities and verification of project assets in the presence of technical support agencies and the beneficiaries to understand quality, relevance and future maintenance or expansion.
- Getting the perspective of all the field staff of the project.
- Field level discussions with the Senior Officers of the Forest Department including DFO, Chalakudy, DFO, Vazhachal, Wildlife Warden, Munnar Wild Life Division and DFO Marayoor.
- Interaction with technical support agencies.
- Video conference with the start-ups involved in project activities.

The field tour was planned in consultation with the UNDPs national and state offices between 26 and 30 August 2022 where we interacted with stakeholders in 9 of the 11 Panchayats, and directly reviewed at least 18 activities spanning biodiversity conservation and local livelihoods (please see Annex 2 for schedule).

The evaluators intend to have discussions with the District Collector and Senior Officials of the District followed by interaction with the Secretaries to Government and Heads of Departments/Senior Officers concerned covering Planning, Local Self Government, Forest &Wildlife, Environment and Tourism Departments with focus on carrying forward the successful initiatives. If possible, the evaluators could also have a discussion with the National Steering Committee or its representatives.

We useinclusive and gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs while requesting for consultations in the field, with special care taken to include the tribal communities especially those belonging to the Particularly Vulnerable Tribal Group (PVTG), by creating the environment to enable them to have their say without any reservation.

A. Inception phase

The objective of this phase is to gain common understanding between the project stakeholders and the evaluation team on the objectives and scope of the assignment. Starting with an initial meeting in August 2022 which brought together the Evaluation Manager, project manager, member of project support team and two TE consultants to exchange ideas, relevant documentation, and reach agreement on initial timelines.

Following initial review of the project documentation provided, the TE team produced an evaluation matrix highlighting the evaluation questions, sub-questions, and methods of data collection (Section 5). Based on the secondary documentary review and consultations with the evaluation manager and the national technical coordinator of the project, the key stakeholders and their contact information and sites for field visits were agreed with the PMU. The approval of this inception report will mark the end of the inception phase.

B. Data collection and analysis phase

This phase represents the core of the assignment. The evaluation team will adopt a mixed method/approach comprising secondary data analysis, qualitative and quantitative data collection and analysis to carry out a full and objective evaluation.

Desk review, research, and analysis:

Initial documentary review commenced at inception and will continue as additional information becomes available. Amongst others, the documents reviewed include:

- The project document
- Project results framework
- Project mid-term evaluation report
- GEF Annual PIR reports
- Quarterly progress reports
- Endorsement documentation
- Inception reports
- Project review sheets
- Field visit reports
- No cost extension documents
- M&E plan

Primary data collection:

Primary data collection will take place through a mixed, quantitative and qualitative approach. Regarding the quantitative approach, the consultants will review the secondary data provided to assess progress in line with the results framework. The approach entails comparing reported achievements against project baselines and working out the level of achievement of the project indicators, outputs, and outcomes. This information will subsequently be tested through qualitative data collected in the field.

Regarding qualitative approach, the TE team will collect data through virtual/in-person interviews with identified project partners and stakeholders based on the list of stakeholders agreed during the inception phase. Different platforms will be utilised mostlyZoom, and Telephone depending on respondents' access to communication equipment and internet access. Given the short time scope for this assignment, all primary data collection will be done in country by the national consultants.

Field visits to project sites will also be madewhich will ensure direct observation of progress made on the ground and the constraints faced. Field visits also ensure that local authorities, beneficiary groups – men, women, youth, as also the vulnerable communities, perceptions of the project are captured in the evaluation. Data collection will be implemented through individual interviews, site visits and focus group discussions with beneficiary groups on each site.

Site mapping and sampling

Please see Annex 1 for the field visit schedule for the two national consultants.

Data analysis: We will continue to use content analysis in the review of secondary data. Regarding primary data emerging from interviews and discussions, recorded interviews will be transcribed and translated as necessary. These will be synthesised by the national consultants. The themes will be generated in line with the UNDP and GEF evaluation criteria and sub-questions while being sufficiently flexible to develop new themes based on emerging issues in the data (Annex 3, the Evaluation Matrix). The mixed methods approach adopted will enable the team to triangulate the findings on the ground to ensure the reliability and robustness of the results presented.

In line with the evaluation questions and GEF/UNDP guidelines set out in the evaluation ToRs, the following key approaches will inform the data analysis:

Regarding **relevance**, we will assess the robustness of the project design, the appropriateness of the approach and the degree to which the project aligns with national and international priorities and the mandate of the government, UNDP and GEF and global development and environmental goals. It will also assess convergence and compatibility with other ongoing initiatives to gauge value added and synergistic relationships. The MTE highlighted the relevance of the Covid 19 pandemic, and the TE will investigateif any developments have on the relevance of project objectives.

In terms of **effectiveness,** the team will measure the degree to which the project objectives were delivered focusing on the global programme objectives, the immediate objectives, and stated outcomes.

Efficiency assessment will focus on value for money and utilization of project's human, material and financial resources, materialization of co-financing, quality, and timely delivery of project outputs. We will also assess stakeholder engagement and participation and the optimal use of resources.

As per the UNDP GEF Guidelines for TE, the following rating scale will be applied (Table 1).

Table 1: Ratings Scale - Relevance, Effectiveness, Efficiency Rating Description as per UNDP GEF Guidelines for TE

Rating	Description
6 = Highly Satisfactory (HS)	Level of outcomes achieved clearly exceeds expectations and/or there were no shortcomings
5 = Satisfactory (S)	Level of outcomes achieved was as expected and/or there were no or minor shortcomings
4 = Moderately Satisfactory (MS)	Level of outcomes achieved more or less as expected and/or there were moderate shortcomings.
3 = Moderately Unsatisfactory (MU)	Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings
2 = Unsatisfactory (U)	Level of outcomes achieved substantially lower than expected and/or there were major shortcomings.
1 = Highly Unsatisfactory (HU)	Only a negligible level of outcomes achieved and/or there were severe shortcomings
Unable to Assess (UA)	The available information does not allow an assessment of the level of outcome achievements

Sustainability assessment will gauge the extent to which project gains can be sustained beyond the initial project period and actions put in place to perpetuate and consolidate gains in the future. Key risks and sustainability criteria (economic, financial, institutional, political, social and environmental) will be evaluated as well as the extent to which lessons learned where systematically documented and disseminated to stakeholders.

Table 2: The 4-point rating scale for sustainability as per UNDP GEF Guidelines for TE

Rating	Description
4 = Likely (L)	There are little or no risks to sustainability
3 = Moderately Likely (ML)	There are moderate risks to sustainability

2 = Moderately unlikely (MU)	There are significant risks to sustainability
1 = Unlikely (U)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

In respect of examining the quality of project implementation the assessment will cover the following:

- Operationalisation of the M&E Plan with specific reference to the deliverables and performance indicators.
- The level of implementation of the recommendations of the Mid-Term Evaluation.
- The performance of the project staff both quantitative and qualitative as evidenced from field visits and video conferences.
- Extent of co-financing and convergence
- Mobilization of technical support for local initiatives.
- Level of participation of the beneficiaries in the planning, implementation and operation of the field level projects.
- Level of involvement of local governments and the benefits present and future to them.
- Contribution to the inclusion and empowerment of women and the marginalized groups.
- Improvement in management of eco-development initiatives.
- Contribution to State policy - actual and potential.
- Identification of best practices and suggestion of practical methods for their replication.

Findings will be presented in accessible forms including tables, photographs, graphs, maps etc.

Close out phase

An interim draft report based on the template provided, within 30-40 pages shall be submitted to UNDP following data analysis and write up phase. Comments from the draft report from UNDP and relevant stakeholders will be addressed and a revised document presented to the client.

Ethics and norms

The evaluators will adhere strictly to the ethical and professional requirements of the United Nations Evaluation Group, accepting and meticulously respecting its Code of Conduct. More specifically, to ensure the highest standard of the mission, the following will be observed:

- Ensuring sources all necessary confidentiality and anonymity
- Giving equal respect to interviewed stakeholders
- Respect the freedom of speech of interviewees
- Respect the diversity of stakeholders and reflect it in an inclusive sampling, with special attention towards women and vulnerable parties
- Use appropriate protocols to adequately reach women and the most disadvantaged groups
- Make it clear, at the outset, to all interlocutors that the Evaluator is neither a UNDP staff member nor a member of any other stakeholder, but an external and independent professional seeking feedback on the Programme and its implementation, and that information shared is done so anonymously
- Dealing with all in a transparent, respectful, and calm manner
- To completely refrain from any practices prohibited by law and morality

3. Limitations and risks

Secondary and primary sources whether qualitative or quantitative in nature have their respective challenges. The former, especially in the case of progress reports from which most of the statistical information is drawn, refer to authors who are not independent,

and primarily are internal staff involved in the implementation of the programme.Theymay therefore develop biases unknowingly or knowingly. The primary sources, on the other hand, even if carefully chosen and inclusive, remain a non-random opportunistic and qualitative sample, and therefore may not be a full representation of the general population. Hence, the extent to which the views of one or more actors are objective and/or significant of what happened in the programme can be questioned.

We propose to combine field verifications, interviews, focus group discussions and therefore benefit from the advantages of these mixed methods. In addition, wherever possible, we propose to adopt a systematic triangulation of sources and data.

The evaluation is carried out in the context of the Global Covid-19 pandemic. The evaluation team will adhere to national preventive and social distancing measures in force to limit the risks of transmission between the national consultant and stakeholders. Face masks and hydro-alcohol hand gels will be used systematically. During community meetings, the evaluators will prioritise outdoor meetings as opposed to inside and ensure social distancing is respected. Smaller groups of 5-10 will be adopted as opposed to large meetings to reduce transmission risks.

The geographical spread of the project intervention sites means that a selection of a representative number is required. To visit all target areas would require significantly more time than is available for field data collection. Another key challenge is likely to be the availability of key informants to participate in the evaluation. We expect that UNDP support letters and the position of the lead national consultant with key stakeholders will help increase response rates. The national consultants and the local UNDP personnel will use all means available to adjust to the availability of beneficiary groups and key stakeholders to ensure the highest possible coverage.

4. Timeline and deliverables

Table 3a: Schedule of proposed project deliverables as per ToR

#	Deliverable	Description	Responsibilities

1	TE Inception Report	TE evaluator clarifies objectives, methodology and timing of the TE	TE evaluator submits Inception Report to Commissioning Unit and project management
2	Presentation	Initial Findings	TE evaluator presents to Commissioning Unit and project management
3	Draft TE Report	Full draft report *(using guidelines on report content in ToR Annex C)* with annexes	TE evaluator submits to Commissioning Unit; reviewed by RTA, Project Coordinating Unit, GEF OFP
4	Final TE Report* + Audit Trail	Revised final report and TE Audit trail in which the TE details how all received comments have (and have not) been addressed in the final TE report *(See template in ToR Annex H)*	TE evaluator submits both documents to the Commissioning Unit

Table 3b: Schedule of proposed activities

	Aug			Sept				Oct				Nov	
	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2
Desk study	X	X	X	X	X								
Data collection– online meetings, interviews,	X	X	X	X	X	X							
Inception report							X	X					
Virtual debrief meeting								?	?				
Data analysis, submission of 1st draft									X	X			

Review by UNDP										X	X		
External review												X	X
Integration of comments and submission on 2nd draft													X
Final report													X

5. Evaluation matrix

It is presented as Annexe 1.

ANNEXES

Annexe 1

EVALUATION MATRIX

Sl.No.	Themes	Sub-themes	Sources of Information	Methods of Interpretation
1	Relevance	– Whether the project components are relevant to the needs of the landscape and its people particularly the vulnerable sections. – Whether it addresses the changed priorities of the State after the floods of 2018 which caused massive havoc in bulk of the landscape area – Whether it promotes local action to combat climate change – Whether it is in keeping with the priorities of the Local Governments and Forest Department	– Project documents – Base line studies – State Plan documents – Local Government Plans – Report of Mid-term evaluation – Report of the Monitoring &Evaluation Committee of Ministry of Environment & Forests	- Content analysis - Qualitative assessment from dialogue with the stakeholders
2	Effectiveness	- Whether the project objectives have been achieved with special reference to the outcomes and outputs - Whether the project has added value to the ongoing efforts of the State and Local Governments in the landscape	- Project documents - Progress reports - Evaluation reports - Technical studies done by the Technical Support Agencies	- Content analysis - Conversations with the stakeholders especially implementing officials and Local

		- Whether the project has contributed to improvement of processes in local planning - Whether it has succeeded in mainstreaming biodiversity - Whether it has created a better understanding of ecology-related issues among officials including elected officials and other stakeholders - Whether it has enhanced the ownership of different stakeholders - Whether it has contributed to policy	- Working plans and Management plans of Forest Department.	Government leaders - Triangulation through field visits and direct interaction with beneficiaries - Discussions with the project staff.
3	Efficiency	- Level of convergence with the programmes and resources of different development agencies in the landscape especially the Local Governments and Forest Department - Convergence with local institutions like the network of Self Help Groups of women - Cost efficiency and value for money especially in accessing technical support and implementation - Quality of technical assistance received - Quality of human resources of the project - Innovative project interventions especially techniques and technologies	- Conversation with the stakeholders involved in implementation of programmes - Analysis of the documents of the PMU - Mid-term evaluation - Analysis of costs vis a vis results - Knowledge and motivation of staff and their acceptance among the stakeholders - Co-financing through documents	- Content study - Verification of financial reports - Qualitative assessment

4	Sustainability	- Whether the initiatives started would get completed or taken to a level where the resources spent would not be infructuous - Whether the Local Governments would expand coverage of the initiatives taken up - Whether the capacity created in institutions and key stakeholders would be utilized and transmitted - Whether the integrated development of the landscape would continue through an appropriate mechanism of co-ordination - Whether the policy interventions would be fully adopted by the Government - Whether the institutional mechanisms especially the Haritha Kerala Mission and the Forest Development Agencies would internalize the learnings and adapt them within the landscape area or even outside - Whether new technologies introduced would be properly adopted and the machines and systems properly maintained - What are the risks in sustaining the positives of the project and the means to offset them	- Interaction with the stakeholders - Examination of relevant documents - Government orders	- Qualitative assessment of conversations/ discussions - Verification of records - Discussions with top policy makers at the District and State levels - Assurances given by policy makers and proof of decisions taken
5	Factors of performance	- Whether the funds flow was smooth and timely - Whether the local planning process was sound and in harmony with the existing processes and systems	- Relevant documents - Interaction with officials - Finance related documents	- Verification - Qualitative assessment based on interactions - Field visits

		- Whether the project management was efficient - Whether the co-ordinating and supervisory systems performed according to their terms of reference - Whether the capacity building efforts were systematic and relevant - Whether knowledge management including Information, Education and Communication (IEC) was adequate - Whether the partnerships developed for the project were adequate and whether they are likely to continue beyond the project period		
6	Inclusion and Equity	- Whether the project was gender sensitive covering attitudes, design of programmes and flow of benefits - Whether the project addressed marginal groups especially the Scheduled Tribes, Scheduled Castes, landless, people with disabilities, elders, etc. - Whether needs of youth especially those unemployed were addressed	- Official records - Interactions - Reports	- Content analysis - Qualitative assessment
7	Larger Impact especially scalability and replicability	- Whether the micro initiatives would be expanded through local action to cover larger areas	- Interaction with beneficiaries - Interaction with Local Governments - Policy commitments by District and State officials	- Qualitative assessment of conversations - Verification of records.

		- Whether the proofs of concept developed by the project would be adapted and used by agencies like Kerala Institute of Local Administration (KILA) and Haritha Kerala Mission for Local Governments and the Forest Department in the forest area -	- Relevant documents including Government orders - Discussion with top policy makers at the District and State levels - Assurance given by policy makers	
8	Lessons for future programmes	- Whether there are important lessons for the National and State levels, both positive and negative	- Mid-term evaluation - Report of the M&E Committee - Interaction with project staff - Interaction with the senior policy makers - Interaction with UNDP	- Qualitative judgments

NB:-

1. The eight themes and the different themes are interrelated and there could be some overlaps which would be sorted out while writing out the main Evaluation Report.
2. Intense interactions and dialogues with the stakeholders over Video Conferencing, field assessments and verification of records facilitate triangulation and validate qualitative assessment. Deep dialogues with Project Staff, Local Governments, Technical Support Agencies and the direct beneficiaries would improve them further.

Annexe 2

Tentative field visit plan for Terminal Evaluation of GoI-GEF-UNDP IHRML ProjectAugust 2022 by the National Consultants

Date	Time	Location	Activity
26th August 2022 (Day 0)	2.30 - 4.30 PM	Athirapilly	**Riparian eco system restoration site visits** **Meeting with DFO Chalakudy & DFO Vazhachal**
27th August 2022 (Day 1)	9.00 - 10.00 AM	Athirapilly (Aroormuzhy Community Hall)	**Site visit at Idam Tourist Facilitation Centre**
Saturday	10.00 - 11.00 AM	Athirapilly (Aroormuzhy Community Hall)	**Interaction with Café Adavi staff, Haritha Karma Sena members, Forest Post members, Athirapilly Tribal Valley Project members, Athirapilly Grama Panchayath Representatives**
	11.00 - 01.00 PM	Kothamangalam	Travel towards Adimali
	02.00 - 03.30 PM	Kattamudi, Adimali	Travel towards Adimali
	03.30 - 04.00 PM	Kattamudi, Adimali	**Site visit and interaction with farmers of traditional agriculture**
	04.00 - 05.00 PM	Mankulam	Travel to Mankulam
28th August 2022 (Day 2)	08.00 - 10.00 AM	Mankulam	**Community Tourism trail & interaction with service providers**
Sunday	10.00 - 10.30 AM	Mankulam	**Interaction with Haritha Karma Sena at Agri Nursery**
	10.30 - 11.15 AM	Mankulam	**MAMPCO value addition unit site visit and interaction with Secretary & President - Mankulam Cooperative Bank**
	11.30 - 12.30 PM	Mankulam	**Interaction with organic farmers, KADS &Mankulam Panchayath representatives**
	12.30 - 01.30 PM	Munnar	Travel to Munnar
	02.30 - 03.00 PM	Munnar	Travel to Kallar Dump Yard
	3.00 - 03.30 PM	Munnar	**Site visit and interaction with staff, Panchayath representatives & IRTC representatives**
	03.30 - 04.30 PM	Munnar	**Nallathanni river interventions - site visit**

29th August 2022 (Day 3)	07.45 - 08.15 AM	Munnar	Travel to Eravikulam National Park - Orchidarium
	08.15 - 09.45 AM	Munnar	**Orchidarium &Eravikulam National Park visit (project interventions)**
	10.00 - 11.00 AM	Marayoor	Travel to Marayoor
	11.00 – 11.15 AM	Marayoor	**Interaction with Haritha Karma Sena – Marayoor at Nachivayalmini Material Collection Facility**
	11.15 - 11.45 AM	Marayoor	**Nachivayal Sandalwood restoration site**
	11.45 – 12.15 PM	Marayoor	Travel to Chandana Resort
	12.30 – 01.00 PM	Marayoor	**Interaction with Marayoor Panchayath representatives**
	01.30 – 02.30 PM	Marayoor	**Lemongrass Distillation at Indira Colony**
	02.30 – 03.15 PM	Marayoor	**Sugarcane Nursery and SSI demonstration plot and interaction with sugarcane farmers**
	03.30 – 04.15 PM	Kanthalloor	**Interaction with Haritha Karma Sena members and Panchayath representatives at Material Collection Facility and recovered dumpsite**
	04.30 - 05.00 PM	Marayoor	Teabreak at Marayoor Forest Department Inspection Bungalow &**interaction with DFO &Punarjeevanam (seed conservation) coordinators**
30th August 2022 (Day 4)	08.00 - 09.30 AM	Pazhathottam	Travel to Pazhathottam
	09.30 - 11.00 AM	Pazhathottam	Field visit and interaction at Pazhathottam restoration site
	11.00 - 1.00 PM	Munnar	Travel to Munnar
	02.00 - 04.00 PM	Kuttampuzha	Travel to Thattekad
	04.00 - 05.00 PM	Kuttampuzha	Interaction with DFO and visit to Habitat Monitoring Centre
31st August 2022	07.00 - 09.00 AM	Kuttampuzha	Thattekad Bird Sanctuary - Site visit to Water holes and canal related work

Annexure 15 – Government order on post project sustainability

G.O.(Rt)No.122/2022/PIE&MD

GOVERNMENT OF KERALA

Abstract

Programme Implementation Evaluation & Monitoring Department - GOI -GEF-UNDP - India High Range Mountain Landscape (HRML) Project - Landscape Level and State level Advisory Committees - Constituted - Orders Issued.

Programme Implementation Evaluation & Monitoring Department

G.O.(Rt)No.122/2022/PIE&MD Dated,Thiruvananthapuram, 30-07-2022

Read 1. G.O(Rt)No.394/2020/P&EA dated 16.10.2020

2. G.O(Rt)No.129/2021/P&EA dated 03.03.2021

3. G.O.(Ms) No.105/2021/GAD dated 21.05.2021

4. G.O(P)No.10/2021/P&EA dated 01.08.2021

5. G.O.(Rt)No.460/2021/P&EA dated 23.10.2021

6. Letter No. UNDP/HKM/SLBC/09/2019 dated 27.05.2022 from the Co-ordinator, Navakeralam Karmapadhathi-II

ORDER

GOI-GEF-UNDP-India High Range Mountain Landscape (HRML) Project for sustainable livelihood and biodiversity conservation through multi-use management of Anchunad and adjoining landscape covers an area of 2198.78 KM in 11 Grama Panchayats of three Districts (Idukki, Ernakulam and Thrissur) in the State. As per the G.O. read as 1st paper above, Planning & Economic Affairs (CPMU) Department (now renamed as Programme Implementation, Evaluation and Monitoring Department) has been designated as the Nodal Department and Administrative Department for co-ordinating implementation of the Project. As per the G.O. read as 6th paper above, Coordinator, Navakeralam Karmapadhathi-II was designated as the State Project Director (SPD) of the GOI-GEF-UNDP-India High Range Mountain Landscape (HRML) Project for its smooth functioning and ensuring co-ordination with the local bodies.

2. As per the letter read 6th above, the Co-ordinator, Navakeralam Karmapadhathi-II has requested to accord sanction for constituting Landscape Level Advisory Committee and State Level Advisory Committee as a part of exit strategy of the India High Range Mountain Landscape (HRML) Project with the following members, as per the recommendation of the State Project Steering

Committee held on 18.01.2022 under the Chairmanship of the Chief Secretary.

Landscape Level Advisory Committee

Chairman - District Collector, Idukki

Convenor -Sub Collector, Devikulam

Joint Convenor - Project Officer - Conservation, UNDP

Members:-

DFO, Munnar

Dy. Director of Panchayaths — Idukki, Thisssur, Ernakulam

Principal Agriculture Officer — Idukki

Panchayath Secretaries -Devikulam Block (except Santhanpara), Adimali, Athirapilly, Kuttampuzha

BDO, Devikulam

District Co-ordinator, Haritha Keralam Mission

District Co-ordinator, Suchitwa Mission

District Co-ordinator, Kudumbashree

KHDP Representative

KHTC Representative

Co-ordinator, DTPC

Other members may be invited as per the discretion of the Chairman

State Level Advisory Committee

Chairman — Addl. Chief Secretary, Programme Implementation Evaluation & Monitoring Department

Convenor — State Project Director, UNDP IHRML Project (Coordinator, Navakeralam Karma Padhathi -II

Members:-

Additional Chief Secretary, LSG Department

Principal Secretary, Forests & Wildlife Department

Chief Wildlife Warden, Forests & Wildlife Department

Director, Environment

Director, Agriculture

Executive Director, Suchithwa Mission

State Nodal Officer, UNDP IHRML Project

Director, Tourism

Director, ST Development Department

Chairman, Kerala State Biodiversity Board.Other members may be invited as per the discretion of the Chairman

3. Government have examined the matter in detail and hereby constitute Landscape Level Advisory Committee and State Level Advisory Committee as a part of exit strategy of the India High Range Mountain Landscape (HRML) Project with a tenure of 3 years beyond project period with the members as detailed above.

4. Also, a Project Management Unit (PMU) is hereby constituted with a Co-ordinator at landscape level and 2 Project Associates (one at Landscape level and one at State level) under the Haritha Kerala Mission to support the Landscape Level and State Level Advisory Committees.

(By order of the Governor)
BISHWANATH SINHA
ADDITIONAL CHIEF SECRETARY

To:

1. The Co-ordinator, Navakeralam Karmmapadhathi -II

2. Members of the Committee (through Co-ordinator, Navakeralam Karmmapadhathi -II)

3. Private Secretary to Hon'ble Chief Minister

4. PA to Chief Principal Secretary to Hon'ble Chief Minister

5. Special Secretary to Chief Secretary

6. PA to Principal Secretary, Programme Implementation Evaluation & Monitoring Department

7. PA to Principal Secretary, Forest & Wild Life

8. Principal Chief Conservator of Forests (Wild Life) and Chief Wild Life Warden.

9. PA to Director, Programme Implementation Evaluation & Monitoring Dept

10. Nodal Officer, Forest & Wild Life Department

11. The Accountant General (A&E/Audit), Kerala, Thiruvananthapuram

12. Stock file/Office copy

Forwarded /By order

Section Officer

Annexure 16 – Audit Trail for Terminal Evaluation of IHRML

TE Audit Trail for Terminal Evaluation of GoI-UNDP-GEF India High Range Mountain Landscape Project – PIMS 4651/GEF ID

Institution/ Organization	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE team response and actions taken
UNDP BRH	1	7	Provide details on participation of NGOs and private sector	Addressed
UNDP CO	2	14	Elaborate on the criteria for selection of sites for field visit	Addressed
UNDP CO	3	16	Elaborate on limitations in conducting TE if any	Addressed
UNDO CO	4	20	Explain the governance system at local level	Addressed
UNDP CO	5	21	Provide data sources for the information received	Addressed
UNDP BRH	6	24	Section on findings need to be strengthened and should be finalized in a chronological order	Addressed
UNDP BRH	7	30	Pls use comma per UK number system for easy comprehension in all financial figures	Addressed
UNDP BRH	8	23	Elaborate the sentences in the expected outcomes	Addressed
UNDP BRH	9	29	Section on project finance and co-finance to be strengthened	Addressed
UNDP BRH	10	30	Confirm the figures on UNDP co-finance	Addressed
UNDP BRH	11	33	Provide more details on risk management and SES	Addressed
UNDP BRH	12	34	Elaborate on the MTR action taken report	Addressed
UNDP BRH	13	35	Please add cross-cutting issues, GEF additionality and Catalytic impact	The same has been addressed in various sections of the report and need not be repeated
UNDP BRH	14	36	Include METT summary table for easy reference	Addressed

UNDP BRH	15	48	Mention the responsible party in the financial sustainability section	Addressed
UNDP BRH	16	49	Please elaborate on the environment sustainability section	Addressed
UNDP BRH	17	52	The recommendations need to be presented in a table	Addressed
UNDP BRH	18	64	Mention/highlight the kind of indicators required for showcasing biodiversity results	Addressed
UNDP BRH	19	74	Share TE Inception Report as a separate annexure	Addressed